



Test Report issued under the responsibility of:



TEST REPORT
IEC 62368-1
Audio/video, information and communication technology equipment
Part 1: Safety requirements

Report Number..... : 31581397.036
Date of issue..... : July 18, 2022
Total number of pages..... : 180 + Attachments

Name of Testing Laboratory TUV Rheinland of North America, Inc.
preparing the Report..... : 1279 Quarry Lane, Ste. A, Pleasanton, CA 94566 USA

Applicant's name Channel Well Technology Co., Ltd.
Address..... : No.222, Sec. 2, Nankan Rd., Lujhu Township, Taoyuan Hsien
33855 Taiwan

Test specification:

Standard..... : IEC 62368-1: 2018
Test procedure..... : CB Scheme
Non-standard test method..... : N/A

TRF template used..... : IECEE OD-2020-F1:2020, Ed.1.4

Test Report Form No..... : IEC62368_1E

Test Report Form(s) Originator ... : UL(US)

Master TRF..... : Dated 2022-04-14

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This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description	AC Adapter
Trade Mark	
Manufacturer	Same as applicant
Model/Type reference	<p>1a). KPL-xy (x = 040, 050, 060, 065; y = F, G, V, H, I, W, J, K, L, N, Q, R, M)</p> <p>1b). KPL-xy (x = 048, 066; y = F)</p> <p>1c). KPL-xy-VI or KPL-xy-II or KPL-xy-KV (x = 030, 040, 048, 050, 060, 065, 066; Y = F, G, V, H, I, W, J, K, L, N, Q, R, M, A, S, T, P, U)</p> <p>1d). GTRxxxYzzzzz (x=038, Y=2, z = 0-9, A-Z, “-“ or blank)</p> <p>1e). PAA060M-ZZZ (Z=0-9, A-Z or blank)</p> <p>2a). 2ABFxxxYzzzzz (x = 036, 048, 060, 065; Y = F, R; z = 0-9, A-Z, “-“ or blank)</p> <p>2b). 2ACLxxxYwzzzzz (x = 025, 030, 050, 060, 065, 068; Y = B, K, M, R, S, U; w = A, B or blank; z = 0-9, A-Z, “-“ or blank)</p>
Ratings	<p>Input: See model list and rating table below.</p> <p>Output: See model list and rating table below.</p>

Model List and Rating Table

1a). KPL-xy

- x represents the output wattage; x = 040, 050, 060, 065
- y represents the output voltage; y = F, G, V, H, I, W, J, K, L, N, Q, R, M

1b). KPL-xy

- x represents the output wattage; x = 048, 066
- y represents the output voltage; y = F

1c). KPL-xy-VI or KPL-xy-II or KPL-xy-KV

- x represents the output wattage; x = 030, 040, 048, 050, 060, 065, 066
- y represents the output voltage; y = F, G, V, H, I, W, J, K, L, N, Q, R, M, A, S, T, P, U

x = O/P Wattage (W)	y =O/P Voltage	DC Output Voltage (V)	AC Input Voltage (VAC)	AC Input Current (A)	AC Input Frequency (Hz)
040, 048, 050, 060, 065, 066	F	12	100-240	1.7	50/60
040, 050, 060	G	13	100-240	1.7	50/60
040, 050, 060	V	14	100-240	1.7	50/60
040, 050, 060	H	15	100-240	1.7	50/60
040, 050, 060	I	16	100-240	1.7	50/60
040, 050, 060	W	17	100-240	1.7	50/60
040, 050, 065	J	18	100-240	1.7	50/60
040, 050, 060, 065	K	19	100-240	1.7	50/60
040, 050, 065	L	20	100-240	1.7	50/60
040, 050, 065	N	21	100-240	1.7	50/60
040, 050, 065	Q	22	100-240	1.7	50/60

040, 050, 065	R	23	100-240	1.7	50/60
040, 050, 060, 065	M	24	100-240	1.7	50/60
040, 050, 060, 065	A	36	100-240	1.7	50/60
030, 050, 060, 065	S	48	100-240	1.7	50/60
030, 050, 060, 065	T	52	100-240	1.7	50/60
030, 050, 060, 065	P	54	100-240	1.7	50/60
030, 050, 060, 065	U	56	100-240	1.7	50/60

O/P Voltage (y =)	O/P Voltage (V)	DC Output Current @ O/P Wattage 30W	DC Output Current @ O/P Wattage 40W	DC Output Current @ O/P Wattage 48W	DC Output Current @ O/P Wattage 50W	DC Output Current @ O/P Wattage 60W	DC Output Current @ O/P Wattage 65W	DC Output Current @ O/P Wattage 66W
F	12	---	3.33	4.00	4.17	5.00	5.42	5.50
G	13	---	3.08	---	3.85	4.62	---	---
V	14	---	2.86	---	3.57	4.29	---	---
H	15	---	2.67	---	3.33	4.00	---	---
I	16	---	2.50	---	3.13	3.75	---	---
W	17	---	2.35	---	2.94	3.53	---	---
J	18	---	2.22	---	2.78	---	3.61	---
K	19	---	2.11	---	2.63	3.16	3.42	---
L	20	---	2.00	---	2.50	---	3.25	---
N	21	---	1.90	---	2.38	---	3.10	---
Q	22	---	1.82	---	2.27	---	2.95	---
R	23	---	1.74	---	2.17	---	2.83	---
M	24	---	1.67	---	2.08	2.50	2.71	---
A	36	---	1.11	---	1.39	1.67	1.81	---
S	48	0.63	---	---	1.04	1.25	1.35	---
T	52	0.58	---	---	0.96	1.15	1.25	---
P	54	0.56	---	---	0.93	1.11	1.20	---
U	56	0.54	---	---	0.89	1.07	1.16	---

Note:

- KPL-xy (for x=040, 050, 060, 065; y= F, G, V, H, I, W, J, K, L, N, Q, R, M)
 - ♦ PCB with fuse: FUSE1 (Efficiency Level V)
 - ♦ Working Ambient Temperature: 40°C
 - ♦ Efficiency Level V
- KPL-xy (for x=48, 66; y=F)
 - ♦ PCB with fuses: F1 and F2
 - ♦ Working Ambient Temperature: 45°C for x= 048 and y= F
 - ♦ Working Ambient Temperature: 40°C for x= 066 and y= F
 - ♦ (Efficiency Level VI)
- KPL-xy-VI or KPL-xy-II or KPL-xy-KV (for x=030, 040, 048, 050, 060, 065, 066; y = F, G, V, H, I, W, J, K, L, N, Q, R, M, A, S, T, P, U)
 - ♦ PCB with fuses: F1 and F2
 - ♦ Working Ambient Temperature: 45°C for x= 030, 040, 048, 050, 060 and y= all
 - ♦ Working Ambient Temperature: 40°C for x= 065, 066 and y= all
 - ♦ (Efficiency Level VI)

1d). GTRxxxYzzzzz

- xxx represents the output wattage, xxx = 038
- Y represents the output voltage. Y=2, means two groups of output voltage.
- z represents the different customers. z = 0-9, A-Z, "-" or blank

xxx = O/P Wattage (W)	AC Input Voltage (VAC)	AC Input Current (A)	AC Input Frequency (Hz)
038	100-240	1.2	50/60

O/P Voltage (Y=)	O/P Voltage (V)	O/P Current (A)	O/P Wattage (W)
2	5.2	3.8	38
	12	1.5	

Note:

- GTRxxxYzzzzz
 - ♦ Working Ambient Temperature: 40°C
 - ♦ Efficiency Level VI

1e). PAA060M-ZZZ

- Z represents the different customers. z = 0-9, A-Z or blank

O/P Wattage (W)	AC Input Voltage (VAC)	AC Input Current (A)	AC Input Frequency (Hz)	O/P Voltage (V)	O/P Current (A)
60	100-240	1.7	50/60	24	2.5

Note:

- PAA060M-ZZZ
 - ♦ Working Ambient Temperature: 40°C

2a). 2ABFxxxYzzzzz

- xxx represents the output wattage, xxx = 036, 048, 060, 065
- Y represents the output voltage. Y = F, R
- z represents the different customers. z = 0-9, A-Z, "-" or blank

2b). 2ACLxxxYwzzzzz

- xxx represents the output wattage. xxx = 025, 030, 050, 060, 065
- Y represents the output voltage. Y = B, K, M, R, S, U
- w represents PCB type, w=A, B or blank.
w = A or blank - Basic PCB type for all models.
w = B - Enhance peak power performance for xxx= 060, Y= M only
- z represents the different customers. z = 0-9, A-Z, "-" or blank

For 2ABF series

xxx = O/P Wattage (W)	Y = O/P Voltage	DC Output Voltage (V)	AC Input Voltage (VAC)	AC Input Current (A)	AC Input Frequency (Hz)
036, 048, 060, 065	F	12	100-240	1.7	50/60
060	R	48	100-240	1.7	50/60

O/P Voltage (Y =)	O/P Voltage (V)	DC Output Current @ O/P Wattage 36W	DC Output Current @ O/P Wattage 48W	DC Output Current @ O/P Wattage 50W	DC Output Current @ O/P Wattage 60W	DC Output Current @ O/P Wattage 65W	DC Output Current @ O/P Wattage 66W
F	12	3.00	4.00	---	5.00	5.40	---
R	48	---	---	---	1.25	---	---

For 2ACL series

xxx = O/P Wattage (W)	Y = O/P Voltage	DC Output Voltage (V)	AC Input Voltage (VAC)	AC Input Current (A)	AC Input Frequency (Hz)
025, 030	B	5	100-240	1.7	50/60
060	K	19	100-240	1.7	50/60
060	M	24	100-240	1.7	50/60
060, 065	R	48	100-240	1.7	50/60
060, 065, 068	S	54	100-240	1.7	50/60
050, 060, 065	U	56	100-240	1.7	50/60

O/P Voltage (Y =)	O/P Voltage (V)	DC Output Current @ O/P Wattage 25W	DC Output Current @ O/P Wattage 30W	DC Output Current @ O/P Wattage 50W	DC Output Current @ O/P Wattage 60W	DC Output Current @ O/P Wattage 65W	DC Output Current @ O/P Wattage 68W
B	5	5	6	---	---	---	---
K	19	---	---	---	3.16	---	---
M	24	---	---	---	2.50	---	---
R	48	---	---	---	1.25	1.35	---
S	54	---	---	---	1.10	1.20	1.25
U	56	---	---	0.90	1.07	1.16	---

Note:

- 2ABFxxxYzzzzz
 - Working Ambient Temperature: 40°C
 - Efficiency Level VI
- 2ACLxxxYwzzzzz
 - Working Ambient Temperature: 40°C for xxx = 050, 060, 065, 068 and Y = K, M, R, S, U
 - Working Ambient Temperature: 50°C for xxx = 025, 030 and Y = B
 - Efficiency Level VI

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input type="checkbox"/>	CB Testing Laboratory:	TUV Rheinland of North America, Inc.
Testing location/ address..... :		1279 Quarry Lane, Ste. A, Pleasanton, CA 94566 USA
Tested by (name, function, signature)..... :		Dan Aquino/ Senior Test Engineer
Approved by (name, function, signature) . :		Ronald Younan/ Senior Test Engineer
<input checked="" type="checkbox"/>	Testing procedure: CTF Stage 1:	Channel Well Technologies(USA), Inc.
Testing location/ address..... :		21068 Commerce Pointe Dr., Walnut, CA 91789, USA
Tested by (name, function, signature)..... :		
Approved by (name, function, signature) . :		
<input type="checkbox"/>	Testing procedure: CTF Stage 2:	N/A
Testing location/ address..... :		
Tested by (name + signature)..... :		
Witnessed by (name, function, signature) :		
Approved by (name, function, signature) . :		
<input type="checkbox"/>	Testing procedure: CTF Stage 3:	N/A
<input type="checkbox"/>	Testing procedure: CTF Stage 4:	N/A
Testing location/ address..... :		
Tested by (name, function, signature)..... :		
Witnessed by (name, function, signature) :		
Approved by (name, function, signature) . :		
Supervised by (name, function, signature):		

List of Attachments (including a total number of pages in each attachment):

Attachment 1: National Differences (34 pages)

Attachment 2: Photographs (33 pages)

Attachment 3: Schematic Diagram (12 pages)

Attachment 4: PCB Artwork (14 pages)

Attachment 5: Transformer Specification (39 pages)

Attachment 6: Mechanical Drawings (31 pages)

Summary of testing:

Test data is based on the previous testing conducted under CB Report 31581397.030 for models KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, 2ABFxxxYzzzzz, 2ACLxxxYwzzzzz and PAA060M-ZZZ, which is in accordance with IEC 62368-1:2014 2nd edition.

Also, the fault test for varistor were performed to models included in this report with each source listed in table 4.1.2.

Please also refer to the related clauses mentioned in the following table for any models and tests added.

Tests performed (name of test and test clause):

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B.4	Simulated single fault conditions
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5.2	Electrical energy source classifications
5.4.1.4, 6.3.2, 9.0, B.2.6	Maximum operating temperatures for materials, components and systems
5.4.1.8	Determination of working voltage
5.4.2.2, 5.4.2.4, 5.4.3	Minimum Clearances/Creepage distance
5.4.8	Humidity conditioning
5.4.9	Electric strength test
5.5.2.2	Stored discharge on capacitors
5.6.6.2	Resistance of protective conductors and terminations
5.7.2.2, 5.7.4	Earthed accessible conductive part
6.2.2	Electrical power sources (PS) measurements for classification
6.3, 6.4	Simulated abnormal operating and single fault conditions
B.2.5	Input tests
B.3	Simulated Abnormal operating condition tests
B.4	Simulated single fault conditions
F.3.9	Durability, legibility and permanence of markings
G.5.3.2	Transformer insulation
G.5.3.3	Transformer overload
Q.1.2	Limited power sources

Testing location:

Channel Well Technologies (USA). Inc.
21068 Commerce Pointe Drive, Walnut,
CA 91789 USA

Channel Well Technologies (USA). Inc.
21068 Commerce Pointe Drive, Walnut,
CA 91789 USA

T.2	Steady force test, 10 N		
T.5	Steady force test, 250 N		
T.7	Drop test		
T.8	Stress relief test		

Summary of compliance with National Differences (List of countries addressed):

EU group differences, Canada and United States, Australia /New Zealand.

- ☒ The product fulfils the requirements of EN IEC 62368-1:2020/A11:2020.
- ☒ The product fulfils the requirements of BS EN IEC 62368-1:2020+A11:2020
- ☒ The product fulfils the requirements of CAN/CSA C22.2 No. 62368-1:2019.
- ☒ The product fulfils the requirements of UL 62368-1:2019.
- ☒ The product fulfils the requirements of AS/NZS 62368.1:2022.

Use of uncertainty of measurement for decisions on conformity (decision rule) :

☒ No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

☐ Other:... (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

Information on uncertainty of measurement:

The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

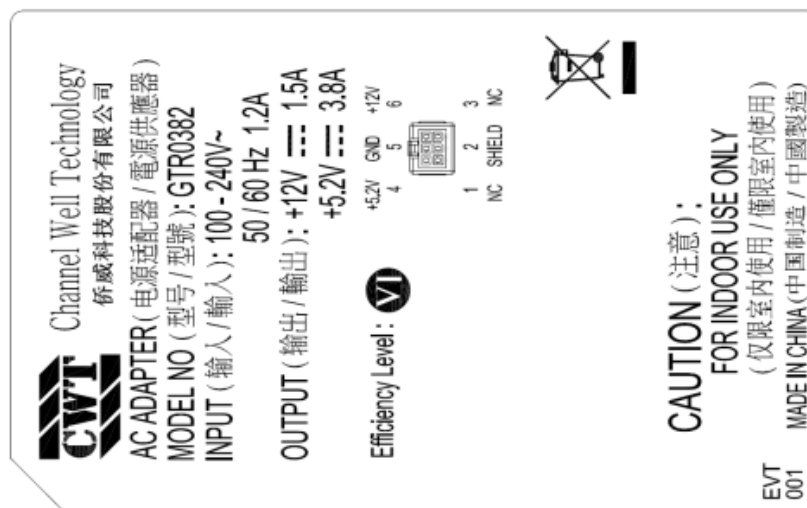
The marking plate of 2ABFxxxYzzzzz



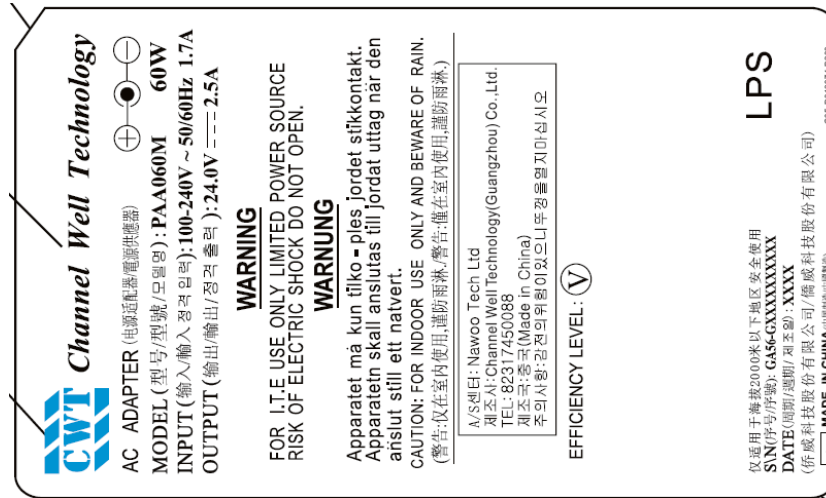
The marking plate of 2ACLxxxYwzzzzz



The marking plate of GTRxxxYzzzzz



The marking plate of PAA060M-ZZZ



Note:

1. The above marking are the minimum requirements by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.

Test item particulars:			
Product group	<input checked="" type="checkbox"/> end product	<input type="checkbox"/> built-in component	
Classification of use by	<input checked="" type="checkbox"/> Ordinary person	<input type="checkbox"/> Children likely present	
	<input checked="" type="checkbox"/> Instructed person		
	<input checked="" type="checkbox"/> Skilled person		
Supply connection	<input checked="" type="checkbox"/> AC mains	<input type="checkbox"/> DC mains	
	<input type="checkbox"/> not mains connected:		
	<input type="checkbox"/> ES1	<input type="checkbox"/> ES2	<input checked="" type="checkbox"/> ES3
Supply tolerance	<input checked="" type="checkbox"/> +10%/-10%		
	<input type="checkbox"/> +20%/-15%		
	<input type="checkbox"/> + %/ - %		
	<input type="checkbox"/> None		
Supply connection – type	<input checked="" type="checkbox"/> pluggable equipment type A -		
	<input type="checkbox"/> non-detachable supply cord		
	<input checked="" type="checkbox"/> appliance coupler		
	<input type="checkbox"/> direct plug-in		
	<input type="checkbox"/> pluggable equipment type B -		
	<input type="checkbox"/> non-detachable supply cord		
	<input type="checkbox"/> appliance coupler		
	<input type="checkbox"/> permanent connection		
	<input type="checkbox"/> mating connector	<input type="checkbox"/> other:	
Considered current rating of protective device	<input checked="" type="checkbox"/> 16 A (for other), 13 A (for UK); 20A (for US,CA);		
	Location: <input checked="" type="checkbox"/> building	<input type="checkbox"/> equipment	
	<input type="checkbox"/> N/A		
Equipment mobility	<input type="checkbox"/> movable	<input type="checkbox"/> hand-held	<input checked="" type="checkbox"/> transportable
	<input type="checkbox"/> direct plug-in	<input type="checkbox"/> stationary	<input type="checkbox"/> for building-in
	<input type="checkbox"/> wall/ceiling-mounted	<input type="checkbox"/> SRME/rack-mounted	
	<input type="checkbox"/> other:		
Overvoltage category (OVC)	<input type="checkbox"/> OVC I	<input checked="" type="checkbox"/> OVC II	<input type="checkbox"/> OVC III
	<input type="checkbox"/> OVC IV	<input type="checkbox"/> other:	
Class of equipment	<input checked="" type="checkbox"/> Class I	<input type="checkbox"/> Class II	<input type="checkbox"/> Class III
	<input type="checkbox"/> Not classified	<input type="checkbox"/>	
Special installation location	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> restricted access area	
	<input type="checkbox"/> outdoor location	<input type="checkbox"/>	
Pollution degree (PD)	<input type="checkbox"/> PD 1	<input checked="" type="checkbox"/> PD 2	<input type="checkbox"/> PD 3
Manufacturer's specified T_{ma}	40-50 °C(See General Product Information)		
	<input type="checkbox"/> Outdoor: minimum	°C	
IP protection class	<input checked="" type="checkbox"/> IPX0	<input type="checkbox"/> IP__	
Power systems	<input checked="" type="checkbox"/> TN	<input type="checkbox"/> TT	<input type="checkbox"/> IT - V _{L-L}
	<input type="checkbox"/> not AC mains		
Altitude during operation (m)	<input checked="" type="checkbox"/> 2000 m or less(for PAA)	<input checked="" type="checkbox"/> 5000 m (for all models except PAA)	
Altitude of test laboratory (m)	<input checked="" type="checkbox"/> 2000 m or less	<input type="checkbox"/> m	
Mass of equipment (kg)	0.24 for KPL O/P: 25-50W models; 0.27 for KPL O/P: 60-66W models; 0.25 for 2ABF and 2ACL models; 0.31 for GTR models. 0.28 for PAA060M-ZZZ		

Possible test case verdicts:

- test case does not apply to the test object....: N/A
- test object does meet the requirement: P (Pass)
- test object does not meet the requirement....: F (Fail)

Testing:

Date of receipt of test item.....: 2022/06/27 (Report 31581397.036
2020/06/25 (Report 31581397.030)

Date (s) of performance of tests.....: 2022/06/27 – 2022/07/12 (Report 31581397.036)
2020/06/25 – 2020/07/09 (Report 31581397.030)

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
 "(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60335-1:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided

- ☒ Yes
☐ Not applicable

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies).....:	<ol style="list-style-type: none"> 1. Channel Well Technology (Guangzhou) Co., Ltd Bld.B, Eastern Hi-tech Industrial Base, Zengjiang Street, Zengcheng , Guangzhou, Guangdong 511300, P.R. China 2. Power Plus Technology (Vietnam) Corp Lot CN5A-1, Que Vo III Industrial Park, Viet Hung Commune, 016852 Que Vo district, Bac Ninh Province. Vietnam
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General product information and other remarks:

Product Description:

- The EUTs are desktop type, switching mode, AC input adaptor for the use in information technology equipment.
- All models are similar except for the type designation, output rating, PCB layout, and different transformer (T1):
 - PQ-2620-12 or PQ-2620-12-VI applied for KPL series with output voltage 12V to 16V.
 - PQ-2620-17 applied for KPL series with output voltage 17V to 24V.
 - PQ-2620-36 applied for KPL series with output voltage 36V
 - PQ-2620-48 applied for KPL series with output voltage 48V to 56V.
 - PQ2620-12 applied for 2ABF series with output voltage 12V.
 - PQ2620-19 applied for 2ACL, w=A or blank, series with output voltage 19V and 24V.
 - PQ2620-48 applied for 2ABF and 2ACL series with output voltage 48V, 54V, and 56V.

RM10-12 applied to GTR series with output voltage 12V (DC-DC converter provided to create 5.2V output which was powered by 12V).
PQ3220-24V applied for 2ACL, w=B series with output voltage 24V.
09P260003-ON applied for PAA060M-~~ZZZ~~.
and also the rating of components for different output voltage and wattage.

- The Adaptor's bottom enclosure is secured to top enclosure by ultrasonic welding for KPL and GTR series.
- The Adaptor's bottom enclosure is secured to top enclosure by screw for 2AB, 2ACL series, and PAA060M.
- CX1: Max. 0.47uF for KPL PCB with FUSE1, 2ACLxxxB, and PAA060M-~~ZZZ~~
- CX1: Max. 0.33uF for GTR, KPL PCB with F1, F2, 2ABF, and 2ACLxxxY (except Y=B).
- CY1 and CY2: Max. 2200pF for KPL (with F1 and F2),
- CY1: Max. 3300pF for KPL (with FUSE1), 2ABF, 2ACL, and GTR.
- CY1, CY2, CY3: Max. 4700pF for PAA060M-~~ZZZ~~
- For KPL series, new model (KPL-xy-VI) with 48V output (50W, 60W and 65W), and 12V output (48W and 66W) were added. PCB was modified to include two fuses (F1 and F2). When TVS1 is not present, F1 (6.3A/250V) will be replaced by a jumper wire.
- For KPL series (PCB with fuses: F1 and F2), CY2 (optional) was added in series with CY1 cross over between primary GND and secondary GND. Please refer to the clause 4.1.2, the attachment of Photos, and the attachment of Circuit Diagram in details.
- For 2ABF and 2ACL series, If F2 (optional) is not present, the value of F1 will be T3.15A/250V.
- For 2ABF and 2ACL series, TH1 (Max. 5Ω at 25°C, min. 3A) and Gas Tube, SA1/SA2, (Min. 200V) were added as optional items.
- For GTR series, F1 = 3.15A
- For PAA060M-~~ZZZ~~, F1 = 2.5A or 3.15A
- The model, KPL-xy (PCB with fuse: FUSE1), was submitted and tested for use at maximum ambient temperature (Tma): 40°C.
- The model, KPL-xy and KPL-xy-VI (PCB with fuses: F1 and F2), was submitted and tested for use at maximum ambient temperature (Tma): 45°C for x= 40, 48, 50, 60 and y= all; 40°C for x= 65, 66 and y= all.
- The model, 2ABFxxxYzzzzz and 2ACLxxxYzzzzz, was submitted and tested for use at maximum ambient temperature (Tma): 40°C (except Y=B) and 50°C (Y=B).
- The model, GTRxxxYzzzzz, was submitted and tested for use at maximum ambient temperature (Tma): 40°C.
- The model, PAA060M-~~ZZZ~~, was submitted and tested for use at maximum ambient temperature (Tma): 40°C.

Unless otherwise specified, throughout this report, the tests were performed on selected models under the ambient temperature at around +25 °C and on an open bench table:

T1 (PQ-2620-12-VI): KPL-066F (highest output current), KPL-060I (highest output voltage).

T1 (PS-2620-17): KPL-065J (highest output current), KPL-065M (highest output voltage).

T1 (PQ-2620-36): KPL-065A-VI (highest output current and voltage).

T1 (PQ-2620-48): KPL-065S, KPL-065U-VI (highest output current and voltage).

T1 (PQ2620-12): 2ABF065F (highest output current and voltage).

T1 (PQ2620-19): 2ACL060K (highest output current), 2ACL060M (highest output voltage).

T1 (PQ2620-48): 2ACL065R (highest output current), 2ACL065U (highest output voltage).

T1 (PQ2620-05): 2ACL030B (highest output current and voltage)

T1 (PQ3220-24V): 2ACL060MB

T1(09P260003-ON): PAA060M-ZZZ

- The altitude during operation is 5000 meter for all models except PAA060M-ZZZ which is 2000m.
- Working Ambient Temperature: please refer to the Model List Table in details.
- The Product under test was loaded to the maximum of the rated output for the worst working condition.
- The Product under test was pre-production samples without serial number assigned.

Model Differences:

Please refer to the Production Description for details.

Additional application considerations –

Definition of variable(s):

KPL-xy/KPL-xy-VI (x can be 030, 040, 048, 050, 060, 065, or 066 to represent the output wattage; y can be F, G, V, H, I, W, J, K, L, N, Q, R, M, A, S, T, P or U to represent the output voltage).

Variable	Range of variable	Content
x	030, 040, 048, 050, 060, 065, 066	030=30W, 040=40W, 048=48W, 050=50W, 060=60W, 065=65W, 066=66W
y	F, G, V, H, I, W, J, K, L, N, Q, R, M, A, S, T, P, U	F=12V, G=13V, V=14V, H=15V, I=16V, W=17V, J=18V, K=19V, L=20V, N=21V, Q=22V, R=23V, M=24V, A=36V, S=48V, T=52V, P=54V, U=56V

2ABFxxxYzzzzz and 2ACLxxxYzzzzz (xxx can be 025, 030, 036, 048, 050, 060, 065 or 068 to represent the output wattage; Y can be B, F, K, M, R, S, or U to represent the output voltage; w can be A, B or blank, represent difference PCB type)

Variable	Range of variable	Content
x	025, 030, 036, 048, 050, 060, 065, 068	025=25W, 030=30W, 036=36W, 048=48W, 050=50W, 060=60W, 065=65W, 068=68W
y	B, F, K, M, R, S, U	B=5V, F=12V, K=19V, M=24V, R=48V, S=54V, U=56V

GTRxxxYzzzzz (xxx can be 038 to represent the output wattage; Y can be 2 to represent the output voltages)

Variable	Range of variable	Content
x	038	038=38W
y	2	2= 12V, 5.2V output

OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	Possible Hazard			
5	Electrically-caused injury			
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
ES3: All circuits except output terminal	Ordinary	N/A	N/A	Enclosure, See 5.4.2, 5.4.3, 5.5.3 and 5.5.4
ES3: Xcapacitor connected between L and N	Ordinary	N/A	N/A	See 5.5.2.2
ES1: Output terminal	Ordinary	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1 st S	2 nd S
PS3: Internal circuit	Enclosure	See 6.3	V-0	N/A
PS3: Internal circuit	PCB	See 6.3	V-1 or better	N/A
PS3: Internal circuit	The other components/materials	See 6.3	See 6.4.5, 6.4.6	N/A
PS3: Internal circuit	Internal/external wiring	N/A	N/A	See 6.5
7	Injury caused by hazardous substances			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
N/A	N/A	N/A	N/A	N/A
8	Mechanically-caused injury			
Class and Energy Source (e.g. MS3: Plastic fan blades)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
MS1: Mass of the unit	Ordinary	N/A	N/A	N/A
MS1: Edges and corners	Ordinary	N/A	N/A	N/A
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS3: Internal circuits	Ordinary	N/A	N/A	Enclosure
TS1: Accessible surface	Ordinary	N/A	N/A	N/A
10	Radiation			
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
N/A	N/A	N/A	N/A	N/A
Supplementary Information:				
“B” – Basic Safeguard; “S” – Supplementary Safeguard; “R” – Reinforced Safeguard				

ENERGY SOURCE DIAGRAM

Optional. Manufacturers are to provide the energy sources diagram identify declared energy sources and identifying the demarcations are between power sources. Recommend diagram be provided included in power supply and multipart systems.

Insert diagram below. Example diagram designs are; Block diagrams; image(s) with layered data; mechanical drawings

☒ ES ☒ PS ☒ MS ☒ TS ☐ RS

ES3 – Mains voltage

Basic Safeguard – Equipment enclosure and insulation

Supplemental or Reinforced Safeguard – Enclosure and insulation

Ordinary, Instructed and Skilled Persons. No service tasks within ES3 areas.

PS3 – Mains voltage

Basic Safeguard – No ignition. Components used and selection of materials

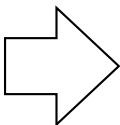
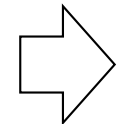
Supplemental Safeguard – Fire enclosure provides safeguard under Abnormal and Fault Conditions

Ordinary, Instructed and Skilled Persons

PS1, PS2 – Output voltage

Basic Safeguard – Components used and selection of materials

Ordinary, Instructed and Skilled Persons

MS1- Mass of Equipment		Ordinary, Instructed and Skilled Persons	
TS1- Power Supply Enclosure		Ordinary, Instructed and Skilled Persons	

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment. See also Annex G.	P
4.1.3	Equipment design and construction	Evaluation of safeguards regarding preventing access to ES3 parts, limiting the source supplying outputs to fulfill ES1, and protection in regard to risk of ignition, mechanical-caused injury and thermal burn considered.	P
4.1.4	Specified ambient temperature for outdoor use (°C) :		N/A
4.1.5	Constructions and components not specifically covered		N/A
4.1.8	Liquids and liquid filled components (LFC)	No liquids of such type of components used	N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness		P
4.4.3.1	General		P
4.4.3.2	Steady force tests	(See Clause T.2, T.5)	P
4.4.3.3	Drop tests	(See Annex T.7)	P
4.4.3.4	Impact tests		N/A
4.4.3.5	Internal accessible safeguard tests		N/A
4.4.3.6	Glass impact tests	No glass used in the construction	N/A
4.4.3.7	Glass fixation tests		N/A
	Glass impact test (1J)		N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests	(See Annex T.8)	P
4.4.3.9	Air comprising a safeguard		N/A
4.4.3.10	Accessibility, glass, safeguard effectiveness		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.4.4	Displacement of a safeguard by an insulating liquid		N/A
4.4.5	Safety interlocks	No Safety Interlocks	N/A
4.5	Explosion		P
4.5.1	General	No explosion occurs during normal/abnormal operation and single fault conditions	P
4.5.2	No explosion during normal/abnormal operating condition	(See Clause B.2, B.3)	P
	No harm by explosion during single fault conditions	(See Clause B.4)	P
4.6	Fixing of conductors		P
	Fix conductors not to defeat a safeguard		P
	Compliance is checked by test :	(See Clause T.2)	P
4.7	Equipment for direct insertion into mains socket-outlets		N/A
4.7.2	Mains plug part complies with relevant standard . :	Not direct plug-in equipment	N/A
4.7.3	Torque (Nm) :		N/A
4.8	Equipment containing coin/button cell batteries		N/A
4.8.1	General	No batteries used	N/A
4.8.2	Instructional safeguard..... :		N/A
4.8.3	Battery compartment door/cover construction		N/A
	Open torque test		N/A
4.8.4.2	Stress relief test		N/A
4.8.4.3	Battery replacement test		N/A
4.8.4.4	Drop test		N/A
4.8.4.5	Impact test		N/A
4.8.4.6	Crush test		N/A
4.8.5	Compliance		N/A
	30N force test with test probe		N/A
	20N force test with test hook		N/A
4.9	Likelihood of fire or shock due to entry of conductive object		P
4.10	Component requirements		P
4.10.1	Disconnect Device	(See Annex L)	P
4.10.2	Switches and relays	No switches or relays used	N/A
5	ELECTRICALLY-CAUSED INJURY		P
5.2	Classification and limits of electrical energy sources		P
5.2.2	ES1, ES2 and ES3 limits		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.2	Steady-state voltage and current limits	(See appended table 5.2)	P
5.2.2.3	Capacitance limits	(See appended table 5.2)	P
5.2.2.4	Single pulse limits.....		N/A
5.2.2.5	Limits for repetitive pulses.....		N/A
5.2.2.6	Ringing signals		N/A
5.2.2.7	Audio signals		N/A
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits		P
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards	Only ES1 circuit can be accessed for this product.	P
	Accessibility to outdoor equipment bare parts		N/A
5.3.2.2	Contact requirements	No openings allowing entry of a probe. No access with test probe to any ES3 circuit or parts.	P
	Test with test probe from Annex V	(See Annex V)	-
5.3.2.2 a)	Air gap – electric strength test potential (V).....		N/A
5.3.2.2 b)	Air gap – distance (mm)		N/A
5.3.2.3	Compliance		P
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	The choice and application have taken into account as specified in this Clause 5 and Annex T and natural rubber, hygroscopic materials or asbestos are not used as insulation.	P
5.4.1.3	Material is non-hygroscopic	(See sub-clause 5.4.8)	P
5.4.1.4	Maximum operating temperature for insulating materials.....	(See appended table 5.4.1.4)	P
5.4.1.5	Pollution degrees.....	2	P
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling test		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage..... :	(See appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		P
5.4.1.10.2	Vicat test..... :		N/A
5.4.1.10.3	Ball pressure test..... :	(See appended table 5.4.1.10.3)	P
5.4.2	Clearances		P
5.4.2.1	General requirements		P
	Clearances in circuits connected to AC Mains, Alternative method		N/A
5.4.2.2	Procedure 1 for determining clearance		N/A
	Temporary overvoltage :		—
5.4.2.3	Procedure 2 for determining clearance		P
5.4.2.3.2.2	a.c. mains transient voltage..... :	2500 Vpk.	—
5.4.2.3.2.3	d.c. mains transient voltage :		—
5.4.2.3.2.4	External circuit transient voltage..... :		—
5.4.2.3.2.5	Transient voltage determined by measurement.... :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test :	(See appended table 5.4.2)	N/A
5.4.2.5	Multiplication factors for clearances and test voltages :	1.48	P
5.4.2.6	Clearance measurement..... :	(See appended table 5.4.2)	P
5.4.3	Creepage distances		P
5.4.3.1	General		P
5.4.3.3	Material group..... :	IIIb	—
5.4.3.4	Creepage distances measurement :	(See appended table 5.4.3)	P
5.4.4	Solid insulation		P
5.4.4.1	General requirements		P
5.4.4.2	Minimum distance through insulation :	(See appended table 5.4.4.2)	P
5.4.4.3	Insulating compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices	No insulation compound forming solid insulation other than optical isolator, see table 4.1.2 for detail.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.5	Insulating compound forming cemented joints		N/A
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material	Where two layers are provided as reinforced insulation any one layer passed the electric strength test for reinforced insulation.	P
	Number of layers (pcs) :	2 layers	P
5.4.4.6.3	Non-separable thin sheet material		N/A
	Number of layers (pcs) :		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material..... :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		P
5.4.4.9	Solid insulation at frequencies >30 kHz, E_p , K_R , d , V_{PW} (V)..... :	(See appended Table 5.4.4.9)	P
	Alternative by electric strength test, tested voltage (V), K_R :	(See appended Tables 5.4.4.9 and 5.4.9)	P
5.4.5	Antenna terminal insulation	No such components	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
5.4.5.3	Insulation resistance (M Ω)..... :		N/A
	Electric strength test..... :		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		P
	Relative humidity (%), temperature (°C), duration (h) :	95%, 40°C, 120 h.	—
5.4.9	Electric strength test		P
5.4.9.1	Test procedure for type test of solid insulation :	(See appended table 5.4.9)	P
5.4.9.2	Test procedure for routine test		N/A
5.4.10	Safeguards against transient voltages from external circuits	No connection to external circuits with transient voltage.	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test	(See appended table 5.4.9)	N/A
5.4.10.2.3	Steady-state test	(See appended table 5.4.9)	N/A
5.4.10.3	Verification for insulation breakdown for impulse test		N/A
5.4.11	Separation between external circuits and earth		N/A
5.4.11.1	Exceptions to separation between external circuits and earth	No connection to external circuits with transient voltage.	N/A
5.4.11.2	Requirements		N/A
	SPDs bridge separation between external circuit and earth		N/A
	Rated operating voltage U_{op} (V)		—
	Nominal voltage U_{peak} (V)		—
	Max increase due to variation ΔU_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
5.4.11.3	Test method and compliance		N/A
5.4.12	Insulating liquid		N/A
5.4.12.1	General requirements		N/A
5.4.12.2	Electric strength of an insulating liquid		N/A
5.4.12.3	Compatibility of an insulating liquid		N/A
5.4.12.4	Container for insulating liquid		N/A
5.5	Components as safeguards		P
5.5.1	General		P
5.5.2	Capacitors and RC units		P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector	(See appended table 5.5.2.2)	P
5.5.3	Transformers		P
5.5.4	Optocouplers	(See sub-clause 5.4 or Clause G.12)	P
5.5.5	Relays		N/A
5.5.6	Resistors	(See Clause G.10)	P
5.5.7	SPDs		N/A
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable		N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	RCD rated residual operating current (mA) :		—
5.6	Protective conductor		P
5.6.2	Requirement for protective conductors		P
5.6	Protective conductor		P
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation	Green and yellow	P
5.6.3	Requirement for protective earthing conductors	The earth pin of the approved appliance inlet.	N/A
	Protective earthing conductor size (mm ²) :	See above	—
	Protective earthing conductor serving as a reinforced safeguard		N/A
	Protective earthing conductor serving as a double safeguard		N/A
5.6.4	Requirements for protective bonding conductors		P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm ²). :	Min. 18AWG	—
5.6.4.2	Protective current rating (A)..... :	Protective current rating 16A (20A for USA and Canada)	P
5.6.5	Terminals for protective conductors	AC inlet pin provided as protective earthing terminal	P
5.6.5.1	Terminal size for connecting protective earthing conductors (mm)..... :	See above	N/A
	Terminal size for connecting protective bonding conductors (mm) :		N/A
5.6.5.2	Corrosion	No combination above the line in Annex N is used.	P
5.6.6	Resistance of the protective bonding system		P
5.6.6.1	Requirements		P
5.6.6.2	Test Method :	(See appended table 5.6.6)	P
5.6.6.3	Resistance (Ω) or voltage drop :	(See appended table 5.6.6)	P
5.6.7	Reliable connection of a protective earthing conductor		N/A
5.6.8	Functional earthing		N/A
	Conductor size (mm ²)..... :		N/A
	Class II with functional earthing marking :		N/A
	Appliance inlet cl & cr (mm) :		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current	Figure 4 of IEC 60990:1999 was used in determining of the limit of ES1. (See appended table 5.2)	P
5.7.2.2	Measurement of voltage		P
5.7.3	Equipment set-up, supply connections and earth connections	Clause 4, 5.3 and 5.4 of IEC 60990:1999 applied.	P
5.7.4	Unearthed accessible parts	(See appended table 5.7.4)	P
5.7.5	Earthed accessible conductive parts	functional earth	N/A
5.7.6	Requirements when touch current exceeds ES2 limits	Not exceed ES2	N/A
	Protective conductor current (mA)		N/A
	Instructional Safeguard		N/A
5.7.7	Prospective touch voltage and touch current associated with external circuits		N/A
5.7.7.1	Touch current from coaxial cables		N/A
5.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables		N/A
5.7.8	Summation of touch currents from external circuits		N/A
	a) Equipment connected to earthed external circuits, current (mA)		N/A
	b) Equipment connected to unearthed external circuits, current (mA)		N/A
5.8	Backfeed safeguard in battery backed up supplies		N/A
	Mains terminal ES	No batteries used in the product	N/A
	Air gap (mm).....		N/A
6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of PS and PIS		P
6.2.2	Power source circuit classifications	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources	PS (power source) classification determined by measuring the maximum power in Figures 34 and 35 for load and power source circuits.	P
6.2.3.1	Arcing PIS	(See appended table 6.2.3.1)	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.3.2	Resistive PIS	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials.....	(See appended table B.1.5 and B.3)	P
	Combustible materials outside fire enclosure.....	See appended table 4.1.2	P
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard method	Both methods (reduce the likelihood of ignition and control fire spread) employed.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		P
6.4.3.1	Supplementary safeguards	Protective devices employed (see appended table 4.1.2)	P
6.4.3.2	Single Fault Conditions.....	(See appended table B.4)	P
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits	Compliance detailed as follows: – <u>Printed board</u> : rated V-1 or better – <u>Wire insulation (tubing)</u> : complying with Clause 6 (See Table 4.1.2 for wiring used). – <u>All other components</u> : at least V-2 except for mounted on min. V-1 material or small parts of combustible material. <u>Isolating transformer</u> : complying with G.5.3.	P
6.4.5.2	Supplementary safeguards	(See appended tables 4.1.2 and Annex G)	P
6.4.6	Control of fire spread in PS3 circuits	Complies. Fire enclosure provided	P
6.4.7	Separation of combustible materials from a PIS	Separation by fire enclosure	P
6.4.7.2	Separation by distance		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.2	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier	No fire barrier.	N/A
6.4.8.2.2	Requirements for a fire enclosure	The V-0 fire enclosure is used.	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings	No Fire enclosure opening	P
6.4.8.3.2	Fire barrier dimensions	No fire barrier	N/A
6.4.8.3.3	Top openings and properties		N/A
	Openings dimensions (mm) :		N/A
6.4.8.3.4	Bottom openings and properties		N/A
	Openings dimensions (mm) :		N/A
	Flammability tests for the bottom of a fire enclosure		N/A
	Instructional Safeguard..... :		N/A
6.4.8.3.5	Side openings and properties		N/A
	Openings dimensions (mm) :		N/A
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c) :		N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating..... :	V-0 Fire Enclosure used.	P
6.4.9	Flammability of insulating liquid..... :		N/A
6.5	Internal and external wiring		P
6.5.1	General requirements	Internal wire and output wire having rating VW-1 is considered to meet IEC/TS 60695-11-21.	P
6.5.2	Requirements for interconnection to building wiring :		N/A
6.5.3	Internal wiring size (mm ²) for socket-outlets :		N/A
6.6	Safeguards against fire due to the connection to additional equipment		P
7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		N/A
7.2	Reduction of exposure to hazardous substances		N/A
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards or personal protective equipment (PPE)		N/A
	Personal safeguards and instructions..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict

7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010)..... :		—
7.6	Batteries and their protection circuits		N/A

8	MECHANICALLY-CAUSED INJURY		P
8.2	Mechanical energy source classifications		P
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners		P
8.4.1	Safeguards		N/A
	Instructional Safeguard..... :	Instructional safeguard is not required.	N/A
8.4.2	Sharp edges or corners	The sharp edges and corners of the equipment are considered as MS1.	P
8.5	Safeguards against moving parts		N/A
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts	No moving part in the construction	N/A
	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
	Moving MS3 parts only accessible to skilled person		N/A
8.5.2	Instructional safeguard		N/A
8.5.4	Special categories of equipment containing moving parts		N/A
8.5.4.1	General		N/A
8.5.4.2	Equipment containing work cells with MS3 parts		N/A
8.5.4.2.1	Protection of persons in the work cell		N/A
8.5.4.2.2	Access protection override		N/A
8.5.4.2.2.1	Override system		N/A
8.5.4.2.2.2	Visual indicator		N/A
8.5.4.2.3	Emergency stop system		N/A
	Maximum stopping distance from the point of activation (m)		N/A
	Space between end point and nearest fixed mechanical part (mm)..... :		N/A
8.5.4.2.4	Endurance requirements		N/A
	Mechanical system subjected to 100 000 cycles of operation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- Mechanical function check and visual inspection		N/A
	- Cable assembly		N/A
8.5.4.3	Equipment having electromechanical device for destruction of media		N/A
8.5.4.3.1	Equipment safeguards		N/A
8.5.4.3.2	Instructional safeguards against moving parts.....		N/A
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N)		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps		N/A
	Explosion test.....		N/A
8.5.5.3	Glass particles dimensions (mm).....		N/A
8.6	Stability of equipment		N/A
8.6.1	General	Classification MS1 according to table 35, line 5 and no stability requirements.	N/A
	Instructional safeguard		N/A
8.6.2	Static stability		N/A
8.6.2.2	Static stability test.....		N/A
8.6.2.3	Downward force test		N/A
8.6.3	Relocation stability		N/A
	Wheels diameter (mm)		—
	Tilt test		N/A
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test		N/A
8.7	Equipment mounted to wall, ceiling or other structure		N/A
8.7.1	Mount means type	Product is not wall, ceiling or other structure mounted	N/A
8.7.2	Test methods		N/A
	Test 1, additional downwards force (N)		N/A
	Test 2, number of attachment points and test force (N).....		N/A
	Test 3 Nominal diameter (mm) and applied torque (Nm).....		N/A
8.8	Handles strength		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.8.1	General	No handles used in the construction	N/A
8.8.2	Handle strength test		N/A
	Number of handles :		—
	Force applied (N)..... :		—
8.9	Wheels or casters attachment requirements		N/A
8.9.2	Pull test	No wheels or caster used in the construction	N/A
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions :		N/A
8.10.3	Cart, stand or carrier loading test		N/A
	Loading force applied (N) :		N/A
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Force applied (N)..... :		N/A
8.10.6	Thermoplastic temperature stability		N/A
8.11	Mounting means for slide-rail mounted equipment (SRME)		N/A
8.11.1	General	Product is not rail mounted	N/A
8.11.2	Requirements for slide rails		N/A
	Instructional Safeguard..... :		N/A
8.11.3	Mechanical strength test		N/A
8.11.3.1	Downward force test, force (N) applied :		N/A
8.11.3.2	Lateral push force test		N/A
8.11.3.3	Integrity of slide rail end stops		N/A
8.11.4	Compliance		N/A
8.12	Telescoping or rod antennas		N/A
	Button/ball diameter (mm) :		—
9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications		P
9.3	Touch temperature limits		P
9.3.1	Touch temperatures of accessible parts..... :	(See appended table)	P
9.3.2	Test method and compliance		P
9.4	Safeguards against thermal energy sources		P

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Clause	Requirement + Test	Result - Remark	Verdict
9.5	Requirements for safeguards		P
9.5.1	Equipment safeguard	Enclosure is a safeguard	P
9.5.2	Instructional safeguard		N/A
9.6	Requirements for wireless power transmitters		N/A
9.6.1	General	No such components used	N/A
9.6.2	Specification of the foreign objects		N/A
9.6.3	Test method and compliance		N/A
10	RADIATION		N/A
10.2	Radiation energy source classification		N/A
10.2.1	General classification	No radiation produced by the product	N/A
	Lasers		—
	Lamps and lamp systems		—
	Image projectors		—
	X-Ray		—
	Personal music player		—
10.3	Safeguards against laser radiation		N/A
	The standard(s) equipment containing laser(s) comply		N/A
10.4	Safeguards against optical radiation from lamps and lamp systems (including LED types)		N/A
10.4.1	General requirements		N/A
	Instructional safeguard provided for accessible radiation level needs to exceed		N/A
	Risk group marking and location		N/A
	Information for safe operation and installation		N/A
10.4.2	Requirements for enclosures		N/A
	UV radiation exposure		N/A
10.4.3	Instructional safeguard		N/A
10.5	Safeguards against X-radiation		N/A
10.5.1	Requirements		N/A
	Instructional safeguard for skilled persons		—
10.5.3	Maximum radiation (pA/kg)	(See appended tables B.3 & B.4)	—
10.6	Safeguards against acoustic energy sources		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.6.1	General	No acoustic energy produced by the product	N/A
10.6.2	Classification		N/A
	Acoustic output $L_{Aeq,T}$, dB(A)		N/A
	Unweighted RMS output voltage (mV)		N/A
	Digital output signal (dBFS)		N/A
10.6.3	Requirements for dose-based systems		N/A
10.6.3.1	General requirements		N/A
10.6.3.2	Dose-based warning and automatic decrease		N/A
10.6.3.3	Exposure-based warning and requirements		N/A
	30 s integrated exposure level (MEL30)		N/A
	Warning for MEL ≥ 100 dB(A)		N/A
10.6.4	Measurement methods		N/A
10.6.5	Protection of persons		N/A
	Instructional safeguards		N/A
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV)		N/A
10.6.6.2	Corded listening devices with digital input		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A)		N/A
10.6.6.3	Cordless listening devices		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A)		N/A
B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.1	General		P
B.1.5	Temperature measurement conditions	(See appended table B.1.5)	P
B.2	Normal operating conditions		P
B.2.1	General requirements	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers	No audio amplifiers in the construction	N/A
B.2.3	Supply voltage and tolerances	Rated voltage ± 10 %	P
B.2.5	Input test	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General		P

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.2	Covering of ventilation openings		N/A
	Instructional safeguard..... :		N/A
B.3.3	DC mains polarity test		N/A
B.3.4	Setting of voltage selector		N/A
B.3.5	Maximum load at output terminals		P
B.3.6	Reverse battery polarity	No battery	N/A
B.3.7	Audio amplifier abnormal operating conditions	No audio amplifiers in the construction	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions :	(See appended table B.3)	P
B.4	Simulated single fault conditions		P
B.4.1	General		P
B.4.2	Temperature controlling device	No controlling devices used in the construction	N/A
B.4.3	Blocked motor test	No motor	N/A
B.4.4	Functional insulation	(See appended table B.4)	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4)	P
B.4.6	Short circuit or disconnection of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components		N/A
B.4.8	Compliance during and after single fault conditions :	(See appended table B.4)	P
B.4.9	Battery charging and discharging under single fault conditions	No batteries	N/A
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements	No UV radiation produced by the product	N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure test		N/A
C.2.4	Xenon-arc light-exposure test		N/A
D	TEST GENERATORS		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Electrical energy source classification for audio signals		N/A
	Maximum non-clipped output power (W)..... :	No audio amplifiers in the construction	—
	Rated load impedance (Ω)		—
	Open-circuit output voltage (V)..... :		—
	Instructional safeguard..... :		—
E.2	Audio amplifier normal operating conditions		N/A
	Audio signal source type		—
	Audio output power (W)..... :		—
	Audio output voltage (V)		—
	Rated load impedance (Ω)		—
	Requirements for temperature measurement		N/A
E.3	Audio amplifier abnormal operating conditions		N/A
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General		P
	Language	English	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1	Letter symbols for quantities and units are complied with IEC 60027-1.	P
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific	Graphical symbols are complied with IEC 60417, ISO 3864-2, ISO 7000 or ISO 7010.	P
F.3	Equipment markings		P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.1	Equipment marking locations	The required marking is located on the enclosure of the equipment and is easily visible.	P
F.3.2	Equipment identification markings	See copy of marking plate	P
F.3.2.1	Manufacturer identification	See copy of marking plate	P
F.3.2.2	Model identification	See model list.	P
F.3.3	Equipment rating markings	See copy of marking plate	P
F.3.3.1	Equipment with direct connection to mains	See copy of marking plate	P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of the supply voltage.....	See copy of marking plate	P
F.3.3.4	Rated voltage.....	See copy of marking plate	P
F.3.3.5	Rated frequency.....	See copy of marking plate	P
F.3.3.6	Rated current or rated power.....	See copy of marking plate	P
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices		N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings		N/A
F.3.5.2	Switch position identification marking		N/A
F.3.5.3	Replacement fuse identification and rating markings	No replaceable fuses	N/A
	Instructional safeguards for neutral fuse		N/A
F.3.5.4	Replacement battery identification marking		N/A
F.3.5.5	Neutral conductor terminal		N/A
F.3.5.6	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I equipment		P
F.3.6.1.1	Protective earthing conductor terminal	AC inlet consider as conductor terminal	P
F.3.6.1.2	Protective bonding conductor terminals		N/A
F.3.6.2	Equipment class marking		N/A
F.3.6.3	Functional earthing terminal marking.....		N/A
F.3.7	Equipment IP rating marking.....	IPX0	N/A
F.3.8	External power supply output marking.....	See copy of marking plate	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.9	Durability, legibility and permanence of marking	The marking plate has no curling and is not able to be removed easily.	P
F.3.10	Test for permanence of markings	Complies	P
F.4	Instructions		P
	a) In formation prior to installation and initial use		N/A
	b) E quipment for use in locations where children not likely to be present		N/A
	c) Instructions for installation and interconnection	Sufficient information is provided to the user.	P
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place		N/A
	f) Instructions for audio equipment terminals		N/A
	g) Protective earthing used as a safeguard		N/A
	h) Protective conductor current exceeding ES2 limits		N/A
	i) Graphic symbols used on equipment		P
	j) Permanently connected equipment not provided with all-pole mains switch		N/A
	k) Replaceable components or modules providing safeguard function		N/A
	l) Equipment containing insulating liquid		N/A
	m) Installation instructions for outdoor equipment		N/A
F.5	Instructional safeguards		N/A
G	COMPONENTS		P
G.1	Switches		N/A
G.1.1	General	No switched provided	N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.1.3	Test method and compliance		N/A
G.2	Relays		N/A
G.2.1	Requirements	No relays provided	N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment		N/A
G.2.4	Test method and compliance		N/A
G.3	Protective devices		P
G.3.1	Thermal cut-offs	No thermal cut-off provided	N/A
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links	No thermal link provided	N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors	No PTC provided	N/A
G.3.4	Overcurrent protection devices	(see appended table 4.1.2)	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions	(See appended table B.4)	N/A
G.4	Connectors		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration	Certified appliance inlet used.	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		P
G.5	Wound components		P
G.5.1	Wire insulation in wound components	Approved TIW used for winding of Transformer.	P
G.5.1.2	Protection against mechanical stress	Prevented by tape or tube.	P
G.5.2	Endurance test		N/A
G.5.2.1	General test requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.2.2	Heat run test		N/A
	Test time (days per cycle)		—
	Test temperature (°C)		—
G.5.2.3	Wound components supplied from the mains		N/A
G.5.2.4	No insulation breakdown		N/A
G.5.3	Transformers		P
G.5.3.1	Compliance method	The transformer meets the requirements given in G.5.3.2 and G.5.3.3	P
	Position	See appended table 4.1.2.	P
	Method of protection	Over current protection by circuit design.	P
G.5.3.2	Insulation	Primary windings and secondary windings are separated by Reinforced insulation	P
	Protection from displacement of windings	By bobbin, TIW and insulating tape	—
G.5.3.3	Transformer overload tests	(See appended table B.3)	P
G.5.3.3.1	Test conditions	Transformer is tested in the complete unit.	P
G.5.3.3.2	Winding temperatures		P
G.5.3.3.3	Winding temperatures - alternative test method		N/A
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter		—
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation		N/A
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core		N/A
G.5.3.4.5	Thermal cycling test and compliance		N/A
G.5.3.4.6	Partial discharge test		N/A
G.5.3.4.7	Routine test		N/A
G.5.4	Motors		N/A
G.5.4.1	General requirements		N/A
G.5.4.2	Motor overload test conditions		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.3	Running overload test		N/A
G.5.4.4.2	Locked-rotor overload test		N/A
	Test duration (days) :		—
G.5.4.5	Running overload test for DC motors		N/A
G.5.4.5.2	Tested in the unit		N/A
G.5.4.5.3	Alternative method		N/A
G.5.4.6	Locked-rotor overload test for DC motors		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature :		N/A
G.5.4.6.3	Alternative method		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage :		—
G.6	Wire Insulation		P
G.6.1	General	Triple insulated winding in transformer secondary windings used as reinforced safeguard in the isolating transformer that has separately complied with Annex J.	P
G.6.2	Enamelled winding wire insulation	Insulation does not rely on solvent-based enamel.	N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements	No cords used in the construction	N/A
	Type..... :		—
G.7.2	Cross sectional area (mm ² or AWG) :		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)..... :		N/A
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm) :		N/A
G.7.3.2.4	Strain relief and cord anchorage material		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance		N/A
	Overall diameter or minor overall dimension, D (mm) :		—
	Radius of curvature after test (mm) :		—
G.7.6	Supply wiring space		N/A
G.7.6.1	General requirements		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		N/A
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	Varistors		P
G.8.1	General requirements	Certified varistor used. (See appended table 4.1.2)	P
G.8.2	Safeguards against fire		P
G.8.2.1	General		P
G.8.2.2	Varistor overload test	Observation: No risk of fire and equipment safeguards remain effective. All source of varistors in table 4.1.2 are considered.	P
G.8.2.3	Temporary overvoltage test		N/A
G.9	Integrated circuit (IC) current limiters		N/A
G.9.1	Requirements		N/A
	IC limiter output current (max. 5A) :		—
	Manufacturers' defined drift :		—
G.9.2	Test Program		N/A
G.9.3	Compliance		N/A
G.10	Resistors		P
G.10.1	General	Certified resistor used. (See table appended table 4.1.2)	P
G.10.2	Conditioning		N/A
G.10.3	Resistor test		N/A
G.10.4	Voltage surge test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.10.5	Impulse test		N/A
G.10.6	Overload test		N/A
G.11	Capacitors and RC units		P
G.11.1	General requirements	Capacitors used in accordance with their rating and complied with subclasses of IEC 60384-14. (see appended table 4.1.2)	P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors		P
G.12	Optocouplers		P
	Optocouplers comply with IEC 60747-5-5 with specifics	Certified optocouplers used.	P
	Type test voltage $V_{ini,a}$	Considered	—
	Routine test voltage, $V_{ini,b}$	Considered	—
G.13	Printed boards		P
G.13.1	General requirements	Approved Printed board used	P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2	Test method and compliance		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements	No such components used in the construction	N/A
G.15	Pressurized liquid filled components		N/A
G.15.1	Requirements	No such components used in the construction	N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test		N/A
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
G.16.1	Condition for fault tested is not required	No such components used in the construction	N/A
	ICX with associated circuitry tested in equipment		N/A
	ICX tested separately		N/A
G.16.2	Tests		N/A
	Smallest capacitance and smallest resistance specified by ICX manufacturer for impulse test ... :		—
	Mains voltage that impulses to be superimposed on :		—
	Largest capacitance and smallest resistance for ICX tested by itself for 10000 cycles test..... :		—
G.16.3	Capacitor discharge test :		N/A
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringling signal	No ringing signals generated by the product	N/A
H.3.1.1	Frequency (Hz) :		—
H.3.1.2	Voltage (V) :		—
H.3.1.3	Cadence; time (s) and voltage (V) :		—
H.3.1.4	Single fault current (mA):..... :		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V) :		N/A
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		P
J.1	General		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Winding wire insulation :	Certified triple insulation wire used. (See appended table 4.1.2)	—
	Solid round winding wire, diameter (mm) :	(See appended table 4.1.2)	N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm ²) :		N/A
J.2/J.3	Tests and Manufacturing	(See separate test report)	—
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
	Instructional safeguard..... :	No safety interlocks in the construction	N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
K.5.1	Under single fault condition		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance :		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements		N/A
	In circuit connected to mains, separation distance for contact gaps (mm)..... :		N/A
	In circuit isolated from mains, separation distance for contact gaps (mm)..... :		N/A
	Electric strength test before and after the test of K.7.2 :		N/A
K.7.2	Overload test, Current (A)..... :		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	DISCONNECT DEVICES		P
L.1	General requirements	AC inlet used as disconnect device.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized	When AC inlet is disconnected no hazardous voltage in the equipment.	P

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Clause	Requirement + Test	Result - Remark	Verdict
L.4	Single-phase equipment	The AC inlet disconnects both poles simultaneously.	P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources		N/A
	Instructional safeguard..... :		N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		N/A
M.1	General requirements		N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Batteries and their cells comply with relevant IEC standards..... :	No batteries used in the construction	N/A
M.3	Protection circuits for batteries provided within the equipment		N/A
M.3.1	Requirements		N/A
M.3.2	Test method		N/A
	Overcharging of a rechargeable battery		N/A
	Excessive discharging		N/A
	Unintentional charging of a non-rechargeable battery		N/A
	Reverse charging of a rechargeable battery		N/A
M.3.3	Compliance		N/A
M.4	Additional safeguards for equipment containing a portable secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Requirements		N/A
M.4.2.2	Compliance..... :		N/A
M.4.3	Fire enclosure..... :		N/A
M.4.4	Drop test of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation and procedure for the drop test		N/A
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%): :		N/A
M.4.4.4	Check of the charge/discharge function		N/A
M.4.4.5	Charge / discharge cycle test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.4.4.6	Compliance		N/A
M.5	Risk of burn due to short-circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Test method and compliance		N/A
M.6	Safeguards against short-circuits		N/A
M.6.1	External and internal faults		N/A
M.6.2	Compliance		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
	Calculated hydrogen generation rate..... :		N/A
M.7.2	Test method and compliance		N/A
	Minimum air flow rate, Q (m ³ /h) :		N/A
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%) :		N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate :		N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%) :		N/A
M.7.4	Marking :		N/A
M.8	Protection against internal ignition from external spark sources of batteries with aqueous electrolyte		N/A
M.8.1	General		N/A
M.8.2	Test method		N/A
M.8.2.1	General		N/A
M.8.2.2	Estimation of hypothetical volume V_z (m ³ /s) :		—
M.8.2.3	Correction factors..... :		—
M.8.2.4	Calculation of distance d (mm) :		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Instructional safeguard..... :		N/A
N	ELECTROCHEMICAL POTENTIALS		P
	Material(s) used..... :	Complied.	—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Value of X (mm) :	Measurement is in accordance with applicable figures.	—
P	SAFEGUARDS AGAINST CONDUCTIVE OBJECTS		P
P.1	General	No opening in the enclosure construction	P
P.2	Safeguards against entry or consequences of entry of a foreign object		P
P.2.1	General	No opening in the enclosure construction	P
P.2.2	Safeguards against entry of a foreign object		P
	Location and Dimensions (mm) :		—
P.2.3	Safeguards against the consequences of entry of a foreign object		N/A
P.2.3.1	Safeguard requirements		N/A
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment		N/A
	Transportable equipment with metalized plastic parts..... :		N/A
P.2.3.2	Consequence of entry test..... :		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	Metallized coatings and adhesives securing parts		N/A
P.4.1	General	No such coating or adhesive used in the construction	N/A
P.4.2	Tests		N/A
	Conditioning, T _c (°C)..... :		—
	Duration (weeks)..... :		—
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources	See appended table Annex Q.1	P

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Clause	Requirement + Test	Result - Remark	Verdict
Q.1.1	Requirements		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output	(See appended table Q.1)	P
	d) Overcurrent protective device limited output	(See appended table Q.1)	P
	e) IC current limiter complying with G.9		N/A
Q.1.2	Test method and compliance	(See appended table Q.1)	P
	Current rating of overcurrent protective device (A)	(see appended table 4.1.2)	P
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A)		—
	Current limiting method.....		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General		N/A
R.2	Test setup		N/A
	Overcurrent protective device for test		—
R.3	Test method		N/A
	Cord/cable used for test		—
R.4	Compliance		N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (°C).....		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (°C).....		—

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Clause	Requirement + Test	Result - Remark	Verdict
S.3	Flammability test for the bottom of a fire enclosure		N/A
S.3.1	Mounting of samples		N/A
S.3.2	Test method and compliance		N/A
	Mounting of samples		—
	Wall thickness (mm)		—
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power exceeding 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (°C).....		—
T	MECHANICAL STRENGTH TESTS		P
T.1	General		P
T.2	Steady force test, 10 N	(See appended table T.2)	P
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N		N/A
T.5	Steady force test, 250 N	(See appended table T.5)	P
T.6	Enclosure impact test		N/A
	Fall test		N/A
	Swing test		N/A
T.7	Drop test	(See appended table T.7)	P
T.8	Stress relief test	(See appended table T.8)	P
T.9	Glass Impact Test		N/A
T.10	Glass fragmentation test		N/A
	Number of particles counted		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)		N/A
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General		N/A
	Instructional safeguard :	No CRTs	N/A
U.2	Test method and compliance for non-intrinsically protected CRTs		N/A
U.3	Protective screen		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
V	DETERMINATION OF ACCESSIBLE PARTS		P
V.1	Accessible parts of equipment		P
V.1.1	General		P
V.1.2	Surfaces and openings tested with jointed test probes		P
V.1.3	Openings tested with straight unjointed test probes		N/A
V.1.4	Plugs, jacks, connectors tested with blunt probe		N/A
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		N/A
V.2	Accessible part criterion		P
X	ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS)		N/A
	Clearance :	(See appended table X)	N/A
Y	CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES		N/A
Y.1	General	Product is for Indoor use only.	N/A
Y.2	Resistance to UV radiation		N/A
Y.3	Resistance to corrosion		N/A
Y.3	Resistance to corrosion		N/A
Y.3.1	Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by :		N/A
Y.3.2	Test apparatus		N/A
Y.3.3	Water – saturated sulphur dioxide atmosphere		N/A
Y.3.4	Test procedure..... :		N/A
Y.3.5	Compliance		N/A
Y.4	Gaskets		N/A
Y.4.1	General		N/A
Y.4.2	Gasket tests		N/A
Y.4.3	Tensile strength and elongation tests		N/A
	Alternative test methods..... :		N/A
Y.4.4	Compression test		N/A
Y.4.5	Oil resistance		N/A
Y.4.6	Securing means		N/A
Y.5	Protection of equipment within an outdoor enclosure		N/A
Y.5.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Y.5.2	Protection from moisture		N/A
	Relevant tests of IEC 60529 or Y.5.3..... :		N/A
Y.5.3	Water spray test		N/A
Y.5.4	Protection from plants and vermin		N/A
Y.5.5	Protection from excessive dust		N/A
Y.5.5.1	General		N/A
Y.5.5.2	IP5X equipment		N/A
Y.5.5.3	IP6X equipment		N/A
Y.6	Mechanical strength of enclosures		N/A
Y.6.1	General		N/A
Y.6.2	Impact test..... :		N/A

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
5.2	TABLE: Classification of electrical energy sources (Report 31581397.030)						P
5.2.2.2 – Steady State Voltage and Current conditions							
Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters				ES Class
			U (V)	I (mA)	Type ¹⁾	Additional Info ²⁾	
Model: PAA060M-ZZZ							
240Vac, 50Hz	Output “+” to “-“ (“-“ is connected to earth)	Normal	24.3Vdc	--	SS	DC	ES1
		Abnormal Output overload	24.3Vdc max.	--	SS	DC	
		Single fault (R22 short)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (U2 pin 1 to 2 short)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (U2 pin 3 open)	0Vdc (Unit shutdown)	--	SS	DC	
Model: 2ACL060MB							
240Vac, 50Hz	Output “+” to “-“ (“-“ is connected to earth)	Normal	24.5Vdc	--	SS	DC	ES1
		Abnormal Output overload	24.5Vdc max.	--	SS	DC	
		Single fault (IC1 pin1 to 2 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (IC1 pin 3 to 4 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (IC2 pin 2 to 3 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
Model: KPL-065U-VI(with FG wire)							
240Vac, 50Hz	Output “+” to “-“ (“-“ is connected to earth)	Normal	56.598Vdc	--	SS	DC	ES1
		Abnormal Output overload	56.598Vdc max.	--	SS	DC	
		Single fault (R9 O-C)	56.598Vdc	--	SS	DC	
		Single fault (R9 S-C)	0Vdc (Unit shutdown)	--	SS	DC	

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
		Single fault (IC1 pin1 to 2 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (IC1 pin 3 to 4 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (IC1 pin 1 to 2 O-C)	0Vdc (Unit shutdown)	--	SS	DC	
Model: KPL-065U-VI(without FG wire)							
240Vac, 50Hz	Output “+” to “-“	Normal	56.598Vdc	--	SS	DC	ES1
		Abnormal Output overload	56.598Vdc max.	--	SS	DC	
		Single fault (R9 O-C)	56.598Vdc	--	SS	DC	
		Single fault (R9 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (IC1 pin1 to 2 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (IC1 pin 3 to 4 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (IC1 pin 1 to 2 O-C)	0Vdc (Unit shutdown)	--	SS	DC	
240Vac, 50Hz	Output “+”/”-“ to Earth	Normal	--	0.15mA peak	SS	--	ES1
		Abnormal Output overload	--	0.15mA peak	SS	--	
		Single fault (R9 O-C)	--	0.15mA peak	SS	--	
Model: KPL-065U-VI(without FG wire)							
240Vac, 50Hz	Output “+”/”-“ to Earth	Single fault (R9 S-C)	--	0.15mA peak	SS	--	ES1
		Single fault (IC1 pin1 to 2 S-C)	--	0.15mA peak	SS	--	
		Single fault (IC1 pin 3 to 4 S-C)	--	0.15mA peak	SS	--	

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
		Single fault (IC1 pin 1 to 2 O-C)	--	0.15mA peak	SS	--	
240Vac, 50Hz	Output “+” to “-“ (“-“ is connected to earth)	Normal	24.02Vdc	--	SS	DC	ES1
		Abnormal Output overload	24.02Vdc max.	--	SS	DC	
		Single fault (IC1 pin1 to 2 O-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (IC1 pin3 to 4 O-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (IC1 pin1 to 2 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (IC1 pin3 to 4 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (R9 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
Model:2ACL065U							
240Vac, 50Hz	Output “+” to “-“ (“-“ is connected to earth)	Normal	56.528Vdc	--	SS	DC	ES1
		Abnormal Output overload	56.528Vdc max.	--	SS	DC	
		Single fault (IC2, pin2 to 3 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (IC1, pin1 to 2 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (IC1, pin3 to 4 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (R9 S-C)	0Vdc (Unit damaged)	--	SS	DC	
		Model: GTR0382					
240Vac, 50Hz	+5V output “+” to “-“ (“-“ is connected	Normal	5.403Vdc	--	SS	DC	ES1
		Abnormal Output overload	5.403Vdc max.	--	SS	DC	

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Clause	Requirement + Test			Result - Remark			Verdict
	to earth)	Single fault (R43 S-C)	1.212Vdc	--	SS	DC	
		Single fault (R44 S-C)	6.41Vdc	--	SS	DC	
	+12V output "+" to "-" ("-" is connected to earth)	Normal	12.223Vdc	--	SS	DC	ES1
		Abnormal Output overload	12.223Vdc max.	--	SS	DC	
		Single fault (U3 pin 2 to 3 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (IC1 pin 1 to 2 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (IC1 pin 3 to 4 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (R9 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
Model: 2ABF060R							
240Vac, 50Hz	Output "+" to "-" ("-" is connected to earth)	Normal	47.9Vdc	--	SS	DC	ES1
		Abnormal Output overload	47.9Vdc max.	--	SS	DC	
		Single fault (U3, pin2 to 3 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (U4, pin1 to 2 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (U4, pin3 to 4 S-C)	0Vdc (Unit shutdown)	--	SS	DC	
		Single fault (R34 S-C)	0Vdc (Unit damaged)	--	SS	DC	
264Vac, 50Hz	X cap (CX1)	Normal	374Vpeak	--	CP	0.47µF	ES3
Supplementary information:							
1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.							
2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.							

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.8	TABLE: Working voltage measurement (Report 31581397.030)			P
Location	RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments
Model: PAA060M; Input: 240Vac, 50Hz, Output: +24V/2.5A, total 60W;				
T1: PIN 1 to PIN 8,9	333	368	--	--
T1: PIN 1 to PIN 10,11	271	352	--	--
T1: PIN 3 to PIN 8,9	167	340	--	--
T1: PIN 3 to PIN 10,11	265	352	--	--
T1: PIN 4 to PIN 8, 9	321	392	--	--
T1: PIN 4 to PIN 10,11	248	352	--	--
T1: PIN 6 to PIN 8,9	270	416	--	--
T1: PIN 6 to PIN 10,11	320	408	--	--
Model: 2ACL060MB; Input: 240Vac, 50Hz, Output: +24V/2.5A, total 60W;				
Primary to primary before fuse	240	352	--	--
L to ground before fuse	240	352	--	--
T1: PIN 1 to PIN 8	192	374	--	--
T1: PIN 1 to PIN 11	195	466	--	--
T1: PIN 3 to PIN 8	193	448	--	--
T1: PIN 3 to PIN 11	201	548	--	--
T1: PIN 4 to PIN 8	228	328	--	--
T1: PIN 4 to PIN 11	231	358	--	--
T1: PIN 6 to PIN 8	266	476	--	--
T1: PIN 6 to PIN 11	284	496	--	--
IC1 PIN 3 to PIN 1	190	372	--	--
IC1 PIN 3 to PIN 2	189	368	--	--
IC1 PIN 4 to PIN 1	189	366	--	--
IC1 PIN 4 to PIN 2	188	372	--	--
Primary to Secondary at CY1	174	346	--	--
Model: 2ACL068S; Input: 240Vac, 50Hz, Output: +54V/1.25A, total 68W;				
T1 PIN 1 to PIN 8,9	213	404	--	--
T1 PIN 1 to PIN 11,12	224	518	--	--
T1 PIN 3 to PIN 8,9	214	448	--	--
T1 PIN 3 to PIN 11,12	233	574	--	--

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Clause	Requirement + Test		Result - Remark	Verdict
T1 PIN 4 to PIN 8,9	208	302	--	--
T1 PIN 4 to PIN 11,12	218	352	--	--
T1 PIN 6 to PIN 8,9	298	508	--	--
T1 PIN 6 to PIN 11,12	351	556	--	--
IC1: Pin 3 — Pin 1	192	378	--	--
IC1: Pin 3 — Pin 2	190	376	--	--
IC1: Pin 4 — Pin 1	191	378	--	--
IC1: Pin 4 — Pin 2	189	378	--	--
Primary to Secondary at CY1	173	352	--	--
MODEL: KPL-065A-KV, Input: 240Vac, 50Hz, Output: +36V/1.81A, total 65W;				
T1 PIN 1 to PIN 8	177	350	--	--
T1 PIN 1 to PIN 11,12	184	382	--	--
T1 PIN 3 to PIN 8	236	346	--	--
T1 PIN 3 to PIN 11,12	243	440	--	--
T1 PIN 4 to PIN 8	178	392	--	--
T1 PIN 4 to PIN 11,12	178	374	--	--
T1 PIN 6 to PIN 8	313	516	--	--
T1 PIN 6 to PIN 11,12	282	496	--	--
IC1: Pin 3 — Pin 1	176	348	--	--
IC1: Pin 3 — Pin 2	175	342	--	--
IC1: Pin 4 — Pin 1	173	348	--	--
IC1: Pin 4 — Pin 2	175	350	--	--
Primary to Secondary at CY1	175	348	--	--
MODEL: 2ACL030B, Input: 240Vac, 50Hz, Output: +5V/6A, total 30W				
T1 PIN 1 to PIN 7	185	376	--	--
T1 PIN 1 to PIN 8	184	356	--	--
T1 PIN 1 to PIN 11	185	390	--	--
T1 PIN 3 to PIN 7	183	430	--	--
T1 PIN 3 to PIN 8	187	516	--	--
T1 PIN 3 to PIN 11	191	552	--	--
T1 PIN 4 to PIN 7	235	408	--	--
T1 PIN 4 to PIN 8	233	340	--	--
T1 PIN 4 to PIN 11	233	346	--	--
T1 PIN 6 to PIN 7	258	452	--	--

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
T1 PIN 6 to PIN 8	269	476	--	--
T1 PIN 6 to PIN 11	278	484	--	--
IC1: Pin 3 — Pin 1	181	356	--	--
IC1: Pin 3 — Pin 2	180	358	--	--
IC1: Pin 4 — Pin 1	181	356	--	--
IC1: Pin 4 — Pin 2	180	354	--	--
Primary to Secondary at CY1	178	346	--	--
MODEL: KPL-065U-VI, Input: 240Vac, 50Hz, Output: +56V/1.16A, total 65W				
T1 PIN 1 to PIN 8,9	174	358	--	--
T1 PIN 1 to PIN 11,12	189	420	--	--
T1 PIN 3 to PIN 8,9	246	352	--	--
T1 PIN 3 to PIN 11,12	257	478	--	--
T1 PIN 4 to PIN 8,9	176	408	--	--
T1 PIN 4 to PIN 11,12	180	398	--	--
T1 PIN 6 to PIN 8,9	324	544	--	--
T1 PIN 6 to PIN 11,12	283	484	--	--
IC1: Pin 3 — Pin 1	198	396	--	--
IC1: Pin 3 — Pin 2	200	398	--	--
IC1: Pin 4 — Pin 1	201	402	--	--
IC1: Pin 4 — Pin 2	201	404	--	--
Primary to Secondary at CY1	174	364	--	--
MODEL: GTR0382, Input: 240Vac, 50Hz, Output: +5.2V/3.8A, +12V/1.5A, total 38W				
T1 PIN 1 to PIN 6	234	330	--	--
T1 PIN 1 to PIN 7	233	338	--	--
T1 PIN 3 to PIN 6	284	484	--	--
T1 PIN 3 to PIN 7	298	500	--	--
T1 PIN 10 to PIN 6	187	462	--	--
T1 PIN 10 to PIN 7	192	530	--	--
T1 PIN 12 to PIN 6	182	368	--	--
T1 PIN 12 to PIN 7	183	434	--	--
IC1: Pin 3 — Pin 1	181	370	--	--
IC1: Pin 3 — Pin 2	181	368	--	--
IC1: Pin 4 — Pin 1	181	366	--	--
IC1: Pin 4 — Pin 2	180	364	--	--

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
Primary to Secondary at CY1	173	350	--	--
MODEL: 2ACL060K, Test voltage: 240, Test frequency: 50Hz				
T1 PIN 1 to PIN 8	173	350	--	--
T1 PIN 1 to PIN 11	177	400	--	--
T1 PIN 3 to PIN 8	188	410	--	--
T1 PIN 3 to PIN 11	194	466	--	--
T1 PIN 4 to PIN 8	228	320	--	--
T1 PIN 4 to PIN 11	230	340	--	--
T1 PIN 6 to PIN 8	306	544	--	--
T1 PIN 6 to PIN 11	329	556	--	--
IC1: Pin 3 — Pin 1	186	368	--	--
IC1: Pin 3 — Pin 2	185	364	--	--
IC1: Pin 4 — Pin 1	183	364	--	--
IC1: Pin 4 — Pin 2	184	362	--	--
Primary to Secondary at CY1	172	346	--	--
MODEL: 2ACL060M, Test voltage: 240V, Test frequency: 50Hz				
T1 PIN 1 to PIN 8	173	376	--	--
T1 PIN 1 to PIN 11	177	422	--	--
T1 PIN 3 to PIN 8	188	424	--	--
T1 PIN 3 to PIN 11	194	476	--	--
T1 PIN 4 to PIN 8	228	320	--	--
T1 PIN 4 to PIN 11	230	346	--	--
T1 PIN 6 to PIN 8	306	568	--	--
T1 PIN 6 to PIN 11	329	600	--	--
IC1: Pin 3 — Pin 1	186	366	--	--
IC1: Pin 3 — Pin 2	189	370	--	--
IC1: Pin 4 — Pin 1	187	368	--	--
IC1: Pin 4 — Pin 2	189	368	--	--
Primary to Secondary at CY1	169	342	--	--
MODEL: 2ACL065R, Test voltage: 240V, Test frequency: 50Hz				
T1 PIN 1 to PIN 8	206	394	--	--
T1 PIN 1 to PIN 11	218	506	--	--
T1 PIN 3 to PIN 8	212	436	--	--
T1 PIN 3 to PIN 11	228	552	--	--
T1 PIN 4 to PIN 8	206	296	--	--

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
T1 PIN 4 to PIN 11	213	340	--	--
T1 PIN 6 to PIN 8	292	500	--	--
T1 PIN 6 to PIN 11	341	552	--	--
IC1: Pin 3 — Pin 1	189	376	--	--
IC1: Pin 3 — Pin 2	188	374	--	--
IC1: Pin 4 — Pin 1	189	374	--	--
IC1: Pin 4 — Pin 2	189	374	--	--
Primary to Secondary at CY1	173	352	--	--
MODEL: 2ACL065S, Test voltage: 240V, Test frequency: 50Hz				
T1 PIN 1 to PIN 8	210	400	--	--
T1 PIN 1 to PIN 11	223	516	--	--
T1 PIN 3 to PIN 8	212	446	--	--
T1 PIN 3 to PIN 11	233	566	--	--
T1 PIN 4 to PIN 8	209	298	--	--
T1 PIN 4 to PIN 11	217	350	--	--
T1 PIN 6 to PIN 8	299	532	--	--
T1 PIN 6 to PIN 11	353	576	--	--
IC1: Pin 3 — Pin 1	188	372	--	--
IC1: Pin 3 — Pin 2	187	372	--	--
IC1: Pin 4 — Pin 1	188	372	--	--
IC1: Pin 4 — Pin 2	187	372	--	--
Primary to Secondary at CY1	169	344	--	--
MODEL: 2ACL065U, Test voltage: 240V, Test frequency: 50Hz				
T1 PIN 1 to PIN 8	215	412	--	--
T1 PIN 1 to PIN 11	225	524	--	--
T1 PIN 3 to PIN 8	216	452	--	--
T1 PIN 3 to PIN 11	237	564	--	--
T1 PIN 4 to PIN 8	205	294	--	--
T1 PIN 4 to PIN 11	216	354	--	--
T1 PIN 6 to PIN 8	298	548	--	--
T1 PIN 6 to PIN 11	354	596	--	--
IC1: Pin 3 — Pin 1	196	384	--	--
IC1: Pin 3 — Pin 2	195	380	--	--
IC1: Pin 4 — Pin 1	194	382	--	--
IC1: Pin 4 — Pin 2	193	380	--	--

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Primary to Secondary at CY1	170	348	--	--	
Primary to primary before fuse	240	352	--	--	
L to ground before fuse	240	352	--	--	
N to ground before fuse	0.402	1.00	--	--	
MODEL: 2ABF065F, Test voltage: 240V, Test frequency: 50Hz					
T1 pin 1 to pin 8,9	211	400	--	--	
T1 pin 1 to pin 11,12	213	452	--	--	
T1 pin 3 to pin 8,9	214	468	--	--	
T1 pin 3 to pin 11,12	221	520	--	--	
T1 pin 4 to pin 8,9	240	356	--	--	
T1 pin 4 to pin 11,12	245	368	--	--	
T1 pin 6 to pin 8,9	311	552	--	--	
T1 pin 6 to pin 11,12	325	560	--	--	
CY1 primary to secondary	203	392	--	--	
U4 pin 1 to pin 3	206	396	--	--	
U4 pin 1 to pin 4	207	398	--	--	
U4 pin 2 to pin 3	206	396	--	--	
U4 pin 2 to pin 4	207	398	--	--	
MODEL: 2ABF065R, Test voltage: 240V, Test frequency: 50Hz					
T1 pin 1 to pin 8,9	239	436	--	--	
T1 pin 1 to pin 11,12	251	560	--	--	
T1 pin 3 to pin 8,9	241	480	--	--	
T1 pin 3 to pin 11,12	258	612	--	--	
T1 pin 4 to pin 8,9	220	332	--	--	
T1 pin 4 to pin 11,12	232	384	--	--	
T1 pin 6 to pin 8,9	309	528	--	--	
T1 pin 6 to pin 11,12	362	568	--	--	
CY1 primary to secondary	203	392	--	--	
U4 pin 1 to pin 3	206	396	--	--	
U4 pin 1 to pin 4	207	398	--	--	
U4 pin 2 to pin 3	206	396	--	--	
U4 pin 2 to pin 4	207	398	--	--	
Model: KPL-060I-VI, Test voltage: 240V, Test frequency: 50Hz					
T1 Pin 1	T1 Pin 8, 9	139	172	--	--
T1 Pin 1	T1 Pin 11, 12	170	194	--	--

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
T1 Pin 3	T1 Pin 8, 9	269	280	--	--
T1 Pin 3	T1 Pin 11, 12	273	318	--	--
T1 Pin 4	T1 Pin 8, 9	170	224	--	--
T1 Pin 4	T1 Pin 11, 12	158	182	--	--
T1 Pin 6	T1 Pin 8, 9	317	510	--	--
T1 Pin 6	T1 Pin 11, 12	317	490	--	--
CY1 Pin 1	CY1 Pin 2	136	176	--	--
IC1 Pin 1	IC1 Pin 3	150	190	--	--
IC1 Pin 1	IC1 Pin 4	154	188	--	--
IC1 Pin 2	IC1 Pin 3	155	188	--	--
IC1 Pin 2	IC1 Pin 4	154	186	--	--
Model: KPL-066F-VI, Test voltage: 240V, Test frequency: 50Hz					
T1 Pin 1	T1 Pin 8, 9	116	172	--	--
T1 Pin 1	T1 Pin 11, 12	141	184	--	--
T1 Pin 3	T1 Pin 8, 9	236	282	--	--
T1 Pin 3	T1 Pin 11, 12	277	322	--	--
T1 Pin 4	T1 Pin 8, 9	162	220	--	--
T1 Pin 4	T1 Pin 11, 12	117	180	--	--
T1 Pin 6	T1 Pin 8, 9	288	490	--	--
T1 Pin 6	T1 Pin 11, 12	274	472	--	--
CY1 Pin 1	CY1 Pin 2	117	174	--	--
IC1 Pin 1	IC1 Pin 3	180	196	--	--
IC1 Pin 1	IC1 Pin 4	139	198	--	--
IC1 Pin 2	IC1 Pin 3	184	200	--	--
IC1 Pin 2	IC1 Pin 4	174	196	--	--
Model: KPL-065J-VI, Test voltage: 240V, Test frequency: 50Hz					
T1 Pin 1	T1 Pin 8, 9	116	172	--	--
T1 Pin 1	T1 Pin 11, 12	153	190	--	--
T1 Pin 3	T1 Pin 8, 9	247	280	--	--
T1 Pin 3	T1 Pin 11, 12	264	334	--	--
T1 Pin 4	T1 Pin 8, 9	146	216	--	--
T1 Pin 4	T1 Pin 11, 12	121	184	--	--
T1 Pin 6	T1 Pin 8, 9	312	442	--	--
T1 Pin 6	T1 Pin 11, 12	304	416	--	--
CY1 Pin 1	CY1 Pin 2	117	174	--	--

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
IC1 Pin 1	IC1 Pin 3	148	204	--	--
IC1 Pin 1	IC1 Pin 4	194	208	--	--
IC1 Pin 2	IC1 Pin 3	189	206	--	--
IC1 Pin 2	IC1 Pin 4	143	200	--	--
Model: KPL-065M-VI, Test voltage: 240V, Test frequency: 50Hz					
T1 Pin 1	T1 Pin 8, 9	137	174	--	--
T1 Pin 1	T1 Pin 11, 12	169	200	--	--
T1 Pin 3	T1 Pin 8, 9	266	276	--	--
T1 Pin 3	T1 Pin 11, 12	261	332	--	--
T1 Pin 4	T1 Pin 8, 9	163	214	--	--
T1 Pin 4	T1 Pin 11, 12	168	184	--	--
T1 Pin 6	T1 Pin 8, 9	338	468	--	--
T1 Pin 6	T1 Pin 11, 12	320	436	--	--
CY1 Pin 1	CY1 Pin 2	141	176	--	--
IC1 Pin 1	IC1 Pin 3	165	198	--	--
IC1 Pin 1	IC1 Pin 4	161	194	--	--
IC1 Pin 2	IC1 Pin 3	156	198	--	--
IC1 Pin 2	IC1 Pin 4	162	194	--	--
Model: KPL-065S-VI, Test voltage: 240V, Test frequency: 50Hz					
T1 Pin 1	T1 Pin 8, 9	137	172	--	--
T1 Pin 1	T1 Pin 11, 12	177	226	--	--
T1 Pin 3	T1 Pin 8, 9	258	270	--	--
T1 Pin 3	T1 Pin 11, 12	270	390	--	--
T1 Pin 4	T1 Pin 8, 9	165	216	--	--
T1 Pin 4	T1 Pin 11, 12	162	204	--	--
T1 Pin 6	T1 Pin 8, 9	328	466	--	--
T1 Pin 6	T1 Pin 11, 12	293	406	--	--
CY1 Pin 1	CY1 Pin 2	134	176	--	--
IC1 Pin 1	IC1 Pin 3	165	218	--	--
IC1 Pin 1	IC1 Pin 4	191	214	--	--
IC1 Pin 2	IC1 Pin 3	207	224	--	--
IC1 Pin 2	IC1 Pin 4	192	202	--	--
Model: KPL-060I, Test voltage: 240V, Test frequency: 50Hz					
T1 Pin 1	T1 Pin 8, 9	172	344	--	--
T1 Pin 1	T1 Pin 11, 12	173	360	--	--

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
T1 Pin 3	T1 Pin 8, 9	245	348	--	--
T1 Pin 3	T1 Pin 11, 12	246	384	--	--
T1 Pin 4	T1 Pin 8, 9	173	392	--	--
T1 Pin 4	T1 Pin 11, 12	171	352	--	--
T1 Pin 6	T1 Pin 8, 9	317	556	--	--
T1 Pin 6	T1 Pin 11, 12	304	532	--	--
CY1 Pin 1	CY1 Pin 2	171	344	--	--
IC1 Pin 1	IC1 Pin 3	180	360	--	--
IC1 Pin 1	IC1 Pin 4	184	364	--	--
IC1 Pin 2	IC1 Pin 3	182	360	--	--
IC1 Pin 2	IC1 Pin 4	180	358	--	--
Model: KPL-065F, Test voltage: 240V, Test frequency: 50Hz					
T1 Pin 1	T1 Pin 8, 9	170	340	--	--
T1 Pin 1	T1 Pin 11, 12	171	352	--	--
T1 Pin 3	T1 Pin 8, 9	346	346	--	--
T1 Pin 3	T1 Pin 11, 12	248	386	--	--
T1 Pin 4	T1 Pin 8, 9	172	390	--	--
T1 Pin 4	T1 Pin 11, 12	170	358	--	--
T1 Pin 6	T1 Pin 8, 9	316	532	--	--
T1 Pin 6	T1 Pin 11, 12	304	512	--	--
CY1 Pin 1	CY1 Pin 2	172	344	--	--
IC1 Pin 1	IC1 Pin 3	180	350	--	--
IC1 Pin 1	IC1 Pin 4	180	356	--	--
IC1 Pin 2	IC1 Pin 3	172	358	--	--
IC1 Pin 2	IC1 Pin 4	176	358	--	--
Model: KPL-065J, Test voltage: 240V, Test frequency: 50Hz					
T1 Pin 1	T1 Pin 8, 9	170	340	--	--
T1 Pin 1	T1 Pin 11, 12	174	360	--	--
T1 Pin 3	T1 Pin 8, 9	246	348	--	--
T1 Pin 3	T1 Pin 11, 12	248	406	--	--
T1 Pin 4	T1 Pin 8, 9	172	380	--	--
T1 Pin 4	T1 Pin 11, 12	171	354	--	--
T1 Pin 6	T1 Pin 8, 9	316	512	--	--
T1 Pin 6	T1 Pin 11, 12	304	492	--	--
CY1 Pin 1	CY1 Pin 2	171	344	--	--

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
IC1 Pin 1	IC1 Pin 3	183	360	--	--
IC1 Pin 1	IC1 Pin 4	181	356	--	--
IC1 Pin 2	IC1 Pin 3	181	362	--	--
IC1 Pin 2	IC1 Pin 4	180	366	--	--
Model: KPL-065M, Test voltage: 240V, Test frequency: 50Hz					
T1 Pin 1	T1 Pin 8, 9	172	344	--	--
T1 Pin 1	T1 Pin 11, 12	176	372	--	--
T1 Pin 3	T1 Pin 8, 9	244	348	--	--
T1 Pin 3	T1 Pin 11, 12	248	412	--	--
T1 Pin 4	T1 Pin 8, 9	174	388	--	--
T1 Pin 4	T1 Pin 11, 12	172	356	--	--
T1 Pin 6	T1 Pin 8, 9	324	540	--	--
T1 Pin 6	T1 Pin 11, 12	302	520	--	--
CY1 Pin 1	CY1 Pin 2	172	348	--	--
IC1 Pin 1	IC1 Pin 3	188	368	--	--
IC1 Pin 1	IC1 Pin 4	185	364	--	--
IC1 Pin 2	IC1 Pin 3	186	364	--	--
IC1 Pin 2	IC1 Pin 4	184	360	--	--
Supplementary information:					
Test voltage: See above					

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics				N/A
Method..... :			ISO 306 / B50		—
Object/ Part No./Material	Manufacturer/trademark		Thickness (mm)	T softening (°C)	
--	--		--	--	
--	--		--	--	
Supplementary information:					

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics				N/A
Allowed impression diameter (mm)..... :			≤ 2 mm		—
Object/Part No./Material	Manufacturer/trademark	Thickness (mm)	Test temperature (°C)	Impression diameter (mm)	
--	--	--	--	--	
Supplementary information:					
Materials of bobbin are no need to conduct this test, see appended table 4.1.2.					

5.4.2, 5.4.3	TABLE: Minimum Clearances/Creepage distance (Report 31581397.030)							P
Clearance (cl) and creepage distance (cr) at/of/between:	U _p (V)	U _{rms} (V)	Freq ¹⁾ (Hz)	Required cl (mm)	cl (mm)	E.S. ²⁾ (V)	Required cr (mm)	cr (mm)
Model:PAA060M								
Functional:								
L/N before fuse	420	250	--	1.5	2.5	--	2.5	2.5
Trace under fuse	420	250	--	1.5	2.5	--	2.5	2.5
Basic								
Primary components (with 10N) to GND	420	250	--	1.5	3.0	--	2.5	3.0
Primary trace to GND trace	420	250	--	1.5	4.0	--	2.5	4.0
Reinforced:								
Primary components (with 10N) to secondary components (with 10N)	420	250	--	3.0	See below	--	5.0	See below
-under CY3	420	250	--	3.0	7.5	--	5.0	7.5
-others	420	250	--	3.0	4.2	--	5.0	7.2
-under U2	420	250	--	3.0	5.5	--	5.0	5.5
-under T1	416	333	--	3.0	6.7	--	6.7	7.0
Note:								
1. Functional insulation shorted, see Annex B.								
2. PAA060M is applied for 2000m altitude.								

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict

Model:2ACL060MB								
Functional:								
L/N before fuse	420	250	--	2.3	3.2	--	2.5	3.2
Trace under fuse	420	250	--	2.3	2.8	--	2.5	2.8
Reinforced:								
Primary components (with 10N) to secondary components (with 10N)	420	250	--	4.5	See below	--	5.0	See below
T11 to D10 trace	420	250	--	4.5	6.5	--	5.0	6.5
Primary trace to secondary trace	420	250	--	4.5	See below	--	5.0	See below
Under IC1	420	250	--	4.5	6.5	--	5.0	6.5
Under CY1	420	250	--	4.5	6.2	--	5.0	6.2
Under T1	548	284	--	4.5	16.0	--	5.7	16.0
T1 (core considered as primary medium)								
Core to secondary component (HS2) (RI)	548	284	--	4.5	7.0	--	5.7	7.0
Core to secondary component (C5) (RI)	548	284	--	4.5	7.5	--	5.7	7.5
Note:								
1. Functional insulation shorted, see Annex B.								
2. The factor 1.48 is applied for 5000m altitude.								
Model:GTR								
Functional:								
L/N before fuse	420	250	--	2.3	6.9	--	2.5	6.9
Trace under fuse	420	250	--	2.3	3.0	--	2.5	3.0
Basic:								
Primary trace to earthed trace	420	250	--	2.3	See below	--	2.5	See below
Between L/N to earth pin in AC inlet	420	250	--	2.3	4.5	--	2.5	4.5
Reinforced:								
PCB trace under T1	530	298	--	4.5	8.1	--	6.0	8.1
Primary to Secondary at CY1	350	173	--	4.5	6.9	--	4.5	6.9
Primary to Secondary at Optos	370	181	--	4.5	7.3	--	4.5	7.3
Note: 1. Functional insulation shorted, see Annex B.								

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Model:2ACL								
Functional:								
Line to Neutral before fuse	420	250	--	2.3	4.1	--	2.5	4.1
Trace under fuse	420	250	--	2.3	2.8	--	2.5	2.8
Basic:								
Primary trace to earthed trace	420	250	--	2.3	See below	--	2.5	See below
Between L/N to earth pin in AC inlet	420	250	--	2.3	3.0	--	2.5	3.0
Reinforced:								
PCB trace under T1	600	354	--	4.5	7.3	--	7.1	7.3
Primary to Secondary at CY1	352	173	--	4.5	7.2	--	4.5	7.2
Primary to Secondary at Optos	384	196	--	4.5	6.7	--	4.5	6.7
Note:								
1. Functional insulation shorted, see Annex B.								
2. Two layers of insulation tape wrapped around the heatsink for Q2 (near secondary side).								
Model:2ABF								
Functional:								
L/N before fuse	420	250	--	2.3	4.1	--	2.5	4.1
Trace under fuse	420	250	--	2.3	2.8	--	2.5	2.8
Basic:								
Primary trace to earthed trace	420	250	--	2.3	See below	--	2.5	See below
-Between L/N to earth pin in AC inlet	420	250	--	2.3	3.0	--	2.5	3.0
Reinforced:								
Primary components (with 10N) to user accessible part	420	250	--	4.5	See below	--	5.0	See below
-Primary components to enclosure outer	420	250	--	4.5	6.0	--	5.0	6.0
Primary components (with 10N) to secondary components (with 10N)	420	250	--	4.5	See below	--	5.0	See below
-T1 to C6	420	250	--	4.5	6.0	--	5.0	6.0
-T1 to C5	420	250	--	4.5	6.0	--	5.0	6.0
-C1 to secondary heat sink	420	250	--	4.5	6.0	--	5.0	6.0

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Primary trace to secondary trace	420	250	--	4.5	See below	--	5.0	See below
-Under CY1	420	250	--	4.5	6.5	--	5.0	6.5
-Under U4	420	250	--	4.5	6.7	--	5.0	6.7
-Under T1 (12V)	560	325	--	4.5	7.3	--	6.6	7.3
-Under T1 (48V)	612	362	--	4.5	7.3	--	7.3	7.3
-Under C9 o CY1 primary pin	420	250	--	4.5	7.1	--	5.0	7.1
Note:								
1. Functional insulation shorted, see Annex B.								
2. Glued components: None.								
3. Two layers of insulation tape wrapped around the heatsink for Q1 (near secondary side).								
Model:KPL PCB with F1,F2								
Functional:								
L/N before fuse	420	250	--	2.3	3.2	--	2.5	3.2
Basic/supplementary:								
LF1 to inlet GND pin (with 10N)	420	250	--	2.3	5.2	--	2.5	5.3
Reinforced:								
C5 (with 10N) to D3 heat-sink	420	250	--	4.5	7.6	--	5.0	7.6
T1 top heat-sink to C6 or C7	544	338	--	4.5	7.6	--	6.8	7.6
T1 top heat-sink to D3 heat-sink	544	338	--	4.5	9.3	--	6.8	9.3
Q1 heat-sink to CY1 secondary leg	420	250	--	4.5	6.5	--	5.0	6.5
Under CY1	420	250	--	4.5	7.8	--	5.0	7.8
Under IC1	420	250	--	4.5	7.0	--	5.0	7.0
Under T1	544	338	--	4.5	7.8	--	6.8	7.8
Note:								
1. The specified maximum altitude of operation by the manufacturer for this product is 5000 meters.								
Therefore, the altitude correction factor for clearance is calculated and used with linear interpolation 1.48 according to IEC 60664-1 Table A.2								
2. Output cable is fixed in PCB reliable by solder pins and glue.								
3. Glued components (safety relevant): T1 top heat-sink, C2, C5 and output cable.								
4. For clearance and creepage did not describe above are far larger than limit above.								
Model:KPL PCB with FUSE1								
Functional:								

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Clause	Requirement + Test				Result - Remark			Verdict
L/N before fuse	420	250	--	2.3	3.2	--	2.5	3.2
Trace under fuse	420	250	--	2.3	2.6	--	2.5	2.6
Basic/supplementary:								
Primary components to Earth	420	250	--	2.3	See below	--	2.5	See below
LF1 to inlet GND pin (with 10N)	420	250	--	2.3	3.8	--	2.5	5.2
EMI shielding to primary component/trace	420	250	--	2.3	7.0	--	2.5	7.0
Reinforced:								
Primary components (with 10N) to secondary components (with 10N)	420	250	--	4.5	See below	--	5.0	See below
T1 top heat-sink to C6 or C7	556	346	--	4.5	7.0	--	7.0	--
T1 top heat-sink to external enclosure surface	556	346	--	4.5	7.0	--	7.0	7.0
Q1 heat-sink to CY1 secondary leg	420	250	--	4.5	6.4	--	5.0	6.4
Primary trace to secondary trace	420	250	--	4.5	See below	--	5.0	See below
trace N to trace of D3 heatsink	420	250	--	4.5	6.7	--	5.0	6.7
Under CY1	420	250	--	4.5	6.7	--	5.0	6.7
Under IC1	420	250	--	4.5	7.0	--	5.0	7.0
Under T1	556	346	--	4.5	7.0	--	7.0	7.0
Secondary EMI shielding to primary component/trace	420	250	--	4.5	7.0	--	5.0	7.0

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Clause	Requirement + Test	Result - Remark	Verdict

Note:

1. Functional insulation shorted, see Annex B
2. Output cable is fixed in PCB reliable by solder pins and glue.
3. The clearance insulation distance of primary components to enclosure surface with mechanical construction is kept at least 5.0 mm.
4. Glued components (safety relevant): FUSE1, T1 top heat-sink, C2, C18 and output cable.
5. One insulator sheet is place between PCB and EMI shielding to keep sufficient creepage and clearance distance for reinforced insulation request.
6. There is two layers of insulation tape was fixed on D3 heat-sink and Q1 heat-sink to keep sufficient creepage and clearance distance for reinforced insulation request.
7. For clearance and creepage did not describe above are far larger than limit above.

Supplementary information:

- 1) Only for frequency above 30 kHz.
- 2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied).
- 3) Material group: IIIb.
- 4) Unless otherwise specified, the worst conditions of Cl. & Cr. in above mentioned locations have been considered and listed.

5.4.4.2	TABLE: Minimum distance through insulation (Report 31581397.030)				P
Distance through insulation (DTI) at/of	Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)	
Plastic enclosure	420	reinforced insulation	0.4	1)	
Photo coupler	420	reinforced insulation	0.4	0.4 ¹⁾	
Insulator sheet	420	reinforced insulation	0.4	0.4 ¹⁾	
Supplementary information:					
1) Minimum DTI. Refer to table 4.1.2 for additional information.					
2) Refer to table 4.1.2 for details.					

5.4.4.9	TABLE: Solid insulation at frequencies > 30 kHz						N/A
Insulation material	E_p	Frequency (kHz)	K_R	Thickness d (mm)	Insulation	V_{PW} (Vpk)	
--	--	--	--	--	--	--	
Supplementary information:							
See appended Tables 5.4.9							

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.9	TABLE: Electric strength tests (Report 31581397.030)			P
Test voltage applied between:		Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No
Model:PAA060M				
Basic/supplementary:				
Unit: primary to earth		DC	2500	No
Reinforced:				
Unit: primary to secondary		DC	4242	No
Unit: primary to enclosure covered foil		DC	4242	No
T1: primary to secondary		AC	3000	No
T1: Secondary to core		AC	3000	No
Mylar sheet between PCB and metal shield		AC	3000	No
One layer of insulation tape used in T1 (min. 2 layer used)		AC	3000	No
Model:2ACL060MB				
Basic/supplementary:				
Unit: Primary to PE(basic)		DC	2500	No
Reinforced:				
Unit: Primary to secondary(reinforce)		DC	4242	No
Unit: Primary to enclosure with copper foil(reinforce)		DC	4242	No
T1: Primary winding to secondary winding(reinforce)		AC	3000	No
T1: Core to secondary winding(reinforce)		AC	3000	No
T1: One layer of insulation tape used in T1(reinforce)		AC	3000	No
Model:2ABF				
Basic/supplementary:				
Unit: Primary to PE(basic)		DC	2718	No
Reinforced:				
Unit: Primary to Secondary (reinforce)		AC	3000	No
One layer of insulation tape used in T1 (reinforce)		AC	3000	No
T1 primary winding to secondary winding (reinforce)		AC	3000	No

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Clause	Requirement + Test	Result - Remark	Verdict
T1 core to secondary winding (reinforce)			
	AC	3000	No
Model:KPL			
Basic/supplementary:			
L to N (fuse opened)	DC	2500	No
Unit: primary to earth	DC	2500	
Reinforced:			
Unit: primary to secondary (PB removed)	AC	3000	No
Unit: Primary and enclosure (with metal foil)	AC	3000	No
T1: primary to secondary	AC	3000	No
T1: Secondary to core	AC	3000	No
One layer of insulation tape	AC	3000	No
Insulator sheet (for PCB with fuse: FUSE1 only)	AC	3000	No
Model:2ACL			
Basic/supplementary:			
Unit: Primary to PE(basic)	DC	2718	No
Reinforced:			
Unit: Primary to Secondary (reinforce)	AC	3000	No
One layer of insulation tape used in T1 (reinforce)	AC	3000	No
T1 primary winding to secondary winding (reinforce)	AC	3000	No
T1 core to secondary winding (reinforce)	AC	3000	No
Model:GTR			
Basic/supplementary:			
Unit: Primary to PE(basic)	DC	2500	No
Reinforced:			
Unit: Primary to Secondary (reinforce)	AC	3000	No
One layer of insulation tape used in T1 (reinforce)	AC	3000	No
T1 primary winding to secondary winding (reinforce)	AC	3000	No
T1 core to secondary winding (reinforce)	AC	3000	No
Supplementary information:			
1. All source of transformer, insulation sheet and insulation tape listed in table 4.1.2. were considered.			

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Clause	Requirement + Test	Result - Remark	Verdict

5.5.2.2	TABLE: Stored discharge on capacitors (Model: PAA060M-ZZZ) (Report 31581397.030)					P
Location	Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage (Vpk)	ES Class	
Line to Neutral	AC 264V, 50Hz	N	--	44V	ES1	
Line to Neutral	AC 264V, 50Hz	S	--	--	--	
Supplementary information:						
X-capacitors installed for testing: CX1 = 0.47μF						
<input checked="" type="checkbox"/> bleeding resistor rating: R2=R7=1MΩ (with certified resistor).						
<input type="checkbox"/> ICX:						
N-Normal condition, S- Single fault condition.						

5.5.2.2	TABLE: Stored discharge on capacitors (Model: 2ACL060MB) (Report 31581397.030)					P
Location	Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage (Vpk)	ES Class	
Line to Neutral	AC 264V, 50Hz	N	--	30V	ES1	
Line to Neutral	AC 264V, 50Hz	S	--	90V	ES2	
Supplementary information:						
X-capacitors installed for testing: CX1 = 0.47μF						
☒ bleeding resistor rating: R2=R4=R2A=R4A=3MΩ.						
N-Normal condition, S- Single fault condition.						

5.5.2.2	TABLE: Stored discharge on capacitors (Model: GTR) (Report 31581397.030)					P
Location	Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage (Vpk)	ES Class	
Line to Neutral	AC 264V, 50Hz	N	--	18V	ES1	
Line to Neutral	AC 264V, 50Hz	S	--	76V	ES2	
Supplementary information:						
X-capacitors installed for testing: CX1 = 0.33μF						
☒ bleeding resistor rating: R2=R4=R2A=R4A=4MΩ or R2=R4=2MΩ.						
N-Normal condition, S- Single fault condition.						

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Clause	Requirement + Test	Result - Remark	Verdict

5.5.2.2	TABLE: Stored discharge on capacitors (Model: 2ACL) (Report 31581397.030)				P
Location	Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage (Vpk)	ES Class
Line to Neutral	AC 264V, 50Hz	N	--	40V	ES1
Line to Neutral	AC 264V, 50Hz	S	--	96V	ES2
Supplementary information:					
X-capacitors installed for testing: CX1 = 0.47µF					
<input checked="" type="checkbox"/> bleeding resistor rating: R2=R4=R2A=R4A=3MΩ or R2=R4=1.5MΩ.					
N-Normal condition, S- Single fault condition.					

5.5.2.2	TABLE: Stored discharge on capacitors (Model: 2ABF) (Report 31581397.030)				P
Location	Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage (Vpk)	ES Class
Line to Neutral	AC 264V, 50Hz	N	--	0V	ES1
Line to Neutral	AC 264V, 50Hz	S	--	44V	ES1
Supplementary information:					
X-capacitors installed for testing: CX1 = 0.33µF					
<input checked="" type="checkbox"/> bleeding resistor rating: R14=R21=R14A=R21A=3MΩ or R14=R21=1.5MΩ.					
N-Normal condition, S- Single fault condition.					

5.5.2.2	TABLE: Stored discharge on capacitors (Model: KPL PCB with F1,F2) (Report 31581397.030)				P
Location	Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage (Vpk)	ES Class
Line to Neutral	AC 264V, 50Hz	N	--	16V	ES1
Line to Neutral	AC 264V, 50Hz	S	--	76V	ES2
Supplementary information:					
X-capacitors installed for testing: CX1 = 0.33µF					
<input checked="" type="checkbox"/> bleeding resistor rating: R2=R3=R4=R5=3.9MΩ.					
N-Normal condition, S- Single fault condition.					

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Clause	Requirement + Test			Result - Remark	Verdict
5.5.2.2	TABLE: Stored discharge on capacitors (Model: KPL PCB with FUSE1) (Report 31581397.030)				P
Location	Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage (V _{pk})	ES Class
Line to Neutral	AC 264V, 50Hz	N	--	18V	ES1
Line to Neutral	AC 264V, 50Hz	S	--	46V	ES1
Supplementary information:					
X-capacitors installed for testing: CX1 = 0.47µF					
<input checked="" type="checkbox"/> bleeding resistor rating: R2=R3=R4=R5=2.2MΩ.					
N-Normal condition, S- Single fault condition.					

5.6.6	TABLE: Resistance of protective conductors and terminations (Report 31581397.030)				P
Location	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
Model:PAA060M					
Earth pin of AC inlet to PCB trace	32	2	--	0.012	
Earth pin of AC inlet to PCB trace	40	2	0.76	0.012	
Model:2ACL060MB					
Earth pin of AC inlet to PCB trace	32	2	0.576	0.018	
Earth pin of AC inlet to PCB trace	40	2	0.76	0.019	
Model:KPL [PCB with F1, F2]: Secondary GND disconnected from Earth GND					
Earth pin of AC inlet to PCB trace	32	2	0.064	0.0020	
Earth pin of AC inlet to PCB trace	40	2	0.088	0.0022	
Model:GTR					
Earth pin of AC inlet to Secondary FG on pad	32	2	0.26	0.008	
Earth pin of AC inlet to Secondary FG on pad	40	2	0.4	0.010	
Model:2ACL					
Earth pin of AC inlet to Secondary FG on pad	32	2	0.192	0.006	
Earth pin of AC inlet to Secondary FG on pad	40	2	0.240	0.006	
Model:2ABF					
Earth pin of AC inlet to output V-	32	2	0.32	0.01	

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Clause	Requirement + Test		Result - Remark	Verdict
Earth pin of AC inlet to output V-	40	2	0.4	0.01
Model:KPL [PCB with F1, F2]				
Earth pin of AC inlet to PCB Trace (CY1 secondary pin)	32	2	0.18	0.006
Earth pin of AC inlet to PCB Trace (CY1 secondary pin)	40	2	0.35	0.009
Model:KPL [PCB with FUSE1]				
Earth pin of AC inlet to PCB Trace (CY1 secondary pin)	32	2	0.26	0.008
Earth pin of AC inlet to PCB Trace (CY1 secondary pin)	40	2	0.40	0.01
Supplementary information:				

5.7.4	TABLE: Unearthed accessible parts (Report 31581397.030)					P
Location	Operating and fault conditions	Supply Voltage (V)	Parameters			ES class
			Voltage (V _{rms} or V _{pk})	Current (A _{rms} or A _{pk})	Freq. (Hz)	
Model: PAA060M-ZZZ						
Plastic enclosure to earth	Normal	240Vac, 50Hz	--	0.005mA _{peak} max.	50	ES1
	Abnormal Output overload		--	0.005mA _{peak} max.	50	ES1
	Single fault (R22 short)		--	0.005mA _{peak} max.	50	ES1
	Single fault (U2 pin 1 to 2 short)		--	0.005mA _{peak} max.	50	ES1
	Single fault (U2 pin 3 open)		--	0.005mA _{peak} max.	50	ES1
Model: 2ACL060MB						
Plastic enclosure to earth	Normal	240Vac, 50Hz	--	0.005mA _{peak} max.	50	ES1
	Abnormal Output overload		--	0.005mA _{peak} max.	50	ES1
	Single fault (IC1 pin1 to 2 S-C)		--	0.005mA _{peak} max.	50	ES1
	Single fault (IC1 pin 3 to 4 S-		--	0.005mA _{peak} max.	50	ES1

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Clause	Requirement + Test		Result - Remark			Verdict
	C)					
	Single fault (IC2 pin 2 to 3 S-C)		--	0.005mApeak max.	50	ES1
Model: KPL-065U-VI(with FG wire)						
Plastic enclosure to earth	Normal	240Vac, 50Hz	--	0.005mApeak max.	50	ES1
	Abnormal Output overload		--	0.005mApeak max.	50	ES1
	Single fault (R9 O-C)		--	0.005mApeak max.	50	ES1
	Single fault (R9 S-C)		--	0.005mApeak max.	50	ES1
	Single fault (IC1 pin1 to 2 S-C)		--	0.005mApeak max.	50	ES1
	Single fault (IC1 pin 3 to 4 S-C)		--	0.005mApeak max.	50	ES1
	Single fault (IC1 pin 1 to 2 O-C)		--	0.005mApeak max.	50	ES1
Model: KPL-065U-VI(without FG wire)						
Plastic enclosure to earth	Normal	240Vac, 50Hz	--	0.005mApeak max.	50	ES1
	Abnormal Output overload		--	0.005mApeak max.	50	ES1
	Single fault (R9 O-C)		--	0.005mApeak max.	50	ES1
	Single fault (R9 S-C)		--	0.005mApeak max.	50	ES1
	Single fault (IC1 pin1 to 2 S-C)		--	0.005mApeak max.	50	ES1
	Single fault (IC1 pin 3 to 4 S-C)		--	0.005mApeak max.	50	ES1
	Single fault (IC1 pin 1 to 2 O-C)		--	0.005mApeak max.	50	ES1
Model: KPL-065U-VI(without FG wire)						
Plastic enclosure	Normal	240Vac,	--	0.005mApeak	50	ES1

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Clause	Requirement + Test		Result - Remark			Verdict
to earth		50Hz		max.		
	Abnormal Output overload		--	0.005mApeak max.	50	ES1
	Single fault (IC1 pin1 to 2 O-C)		--	0.005mApeak max.	50	ES1
	Single fault (IC1 pin3 to 4 O-C)		--	0.005mApeak max.	50	ES1
	Single fault (IC1 pin1 to 2 S-C)		--	0.005mApeak max.	50	ES1
	Single fault (IC1 pin3 to 4 S-C)		--	0.005mApeak max.	50	ES1
	Single fault (R9 S-C)		--	0.005mApeak max.	50	ES1
Model:2ACL065U						
Plastic enclosure to earth	Normal	240Vac, 50Hz	--	0.005mApeak max.	50	ES1
	Abnormal Output overload		--	0.005mApeak max.	50	ES1
	Single fault (IC2, pin2 to 3 S-C)		--	0.005mApeak max.	50	ES1
	Single fault (IC1, pin1 to 2 S-C)		--	0.005mApeak max.	50	ES1
	Single fault (IC1, pin3 to 4 S-C)		--	0.005mApeak max.	50	ES1
	Single fault (R9 S-C)		--	0.005mApeak max.	50	ES1
Model: GTR0382						
Plastic enclosure to earth	Normal	240Vac, 50Hz	--	0.005mApeak max.	50	ES1
	Abnormal Output overload		--	0.005mApeak max.	50	ES1
	Single fault (U3 pin 2 to 3 S-C)		--	0.005mApeak max.	50	ES1
	Single fault		--	0.005mApeak	50	ES1

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Clause	Requirement + Test		Result - Remark			Verdict
	(IC1 pin 1 to 2 S-C)			max.		
	Single fault (IC1 pin 3 to 4 S-C)		--	0.005mA _{peak} max.	50	ES1
	Single fault (R9 S-C)		--	0.005mA _{peak} max.	50	ES1
	Single fault (R43 S-C)		--	0.005mA _{peak} max.	50	ES1
	Single fault (R44 S-C)		--	0.005mA _{peak} max.	50	ES1
Model: 2ABF060R						
Plastic enclosure to earth	Normal	240Vac, 50Hz	--	0.005mA _{peak} max.	50	ES1
	Abnormal Output overload		--	0.005mA _{peak} max.	50	ES1
	Single fault (U3, pin2 to 3 S-C)		--	0.005mA _{peak} max.	50	ES1
	Single fault (U4, pin1 to 2 S-C)		--	0.005mA _{peak} max.	50	ES1
	Single fault (U4, pin3 to 4 S-C)		--	0.005mA _{peak} max.	50	ES1
	Single fault (R34 S-C)		--	0.005mA _{peak} max.	50	ES1
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						
To output refer to table 5.2						

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Clause	Requirement + Test	Result - Remark	Verdict

5.7.5	TABLE: Earthed accessible conductive part (Report 31581397.030)			P
Supply voltage (V)	--			—
Phase(s)	[x] Single Phase; [] Three Phase: [] Delta [] Wye			
Power Distribution System	<input type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT			
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment	
Earth Pin terminal (Model: PAA060M-ZZZ)	1(e opened, normal and reverse polarity p)	1.12	--	
Earth Pin terminal (Model: 2ACL060MB)	1(e opened, normal and reverse polarity p)	0.23	--	
Earth Pin terminal (Model: KPL-066F-VI (with FG wire))	1(e opened, normal and reverse polarity p)	0.15	--	
Earth Pin terminal (Model: KPL-066F-VI (without FG wire))	1(e opened, normal and reverse polarity p)	0.15	--	
Earth Pin terminal (Model: KPL-065F)	1(e opened, normal and reverse polarity p)	0.14	--	
Earth Pin terminal (Model: GTR0382)	1(e opened, normal and reverse polarity p)	0.58	--	
Earth Pin terminal (Model: 2ABF065F)	1(e opened, normal and reverse polarity p)	0.21	--	
Earth Pin terminal (Model: 2ACL068S)	1(e opened, normal and reverse polarity p)	0.25	--	
--	2* (netural open (switch n), earth intact and normal polarity, again in reverse polarity (switch p)	N/A	--	
--	3 (for IT system, each phase conductor faulted to earth, one at a time (switch g)	N/A ^{a)}	--	
--	4 (for three-phase, each phase conductor open, one at a time switches l)	N/A ^{b)}	--	
--	5 (IT power system or three phase delta system)	N/A ^{c)}	--	
--	6 (three-phase for use on centre-earthed dalta supply system)	N/A ^{d)}	--	
--	8 (incidental electrically connected to other parts)	N/A ^{e)}	--	
Supplementary Information:				

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Clause	Requirement + Test	Result - Remark	Verdict

Notes:

- [1] Supply voltage is the anticipated maximum Touch Voltage
- [2] Earthed neutral conductor [Voltage differences less than 1% or more]
- [3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3
- [4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.
- [5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.
- a) Not considered IT power system.
- b) Not three phase equipment.
- c) Not IT power system or three phase delta system.
- d) Not three-phase for use on centre-earthed delta supply system.
- e) Not such parts.

5.8	TABLE: Backfeed safeguard in battery backed up supplies					N/A
Location	Supply voltage (V)	Operating and fault condition	Time (s)	Open-circuit voltage (V)	Touch current (A)	ES Class
--	--	--	--	--	--	--
Supplementary information:						
Abbreviation: SC= short circuit, OC= open circuit						

6.2.2	TABLE: Power source circuit classifications (Report 31581397.030)					P
Location	Operating and fault condition	Voltage (V)	Current (A)	Max. Power ¹⁾ (W)	Time (S)	PS class
Output (Model: PAA060M)	Normal	24.3	3.8	89.3	5	PS2
Output (Model: 2ACL060MB)	Normal	23.7	3.72	88.16	5	PS2
Output (Model 2ACL068S)	Normal	52.8	2.11	110.1	5	PS2 (meet Annex Q.1 LPS)

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Clause	Requirement + Test	Result - Remark				Verdict
Output (Model: KPL-065A-KV)	Normal	37.4	2.78	95.6	5	PS2
Output (Model: 2ACL030B)	Normal	5.193	7.84	39.5	5	PS2
Output (Model: KPL-065U-VI)	Normal	56.598	1.78	98.4	5	PS2
Output(+5.2V) (Model: GTR0382)	Normal	5.403	4.98	24.0	5	PS2
Output (+12V) (Model: GTR0382)	Normal	12.223	5.64	63.6	5	PS2
Output (Model: 2ACL060K)	Normal	19.19	4.46	82.2	5	PS2
Output (Model: 2ACL060M)	Normal	24.206	3.52	78.8	5	PS2
Output (Model: 2ACL065R)	Normal	47.914	1.95	89.8	5	PS2
Output (Model: 2ACL065S)	Normal	53.876	1.84	96.3	5	PS2
Output (Model: 2ACL065U)	Normal	56.528	1.81	98.6	5	PS2
Output (Model: 2ABF065F)	Normal	12.2	7.6	88.3	5	PS2
Output (Model: 2ABF060R)	Normal	47.9	2.0	94.9	5	PS2
Output (Model: KPL-060I-VI)	Normal	15.7	5.64	88.55	5	PS2
Output (Model: KPL-066F-VI)	Normal	11.74	7.25	85.11	5	PS2
Output (Model: KPL-065J-VI)	Normal	18.00	4.41	79.38	5	PS2

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Clause	Requirement + Test			Result - Remark		Verdict
Output (Model: KPL-065M-VI)	Normal	24.33	3.91	95.13	5	PS2
Output (Model: KPL-065S-VI)	Normal	47.78	1.99	95.09	5	PS2
Output (Model: KPL-060I)	Normal	15.73	5.83	91.7	5	PS2
Output (Model: KPL-065F)	Normal	11.78	7.46	87.9	5	PS2
Output (Model: KPL-065J)	Normal	17.96	4.52	81.2	5	PS2
Output (Model: KPL-065M)	Normal	23.84	3.20	76.3	5	PS2
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						
1) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3.						
2) Single fault refer to Annex Q.1 LPS						

6.2.3.1	TABLE: Determination of Arcing PIS (Report 31581397.030)				P
Location	Open circuit voltage after 3 s (Vpk)	Measured r.m.s current (A)	Calculated value	Arcing PIS? Yes / No	
All primary circuits/components	--	--	--	Yes (declaration)	
Supplementary information:					
An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V_p) and normal operating condition rms current (I_{rms}) is greater than 15.					

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Clause	Requirement + Test	Result - Remark	Verdict

6.2.3.2	TABLE: Determination of resistive PIS (Report 31581397.030)			P
Location	Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No	
All internal circuits/components	--	--	Yes (declaration)	
Supplementary information:				
A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter. If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification. A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, <u>or</u> (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.				

8.5.5	TABLE: High pressure lamp				N/A
Lamp manufacturer	Lamp type	Explosion method	Longest axis of glass particle (mm)	Particle found beyond 1 m Yes / No	
--	--	--	--	--	
Supplementary information:					

9.6	TABLE: Temperature measurements for wireless power transmitters								N/A
Supply voltage (V)..... :									—
Max. transmit power of transmitter (W)..... :									—
Foreign objects	w/o receiver and direct contact		with receiver and direct contact		with receiver and at distance of 2 mm		with receiver and at distance of 5 mm		
	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	
Supplementary information:									

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Clause	Requirement + Test			Result - Remark	Verdict
5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements (Report 31581397.030)				P
	Supply voltage (V)..... :	See below	See below	See below	—
	Ambient temperature during test T_{amb} (°C).... :	--	--	--	—
	Maximum measured temperature T of part/at:	T (°C)			Allowed T_{max} (°C)
Model: PAA060M					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
Inlet body	40.5	38.7	44.8	40	55
Input wire	75.6	63.9	75.2	63.4	90
ZNR1 body	95.3	73.5	94.6	72.9	110
CY2 body	76	64	77	63.9	110
LF1 coil	102.9	75.7	101.7	75.1	115
LF2 coil	94	73.2	93	72.3	115
CX1 body	82.5	73.3	82.7	72.6	85
C2 body	93.5	77.2	92.2	76.6	110
PWB near BD1	98.3	75.7	95.5	74.8	115
T1 coil	79.9	75.4	79.5	75.5	95
T1 core	78.1	72.8	77.9	74.1	95
CY3 body	79	72.7	77.8	72.4	110
U2 body	82.6	80.1	82.8	80.4	85
L1 coil	67	66.4	66.7	66.4	115
C5 body	78.4	75.9	78.2	75.9	110
Enclosure inside near T1	69	65.3	71.2	66.7	100
Enclosure outside near T1	52.5	52.2	60.4	57.2	77
Output wire	36.4	37	35.1	37.2	65
Ambient	25	25	25	25	--
Actual Ambient during test	34.2	35.1	33.5	34.2	--
Adjustment to 25°C ambient	-9.2	-10.1	-8.5	-9.2	--
Note: Having a specified maximum operational ambient temperature of 40°C the maximum permitted temperatures (in °C) are calculated as follows: Winding components (providing safety isolation):Class B - Tmax = 120°C - 10°C = 110°C					
Model: 2ACL060MB					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet	30.6	33.1	35.4	33	55
Input wire	55.3	48.1	55.1	47.8	90
LF1 coil	78.7	59.1	76.9	58.4	115
LF2 coil	72.3	58.1	70.7	57.3	115

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Clause	Requirement + Test		Result - Remark		Verdict
CX1 body	73	58.1	71.5	57.4	85
C2 body	77.9	63.3	76.3	62.8	90
T1 coil	80.3	73	79.3	72.9	95
T1 core	71.9	66	71	66.2	95
IC1 body	70.1	62.5	67.3	61	85
CY1 body	65.9	58.8	65.1	59	70
C22 body	57.5	53.5	56.8	53.7	110
Q1 body	82.8	66.8	80.5	65.8	135
D3 body	86	82.3	85	82.6	135
PWB near BD1	78.9	61	75.7	59.3	115
PWB near T1	73.5	65.2	70.9	63.9	115
PWB near D3	83.6	80	82.6	80.2	115
Inside enclosure near T1	63.7	57.5	64.6	58.8	100
Outside enclosure near T1	51.2	46.2	54.2	49.9	80
Output wire	34.3	33.3	33.4	32.7	70
Ambient	25	25	25	25	--
Actual Ambient during test	30.8	30.4	32.3	30.7	--
Adjustment to 25°C ambient	-5.8	-5.4	-7.3	-5.7	--
Note:					
Having a specified maximum operational ambient temperature of 40°C the maximum permitted temperatures (in °C) are calculated as follows:					
Winding components (providing safety isolation): Class B - $T_{max} = 120^{\circ}\text{C} - 10^{\circ}\text{C} = 110^{\circ}\text{C}$					
Model: KPL-066F-VI(12V/5.5A, LF1: SQ15)					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet	40.4	32.9	41.2	33.4	55
TVS1 body	58.4	45.7	57.4	44.9	70
LF1 coil	91.4	65	89.8	64.6	115
LF2 coil	82.6	60	81.3	59.4	115
TVSA body	66.5	52.3	62.5	50.1	70
CX1 body	70.3	54.8	69.2	54.4	85
C2 body	86.1	68.4	84.8	68.2	90
T1 coil	89.4	78.2	88.2	78.2	95
T1 core	83.6	74.9	81.2	74.3	95
IC1 body	83	74.2	82.4	75.1	85
CY1 body	70.3	61.6	69.9	62.4	110
Q1 body	83.6	68.9	83.4	69.4	135
D3 body	97.9	89.8	96	90.7	135
PWB near BD1	101.4	69.1	98.8	67.8	115
PWB near T1	86.7	78.1	83.4	76.7	115
PWB near D3	93.3	85.9	91.7	86.6	115
Inside enclosure near T1	81	68.3	73.8	63	100
Outside enclosure near T1	71.1	58.7	58	50.8	77
Output wire	37.4	32	33.2	31.9	65
Ambient	25	25	25	25	--
Actual Ambient during test	32.4	32.1	32.3	32.3	--

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Clause	Requirement + Test		Result - Remark		Verdict
Adjustment to 25°C ambient					
-7.4 -7.1 -7.3 -7.3 --					
Note: Having a specified maximum operational ambient temperature of 40°C the maximum permitted temperatures (in °C) are calculated as follows: Winding components (providing safety isolation):Class B - Tmax = 120°C - 10°C = 110°C Model: 2ACL068S					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet	41.5	37.1	41	36.7	55
Internal input wire	60.6	51.5	59.6	50.6	90
TVS1 body	64.2	58	62.8	57	70
CX1 body	79.8	63.5	78.2	62.4	85
LF1 coil	85.7	64.4	83.9	63.3	115
LF2 coil	78.3	63	76.8	62	115
PCB near BD1	90.1	68.1	87.4	66.2	115
C2 body	78.7	66.3	77.8	65.7	90
T1 coil	84.7	78.5	83.8	77.9	95
T1 core	83.2	76.9	81.8	76	95
CY1 body	74.4	68	73	67.2	110
IC1 body	76.3	70.6	75.1	70	85
PCB near Q2	78	77.6	76.8	76.8	115
PCB near Q1	86.8	73	84.2	71.4	115
L1 winding	55.4	52.5	55	52.5	115
C6 body	64.6	61.2	63.8	60.8	90
Output cord	39.3	38.3	40	38.3	65
Internal plastic enclosure above T1	63.3	58.5	63.9	59	70
External plastic enclosure above T1	52.3	48.8	54.2	50.5	70
Ambient	25	25	25	25	--
Actual Ambient during test	31.7	31.8	30.3	31.9	--
Adjustment to 25°C ambient	-6.7	-6.8	-5.3	-6.9	--
Model: KPL-065A-KV(36V/1.81A)(LF2: T10*6*5+C					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet (70°C)	44.2	36.5	43	38	55
TVS1 body (85°C)	51.8	40.7	52.1	41.3	70
TVS2 body (85°C)	63.7	48.3	63.6	48.8	70
CX1 body (100°C)	66.6	50.8	66.1	51.2	85
LF1 coil (130°C)	96.5	63.2	95.4	63.7	115
LF2 coil (130°C)	89.7	60.2	88.5	60.5	115
PCB near BD1 (130°C)	102.7	66.2	101.1	66.1	115
C2 body (105°C)	83.7	62.7	82.8	63	90
T1 coil (Class B)	80.7	72.2	80.7	72.9	95
T1 core (Class B)	73.5	65.3	73.9	66.4	95
PCB under T1 (130°C)	73.1	65	72.7	65.1	115
CY1 body (125°C)	72.5	60.9	73.1	61.8	110
IC1 body (100C)	74.1	62.8	73.7	63.5	85

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Clause	Requirement + Test		Result - Remark		Verdict
PCB near Q1 (130°C)	91.8	68.7	90.9	68.8	115
PCB near D3 (130C)	83.5	77.5	83.5	77.8	115
C6 body (105°C)	77.5	70.7	77.3	71	90
Internal plastic enclosure above T1	63.4	55.6	63.8	57	70
External plastic enclosure above T1	53.6	47.7	56.1	50.8	70
Output cord (80°C)	32.7	32.1	32.2	32.2	65
Ambient	25	25	25	25	--
Actual Ambient during test	40	40	40	40	--
Adjustment to 25°C ambient	-15	-15	-15	-15	--
Model: KPL-065A-KV(36V/1.81A)(LF2: T12.7*7.9*5C)					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet (70°C)	41.7	36.1	43.5	37.3	55
TVS1 body (85°C)	52.6	40.5	51.6	40.6	70
TVS2 body (85°C)	62.8	47.3	61.9	47.5	70
CX1 body (100°C)	66.2	50.1	65	50.2	85
LF1 coil (130°C)	99.2	64	98.3	64.4	115
LF2 coil (130°C)	89.4	59.8	88.3	60.1	115
PCB near BD1 (130°C)	104.1	66.5	102.6	66.4	115
C2 body (105°C)	85	63.5	83.6	63.6	90
T1 coil (Class B)	81.2	72.3	80.8	72.9	95
T1 core (Class B)	73.9	65.3	73.8	66.4	95
PCB under T1 (130°C)	73.7	64.8	72.6	65.2	115
CY1 body (125°C)	73.2	61	73.6	62.1	110
IC1 body (100C)	74.8	63.1	73.6	63.5	85
PCB near Q1 (130°C)	92.6	68.6	91.3	69	115
PCB near D3 (130C)	83.8	77	82.9	77.5	115
C6 body (105°C)	77.7	70.3	76.8	70.6	90
Internal plastic enclosure above T1	63.9	56	64.2	57.4	70
External plastic enclosure above T1	55.2	49.5	56.5	51.3	70
Output cord (80°C)	34.5	33	34.4	33.8	65
Ambient	25	25	25	25	--
Actual Ambient during test	40	40	40	40	--
Adjustment to 25°C ambient	-15	-15	-15	-15	--
Model: KPL-066F-VI (12V/5.5A) (LF2: T12.7*7.9*5C)					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet (70°C)	40.7	36.6	43.2	39.1	55
TVS1 body (85°C)	53.1	44.8	53.7	45.1	70
CX1 body (100°C)	59.6	51	61	51.6	85
LF1 coil (130°C)	90.2	65.7	90.9	66.6	115
LF2 coil (130°C)	76	59.3	77.1	60	115

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Clause	Requirement + Test		Result - Remark		Verdict
PCB near BD1 (130°C)	85.2	63.5	86.1	64	115
C2 body (105°C)	80.7	69	81.8	69.8	90
T1 coil (Class B)	83.4	79	84	79.1	95
T1 core (Class B)	78.4	72.5	79.4	74.3	95
CY1 body (125°C)	67.2	63.1	69.1	64.4	110
IC1 body (100C)	69.9	64.5	70.9	65.3	85
PCB near Q1 (130°C)	82.1	74	83.2	74.7	115
PCB near D3 (130C)	86.7	84.2	86.4	83.6	115
C6 body (105°C)	83.7	80.9	83.4	80.3	90
C7 body (105°C)	77.9	75	77.7	74.3	90
PCB under T1 (130°C)	73.8	70.2	74.2	70.3	115
Internal plastic enclosure above T1	67.1	63.8	65.4	62	70
External plastic enclosure above T1	59.8	56.5	57.5	54.1	70
Output cord (80°C)	37.9	37.4	36.9	36.1	65
Ambient	25	25	25	25	--
Actual Ambient during test	40	40	40	40	--
Adjustment to 25°C ambient	-15	-15	-15	-15	--
Model: 2ACL030B(5V/6A)					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
Inlet body	41.7	37.8	41.9	37.2	45
Enclosure inside near T1	57.4	53.9	57.4	53.6	60
Enclosure outside near T1	51	48.2	50.4	47.3	60
TVS1 body	44.8	40.4	45.3	40.3	60
CX1 body	56.3	49.7	56.4	49.4	75
LF1 coil	58.7	50.5	58.7	50.2	105
LF2 coil	52.6	46.8	53.7	47.1	105
PWB near BD1	67.5	58	67.2	57.3	105
PWB near Q1	71.2	65.5	70.2	64.7	105
C2 body	67.7	58.8	68.4	58.2	80
T1 coil	72.9	67	72.4	66.5	85
T1 core	67.7	63	67.5	62.5	85
CY1 body	60.6	56.7	60.6	56.6	100
IC1 body	64.8	58.8	65	58.6	75
PWB near Q2	68.2	61.2	68.4	61.4	105
Q1 body	69.9	65.7	69.3	64.9	125
Q2 body	67.1	59.3	67.2	59.2	125
Input wire	40.3	36.8	40.6	36.2	80
Output wire	50.3	47.2	50	46.8	55
Ambient	25	25	25	25	--
Actual Ambient during test	29.3	29.3	29.7	28.9	--
Adjustment to 25oC ambient	-4.3	-4.3	-4.7	-3.9	--

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Clause	Requirement + Test			Result - Remark	Verdict

Model: KPL-065U-VI (56V/1.16A)					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet	48.9	41.2	48.8	42	50
CX1 body	66.3	53.8	65.9	54.5	80
LF1 coil	88.9	64.5	87.9	65.3	110
LF2 coil	82.7	61.8	83.1	63.1	110
PCB near BD1	99	75.1	98	75.6	110
C2 body	80.1	66.8	80	68	85
T1 coil	89.9	84.2	89.4	84.5	90
T1 core	87	81.5	85.8	82	90
PCB near T1	77.4	72	76.6	72.1	110
CY1 body	74.7	68.1	75.5	69.7	105
IC1 body	75.5	68.3	75	69.1	80
PCB near Q1	96.5	83.4	95.7	84	110
PCB near D3	94.4	90.8	94.1	91	110
C6 body	81.8	75.8	80.8	76	85
C7 body	75	69.8	74.1	69.6	85
Enclosure inside near T1	66.3	59.6	67.7	61.9	70
Enclosure outside near T1	55.6	51	57.8	53.6	70
Output wire	52.3	49.2	52.7	50	60
Q1 body	95	83.3	94.8	84.2	110
Ambient	25	25	25	25	--
Actual Ambient during test	28.6	29.3	29	29.3	--
Adjustment to 25°C ambient	-3.6	-4.3	-4	-4.3	--
Model: GTR0382					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
Inlet body	31.2	31.3	33.9	30.8	55
Enclosure inside near T1	71.5	69.4	73.7	72.1	90
Enclosure outside near T1	62.6	60.3	65.7	64	77
TVS1 body	54.8	45.3	57.1	46.8	70
CX1 body	70.1	56.5	69.2	57.4	85
LF2 coil	65.2	50.5	68.8	53.5	115
LF1 coil	81.6	61.3	80.2	62.1	115
PWB near BD1	85.2	67.1	85.3	68.4	115
PWB near Q1	81	78.1	80.8	78.8	115
C2 body	81.1	70.1	80.6	71.2	90
T1 coil	92.3	88.5	91.8	88.9	95
T1 core	88.8	85.8	88	86.1	95
CY1 body	82.1	80.8	84.9	83.2	110
IC1 body	69.6	65.7	69.1	65.9	85

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Clause	Requirement + Test		Result - Remark		Verdict
PWB near Q2	84.1	78.4	85.1	80.1	115
L1 body	68.9	67.6	72.2	70.7	115
L2 body	105.7	104.3	103	102.7	115
Input wire	61.7	61.1	64.3	63	90
Output wire	44.3	38.7	45.4	38.7	65
Ambient	25	25	25	25	--
Actual Ambient during test	29	31	30.6	30.7	--
Adjustment to 25°C ambient	-4	-6	-5.6	-5.7	--
Model: 2ABF065F (HS: Length=20mm)					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
Inlet body	39.6	38.6	40.4	35.9	55
Enclosure inside near T1	67.7	58.3	68.1	59.5	70
Enclosure outside near T1	54.9	49.6	62.4	52.8	70
ZNR1 body	64.5	58.8	65	57.3	70
CX1 body	82.5	64.4	82.9	63	85
TH1 body	85.8	63.8	86.5	62.6	--
LF2 coil	91	67	91.3	65.5	115
LF1 coil	83.2	63.8	83.6	62.3	115
PWB near BD1	93.2	70.2	93.1	68.3	115
PWB near Q2	89	74.8	89.2	73.1	115
C1 body	83.8	67.5	84.6	66.4	90
T1 coil	88.1	74.5	89.1	73.4	95
T1 core	81.9	70.2	82.9	69.1	95
CY1 body	76.3	66.3	77.2	65.3	110
U4 body	79.3	67	79.6	65.5	85
PWB near Q1	87.7	71.4	87.4	69.7	115
Q2 body	89	76.4	89.3	74.7	--
Input wire	66.8	55.3	67.5	53.9	90
Output wire	60.1	53.2	60.5	51.7	65
Ambient	25	25	25	25	--
Actual Ambient during test	25.2	23.9	24.9	24.1	--
Adjustment to 25°C ambient	-0.2	+1.1	+0.1	+0.9	--
Model: 2ABF060R (HS2:Length=20mm)					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
Inlet body	37.3	33.8	37.4	34.6	55
Enclosure inside near T1	62.8	57.9	63.1	58.2	70
Enclosure outside near T1	53.5	49.8	53.7	50.1	70
ZNR1 body	68.4	54.8	68.6	55	70
CX1 body	76.1	60.1	76	60.2	85
TH1 body	78.8	59.6	78.9	59.9	--

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Clause	Requirement + Test		Result - Remark		Verdict
LF2 coil	80.5	61.1	80.2	61.1	115
LF1 coil	78.2	60.3	78.2	60.4	115
PWB near BD1	77.5	61.6	77.2	61.4	115
PWB near Q2	75.4	65.2	75.3	65.2	115
C1 body	72.8	61.6	72.8	61.8	90
T1 coil	81.4	75.7	81.3	75.8	95
T1 core	75	70.7	75	70.8	95
CY1 body	66.7	62	66	61.7	110
U4 body	73.7	70.5	73.8	71.1	85
PWB near Q1	82.6	90.4	82.6	90.7	115
Q2 body	74.2	65.2	74	65.1	--
Input wire	61.8	51.3	61.8	51.4	90
Output wire	52	51.5	51.4	51.2	65
Ambient	25	25	25	25	--
Actual Ambient during test	25.6	26.0	25.4	25.7	--
Adjustment to 25°C ambient	-0.6	-1	-0.4	-0.7	--
Model: 2ACL065U (HS2:Length=70mm)					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
Inlet body	39.9	42	45.9	41.9	55
Enclosure inside near T1	66.3	62.8	67.8	61.7	70
Enclosure outside near T1	59.8	59.3	64.2	59.4	70
TVS1 body	66.7	65.7	67.3	65.6	70
CX1 body	81.7	70.3	82.4	70.2	85
TH1 body	90.5	70.2	91.5	70.1	--
LF1 coil	99.2	76.1	99.8	76	115
LF2 coil	88.2	71.1	88.8	71	115
PWB near BD1	97.2	77.4	97.2	77.3	115
PWB near Q1	92.4	82	92.4	81.8	115
C2 body	85	76.2	85.9	76.1	90
T1 coil	91.3	88	92.2	87.9	95
T1 core	87.5	83.1	88.7	83	95
CY1 body	78.9	74.3	79.6	74.1	110
IC1 body	82.3	78.4	83.2	78.2	85
PWB near Q2	86.7	88.3	87.1	88.2	115
Q1 body	98.3	87.9	98.8	87.8	--
Input wire	64.5	55.5	64.9	55.4	90
Output wire	60.6	59.5	61.8	59.3	65
Ambient	25	25	25	25	--
Actual Ambient during test	24.7	25.5	24.7	25.2	--
Adjustment to 25°C ambient	+0.3	-0.5	+0.3	-0.2	--
Model: 2ACL065R (HS2:Length=70mm)					

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
Inlet body	41.1	37.8	42.6	38.6	55
Enclosure inside near T1	67.8	63.1	68.2	63.2	70
Enclosure outside near T1	57.9	54.7	58.2	54.3	70
TVS1 body	67.9	62.1	67.9	61.8	70
CX1 body	80.6	67.3	80.6	67.1	85
TH1 body	84.5	65.3	84.8	65.3	--
LF1 coil	92	68.7	91.9	68.4	115
LF2 coil	85.2	66.1	85.3	65.9	115
PWB near BD1	95.5	73.1	95.2	72.7	115
PWB near Q1	91.2	77.9	90.9	77.5	115
C2 body	83.6	70.1	83.8	70.1	90
T1 coil	88.9	82.3	89.1	82.2	95
T1 core	83.7	78.2	83.9	78.2	95
CY1 body	74.8	69.1	74.7	68.8	110
IC1 body	78.2	74.1	78.5	74.5	85
PWB near Q2	88.8	97.6	89	97.6	115
Q1 body	91.6	79.1	91.3	78.6	--
Input wire	63.5	53.2	63.6	52.9	90
Output wire	57.1	56.1	56.9	55.8	65
Ambient	25	25	25	25	--
Actual Ambient during test	26.6	24.7	25.7	25	--
Adjustment to 25°C ambient	-1.6	+0.3	-0.7	0	--
Model: 2ACL060M (HS2:Length=70mm)					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
Inlet body	38.6	35.3	39.8	36.3	55
Enclosure inside near T1	66.4	61	66.9	61.3	70
Enclosure outside near T1	55.4	51.6	55.9	51.8	70
TVS1 body	68.6	57.7	68.7	58.1	70
CX1 body	78.7	62.9	79	63.2	85
TH1 body	85.6	63.2	86	63.7	--
LF1 coil	82.8	63.8	83	64.2	115
LF2 coil	80.5	63	80.8	63.5	115
PWB near BD1	79.9	64.5	80.2	64.8	115
PWB near Q1	78.9	69.2	79.2	69.7	115
C2 body	79.4	66.9	79.6	67.2	90
T1 coil	84.9	77.6	85.2	78	95
T1 core	80.8	75.6	81.1	75.8	95
CY1 body	68	63.1	68.2	63.1	110
IC1 body	76.4	70.8	77.1	71.6	85

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Clause	Requirement + Test		Result - Remark		Verdict
PWB near Q2	85	82.9	85.5	83.4	115
Q1 body	77.6	69.5	77.9	69.7	--
Input wire	63.7	53.6	63.4	53.6	90
Output wire	53.5	51.3	54.1	51.3	65
Ambient	25	25	25	25	--
Actual Ambient during test	24.1	24.9	23.8	24.2	--
Adjustment to 25°C ambient	+0.9	+0.1	+1.2	+0.8	--
Model: 2ACL060K (HS2:Length=70mm)					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
Inlet body	41.9	37.3	42.5	39.8	55
Enclosure inside near T1	66.6	62.6	67	64.5	70
Enclosure outside near T1	53.5	52.5	59.3	55.8	70
TVS1 body	66.7	60.9	66.6	60.9	70
CX1 body	78.1	66	77.9	66	85
TH1 body	81.7	64.6	81.7	64.8	--
LF1 coil	84.7	67.5	84.5	67.6	115
LF2 coil	79.8	65.6	79.5	65.7	115
PWB near BD1	82	68.2	81.5	68	115
PWB near Q1	82	75.2	81.8	75.2	115
C2 body	80.7	70.2	80.8	70.6	90
T1 coil	88.2	82.1	88.7	82.5	95
T1 core	82.9	78.5	83.3	78.9	95
CY1 body	70.9	66.7	71.1	67	110
IC1 body	78.8	74.4	79.5	75	85
PWB near Q2	91.6	89.7	92.4	90	115
Q1 body	80.6	75.2	80.8	75.4	--
Input wire	62.5	54.8	62.2	54.5	90
Output wire	56.3	54.9	58.1	55.4	65
Ambient	25	25	25	25	--
Actual Ambient during test	23	23.7	22.9	23.1	--
Adjustment to 25°C ambient	+2	+1.3	+2.1	+1.9	--
Model: 2ACL065U (HS2:Length=20mm)					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
Inlet body	39.9	42	45.9	41.9	55
Enclosure inside near T1	66.3	62.8	67.8	61.7	70
Enclosure outside near T1	59.8	59.3	64.2	59.4	70
TVS1 body	66.7	65.7	67.3	65.6	70
CX1 body	81.7	70.3	82.4	70.2	85
TH1 body	90.5	70.2	91.5	70.1	--
LF1 coil	99.2	76.1	99.8	76	115

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
LF2 coil	88.2	71.1	88.8	71	115
PWB near BD1	97.2	77.4	97.2	77.3	115
PWB near Q1	92.4	82	92.4	81.8	115
C2 body	85	76.2	85.9	76.1	90
T1 coil	91.3	88	92.2	87.9	95
T1 core	87.5	83.1	88.7	83	95
CY1 body	78.9	74.3	79.6	74.1	110
IC1 body	82.3	78.4	83.2	78.2	85
PWB near Q2	86.7	88.3	87.1	88.2	115
Q1 body	98.3	87.9	98.8	87.8	--
Input wire	64.5	55.5	64.9	55.4	90
Output wire	60.6	59.5	61.8	59.3	65
Ambient	25	25	25	25	--
Actual Ambient during test	24.7	25.5	24.7	25.2	--
Adjustment to 25°C ambient	+0.3	-0.5	+0.3	-0.2	--
Model: 2ACL065R (HS2:Length=20mm)					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
Inlet body	41.1	37.8	42.6	38.6	55
Enclosure inside near T1	67.8	63.1	68.2	63.2	70
Enclosure outside near T1	57.9	54.7	58.2	54.3	70
TVS1 body	67.9	62.1	67.9	61.8	70
CX1 body	80.6	67.3	80.6	67.1	85
TH1 body	84.5	65.3	84.8	65.3	--
LF1 coil	92	68.7	91.9	68.4	115
LF2 coil	85.2	66.1	85.3	65.9	115
PWB near BD1	95.5	73.1	95.2	72.7	115
PWB near Q1	91.2	77.9	90.9	77.5	115
C2 body	83.6	70.1	83.8	70.1	90
T1 coil	88.9	82.3	89.1	82.2	95
T1 core	83.7	78.2	83.9	78.2	95
CY1 body	74.8	69.1	74.7	68.8	110
IC1 body	78.2	74.1	78.5	74.5	85
PWB near Q2	88.8	97.6	89	97.6	115
Q1 body	91.6	79.1	91.3	78.6	--
Input wire	63.5	53.2	63.6	52.9	90
Output wire	57.1	56.1	56.9	55.8	65
Ambient	25	25	25	25	--
Actual Ambient during test	26.6	24.7	25.7	25.0	--
Adjustment to 25°C ambient	-1.6	+0.3	-0.7	0	--
Model: 2ACL060M (HS2:Length=20mm)					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--

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Clause	Requirement + Test		Result - Remark		Verdict
Position of UUT	Label down	Label down	Label up	Label up	--
Inlet body	38.6	35.3	39.8	36.3	55
Enclosure inside near T1	66.4	61	66.9	61.3	70
Enclosure outside near T1	55.4	51.6	55.9	51.8	70
TVS1 body	68.6	57.7	68.7	58.1	70
CX1 body	78.7	62.9	79	63.2	85
TH1 body	85.6	63.2	86	63.7	--
LF1 coil	82.8	63.8	83	64.2	115
LF2 coil	80.5	63	80.8	63.5	115
PWB near BD1	79.9	64.5	80.2	64.8	115
PWB near Q1	78.9	69.2	79.2	69.7	115
C2 body	79.4	66.9	79.6	67.2	90
T1 coil	84.9	77.6	85.2	78	95
T1 core	80.8	75.6	81.1	75.8	95
CY1 body	68	63.1	68.2	63.1	110
IC1 body	76.4	70.8	77.1	71.6	85
PWB near Q2	85	82.9	85.5	83.4	115
Q1 body	77.6	69.5	77.9	69.7	--
Input wire	63.7	53.6	63.4	53.6	90
Output wire	53.5	51.3	54.1	51.3	65
Ambient	25	25	25	25	--
Actual Ambient during test	24.1	24.9	23.8	24.2	--
Adjustment to 25°C ambient	+0.9	+0.1	+1.2	+0.8	--
Model: 2ACL060K (HS2:Length=20mm)					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
Inlet body	41.9	37.3	42.5	39.8	55
Enclosure inside near T1	66.6	62.6	67	64.5	70
Enclosure outside near T1	53.5	52.5	59.3	55.8	70
TVS1 body	66.7	60.9	66.6	60.9	70
CX1 body	78.1	66	77.9	66	85
TH1 body	81.7	64.6	81.7	64.8	--
LF1 coil	84.7	67.5	84.5	67.6	115
LF2 coil	79.8	65.6	79.5	65.7	115
PWB near BD1	82	68.2	81.5	68	115
PWB near Q1	82	75.2	81.8	75.2	115
C2 body	80.7	70.2	80.8	70.6	90
T1 coil	88.2	82.1	88.7	82.5	95
T1 core	82.9	78.5	83.3	78.9	95
CY1 body	70.9	66.7	71.1	67	110
IC1 body	78.8	74.4	79.5	75	85
PWB near Q2	91.6	89.7	92.4	90	115

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Q1 body	80.6	75.2	80.8	75.4	--
Input wire	62.5	54.8	62.2	54.5	90
Output wire	56.3	54.9	58.1	55.4	65
Ambient	25	25	25	25	--
Actual Ambient during test	23.0	23.7	22.9	23.1	--
Adjustment to 25°C ambient	+2	+1.3	+2.1	+1.9	--
Model: 2ABF065F					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
CH22 Inlet body	41.9	45.5	38.7	39	55
CH23 Enclosure inside near T1	63.8	65.8	53.4	54.3	70
CH24 Enclosure outer near T1	51.5	54.8	43.5	46.2	70
CH25 ZNR1	66.2	66.5	52.9	52.2	70
CH26 CX1	79.9	79	60.8	59.6	85
CH27 LF1	75.7	75.6	57.9	56.8	90
CH28 LF2	85.5	82.8	60.8	60.1	90
CH29 PWB near BD1(HS1)	74.7	75.2	59.7	58.2	90
CH30 PWB near Q2(HS1)	89.6	88.7	68.4	66.9	90
CH31 C1	83.7	83.3	63.3	62.5	90
CH32 T1 coil	87.7	87	71.2	70.2	95
CH33 T1 core	79.3	79.3	66.3	65.7	95
CH34 CY1	71.8	71.5	60.3	59.3	110
CH35 U4	76.9	76.7	62.8	62.5	85
CH36 PWB near Q1(HS2)	77.9	77.9	63.4	63	90
CH37 C5	78.1	77.8	62.9	62.3	90
CH38 C6	69.2	68.6	57	56	90
CH39 output wire	53.1	52.1	44.5	43.9	65
Ambient	25	25	25	25	--
Actual Ambient during test	40	40	40	40	--
Adjustment to 25°C ambient	-15	-15	-15	-15	--
Model: 2ABF060R					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
CH02 Inlet body	39.2	41.1	35	35.6	55
CH03 Enclosure inside near T1	59.2	60.5	53.7	54.7	70
CH04 Enclosure outer near T1	52.1	53.4	46.5	48.1	70
CH05 ZNR1	60.5	61.5	51	51.2	70
CH06 CX1	74	74.7	59.7	59.6	85
CH07 LF1	68.4	69	56.4	56.2	90
CH08 LF2	71.4	72.2	56.4	56.6	90
CH09 PWB near BD1(HS1)	69.9	71.1	56.4	56.5	90
CH10 PWB near Q2(HS1)	74.8	75.2	64.2	64.1	90

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
CH11 C1	75.8	76.5	64.6	64.9	90
CH12 T1 coil	78.5	78.9	74	74.2	95
CH13 T1 core	69.6	70.2	65.7	66	95
CH14 CY1	66.7	66.7	61	60.6	110
CH15 U4	71.4	72.1	68	68.3	85
CH16 PWB near Q1(HS2)	74.8	75.4	76	76.3	90
CH17 C5	67	67.5	65.4	65.7	90
CH18 C6	62.2	62.6	58.8	59.1	90
CH19 output wire	55.8	55.8	53.7	53.7	65
Ambient	25	25	25	25	--
Actual Ambient during test	40	40	40	40	--
Adjustment to 25°C ambient	-15	-15	-15	-15	--
Model: KPL-060I-VI					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet (70°C)	43.2	37.4	43.7	37.4	50
CX1 body (100°C)	48.5	41.8	48.4	41.9	80
LF1 coil (130°C)	79.2	55.3	78.8	55.2	110
LF2 coil (130°C)	62.6	48.1	63	48.6	110
PCB near BD1 (130°C)	78.2	62	77.8	61.7	110
C2 body (105°C)	66.7	56.7	66.5	56.9	85
T1 coil (Class B)	68.1	65.1	67	64.3	90
T1 core (Class B)	57.2	56.1	55.9	55.4	90
PCB under T1 (130°C)	62.1	61.5	61.1	61.3	110
CY1 body (125°C)	58.8	53.3	55.9	51	105
IC1 body (110°C)	55.9	52.4	56.3	54	90
PCB near Q1 (130°C)	74.4	63.3	74.3	63.1	110
PCB near D3 (130°C)	72.6	73.7	70.9	72.7	110
C6 body (105°C)	66.3	66.9	65.1	66.6	85
C7 body (105°C)	61.7	61.9	60.9	61.6	85
Internal plastic enclosure above T1	52.7	50	51.5	49.2	65
External plastic enclosure above T1	43.6	42.6	42.9	41.7	65
Output cord (80°C)	27	27.6	27.2	27.4	60
Ambient	25	25	25	25	--
Actual Ambient during test	45	45	45	45	--
Adjustment to 25°C ambient	-20	-20	-20	-20	--
Model: KPL-050F-VI					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet (70°C)	42.2	35.8	42.3	36.1	50
CX1 body (100°C)	44	37.6	43.1	36.9	80
LF1 coil (130°C)	77.3	52.6	73.9	52.9	110

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
LF2 coil (130°C)	60.8	45.9	60.3	46.2	110
PCB near BD1 (130°C)	77.3	60.1	78	60.2	110
C2 body (105°C)	73.8	58.9	74	59	85
T1 coil (Class B)	74	71.2	74.7	71.5	90
T1 core (Class B)	68.2	69.9	70.5	70.2	90
PCB under T1 (130°C)	67.4	65.8	67.8	66.1	110
CY1 body (125°C)	62.9	58.5	64.1	59.6	105
IC1 body (110°C)	57.7	54.3	59.1	56	90
PCB near Q1 (130°C)	73.5	63.9	74.1	64.3	110
PCB near D3 (130°C)	72.5	71.1	73	71.5	110
C6 body (105°C)	69.4	67.9	69.7	68.2	85
C7 body (105°C)	64.3	62.6	64.8	62.9	85
Internal plastic enclosure above T1	50.7	50	50.8	50.2	65
External plastic enclosure above T1	44	43.4	45	44.4	65
Output cord (80°C)	29.9	29.2	29.8	29.6	60
Ambient	25	25	25	25	--
Actual Ambient during test	45	45	45	45	--
Adjustment to 25°C ambient	-20	-20	-20	-20	--
Model: KPL-060F-VI					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet (70°C)	48.2	37.5	48.4	38.2	50
CX1 body (100°C)	56.5	43.3	54.8	42.9	80
LF1 coil (130°C)	92.2	56.6	91.7	57.4	110
LF2 coil (130°C)	74.1	49.7	74	50.3	110
PCB near BD1 (130°C)	85.4	59.1	85.6	59.9	110
C2 body (105°C)	74.7	56.4	73.8	56.7	85
T1 coil (Class B)	78.8	67.8	78.2	68.5	90
T1 core (Class B)	67.4	58.3	66.6	59	90
PCB under T1 (130°C)	71.9	63.3	71.3	63.9	110
CY1 body (125°C)	68	55.9	69	57.4	105
IC1 body (110°C)	64.5	56	63	55.7	90
PCB near Q1 (130°C)	80.3	61	81	62	110
PCB near D3 (130°C)	80.3	74	79.7	73.9	110
C6 body (105°C)	77.2	70.8	77.4	71.4	85
C7 body (105°C)	72.9	65.9	73.1	66.7	85
Internal plastic enclosure above T1	60.8	50.6	60.8	51.8	65
External plastic enclosure above T1	52.4	44.6	53.1	46.3	65
Output cord (80°C)	32.9	30.9	34	32.6	60
Ambient	25	25	25	25	--
Actual Ambient during test	45	45	45	45	--
Adjustment to 25°C ambient	-20	-20	-20	-20	--

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Model: KPL-066F-VI					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet (70°C)	50.6	40.6	51.2	41.4	55
CX1 body (100°C)	56.8	45.1	57.4	45.9	85
LF1 coil (130°C)	90.1	60.7	91.7	61.8	115
LF2 coil (130°C)	76	53.2	78	54.3	115
PCB near BD1 (130°C)	82.6	61.5	83.6	62.2	115
C2 body (105°C)	78	61.3	79.3	62.3	90
T1 coil (Class B)	78.2	68.6	80.6	70.6	95
T1 core (Class B)	70.1	61.7	72.7	63.6	95
PCB under T1 (130°C)	72.6	65.3	74.4	66.8	115
CY1 body (125°C)	67.8	59.3	70.3	61.2	110
IC1 body (110C)	64.7	57.2	67.6	59.8	95
PCB near Q1 (130°C)	77.4	65	79.5	67.4	115
PCB near D3 (130C)	85.3	79.1	88.4	81.4	115
C6 body (105°C)	83.2	76.6	86.1	78.8	90
C7 body (105°C)	77.1	70.5	80	72.8	90
Internal plastic enclosure above T1	67.4	56.9	70	58.9	70
External plastic enclosure above T1	53.3	47.1	57.5	50.7	70
Output cord (80°C)	31.6	30.8	33.1	32	65
Ambient	25	25	25	25	--
Actual Ambient during test	40	40	40	40	--
Adjustment to 25°C ambient	-15	-15	-15	-15	--
Model: KPL-065J-VI					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet (70°C)	53.5	43.6	53.7	44.1	55
CX1 body (100°C)	54.5	44.3	56.2	45.6	85
LF1 coil (130°C)	93.5	61.8	91.4	62.7	115
LF2 coil (130°C)	76.2	53.4	77.3	54.8	115
PCB near BD1 (130°C)	91.1	67.7	88.7	68.2	115
C2 body (105°C)	71.8	58	72.8	59.5	90
T1 coil (Class B)	77.3	69.7	77.7	71.1	95
T1 core (Class B)	67	61.1	68.1	62.4	95
PCB under T1 (130°C)	70.9	65.7	72.3	67.3	115
CY1 body (125°C)	75.2	66.4	75.6	67	110
IC1 body (110C)	60.6	54.8	65.4	59.6	95
PCB near Q1 (130°C)	88	75.6	87.8	75.9	115
PCB near D3 (130C)	78.1	75	80.8	78	115
C6 body (105°C)	75.6	72.2	78	74.5	90
C7 body (105°C)	70.6	66.1	72	67.8	90

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Clause	Requirement + Test		Result - Remark		Verdict
Internal plastic enclosure above T1	61.1	54.6	62.7	56.4	70
External plastic enclosure above T1	48.2	44.4	50.5	46.9	70
Output cord (80°C)	28.8	29.1	32.9	32.2	65
Ambient	25	25	25	25	--
Actual Ambient during test	40	40	40	40	--
Adjustment to 25°C ambient	-15	-15	-15	-15	--
Model: KPL-065M-VI					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet (70°C)	50.2	41.3	50.9	41.3	55
CX1 body (100°C)	55.9	45.5	55.7	45	85
LF1 coil (130°C)	86.9	58	86.3	57.8	115
LF2 coil (130°C)	75	52.5	75.7	52.6	115
PCB near BD1 (130°C)	87.7	62.1	88	61.9	115
C2 body (105°C)	75.6	59.1	75.6	58.8	90
T1 coil (Class B)	70.5	66.1	70.7	65.9	95
T1 core (Class B)	61.2	58	61.2	57.8	95
PCB under T1 (130°C)	65.2	62	65.4	62	115
CY1 body (125°C)	64.6	55.6	67.4	57.1	110
IC1 body (110°C)	58.6	53.3	58.3	53.2	95
PCB near Q1 (130°C)	81.1	62.8	81.9	62.9	115
PCB near D3 (130°C)	69.5	67.9	68.8	67.1	115
C6 body (105°C)	67.5	65.6	67	64.9	90
C7 body (105°C)	63.3	60.9	63	60.5	90
Internal plastic enclosure above T1	56.6	52.1	56.8	51.9	70
External plastic enclosure above T1	48.9	45.8	46.3	45.4	70
Output cord (80°C)	32.9	32.3	33.6	33	65
Ambient	25	25	25	25	--
Actual Ambient during test	40	40	40	40	--
Adjustment to 25°C ambient	-15	-15	-15	-15	--
Model: KPL-065S-VI					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet (70°C)	52.8	43.7	53.7	43.8	55
CX1 body (100°C)	55.8	45.8	56.1	46	85
LF1 coil (130°C)	87.6	61.3	89.4	61.3	115
LF2 coil (130°C)	74.7	53.7	74.6	53.8	115
PCB near BD1 (130°C)	87.4	65.5	89.2	65.6	115
C2 body (105°C)	72.8	58.9	73.9	58.8	90
T1 coil (Class B)	77.5	69.9	78.4	69.6	95
T1 core (Class B)	67.4	61.6	68.6	61.4	95
PCB under T1 (130°C)	68.8	62.5	68.8	61.8	115

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Clause	Requirement + Test		Result - Remark		Verdict
CY1 body (125°C)	70.2	60.2	70.3	59.6	110
IC1 body (110°C)	61.6	52.1	60.1	51.5	95
PCB near Q1 (130°C)	82.9	67.1	84.7	66.9	115
PCB near D3 (130°C)	68.8	59	67.6	57.6	115
C6 body (105°C)	64.3	56.1	63.5	54.6	90
C7 body (105°C)	62.3	54.4	61.4	53.2	90
Internal plastic enclosure above T1	62.2	55.2	63.2	55	70
External plastic enclosure above T1	53.9	49.2	54.8	48.6	70
Output cord (80°C)	34.1	32.7	33	32	65
Ambient	25	25	25	25	--
Actual Ambient during test	40	40	40	40	--
Adjustment to 25°C ambient	-15	-15	-15	-15	--
Model: KPL-050F					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet (70°C)	52.1	47.1	52.4	48.9	55
CX1 body (100°C)	64.6	60.1	69.6	64.7	85
LF1 coil (130°C)	81.3	63.2	83.6	65.8	115
LF2 coil (130°C)	79.1	64.4	81.5	66.7	115
PCB near BD1 (130°C)	90.9	70.4	90.9	70.7	115
C2 body (105°C)	86.1	73.4	86.6	76.9	90
T1 coil (Class B)	89	86.5	92.7	89.6	95
T1 core (Class B)	85.2	83.3	89.5	85.1	95
PCB under T1 (130°C)	82.4	78.1	81.4	77.5	115
CY1 body (125°C)	76.5	71.1	78.8	73.7	110
IC1 body (110°C)	76.5	73.7	80.4	77.6	95
PCB near Q1 (130°C)	96.2	80.6	95.7	80.8	115
PCB near D3 (130°C)	79.5	77.9	85	83.3	115
C6 body (105°C)	77.7	76.5	82.2	81	90
C7 body (105°C)	75.5	74.1	78.6	77.3	90
Internal plastic enclosure above T1	59.2	59.2	74.9	74.6	90
External plastic enclosure above T1	51.8	51.7	70	69.6	77
Output cord (80°C)	37.5	36.8	37.6	37.3	65
Ambient	25	25	25	25	--
Actual Ambient during test	40.1	40.0	40.1	40.1	--
Adjustment to 25°C ambient	-15.1	-15	-15.1	-15.1	--
Model: KPL-050M					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet (70°C)	37.5	35.1	36.5	34.4	55
CX1 body (100°C)	46.8	44.2	47.1	44.5	85
LF1 coil (130°C)	64.1	52.7	62.9	52.1	115

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Clause	Requirement + Test		Result - Remark		Verdict
LF2 coil (130°C)	55.3	48.5	54.9	48.3	115
PCB near BD1 (130°C)	66.2	54	66.6	53.9	115
C2 body (105°C)	65.2	58.1	64.3	57.6	90
T1 coil (Class B)	68.2	67	67.8	66.7	95
T1 core (Class B)	63.8	62.8	64.2	63.3	95
PCB under T1 (130°C)	66.2	65.7	63.4	62.9	115
CY1 body (125°C)	66.2	62.2	64.7	61	110
IC1 body (110°C)	60.8	58.2	60.8	58.4	95
PCB near Q1 (130°C)	75.4	64.7	73.2	63.1	115
PCB near D3 (130°C)	52	50.5	49.8	48.1	115
C6 body (105°C)	52.5	53.9	55.3	56.7	90
C7 body (105°C)	54.2	55.6	55.7	57.2	90
Internal plastic enclosure above T1	54.6	55.4	58.7	59.6	90
External plastic enclosure above T1	43.9	44.7	51	51.6	77
Output cord (80°C)	30.5	30.6	27.5	27.4	65
Ambient	25	25	25	25	--
Actual Ambient during test	40.2	40.0	40.1	40.1	--
Adjustment to 25°C ambient	-15.2	-15	-15.1	-15.1	--
Model: KPL-060I					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet (70°C)	39.5	36.5	40.2	37	55
CX1 body (100°C)	59.3	53.6	60.7	54.6	85
LF1 coil (130°C)	77	60	76.7	59.7	115
LF2 coil (130°C)	65.8	54.9	65.8	54.8	115
PCB near BD1 (130°C)	83.4	64.3	82.1	63.1	115
C2 body (105°C)	70.7	61.5	72.2	62.7	90
T1 coil (Class B)	72.9	71.3	75.2	73.2	95
T1 core (Class B)	68.7	67.5	71.9	70.3	95
PCB under T1 (130°C)	68.1	65.4	64.7	62.2	115
CY1 body (125°C)	63.9	61	64.1	60.9	110
IC1 body (110°C)	80.1	76.9	80.3	77.4	95
PCB near Q1 (130°C)	99.7	86.4	98.5	85.8	115
PCB near D3 (130°C)	89.3	87.2	90.8	88.7	115
C6 body (105°C)	82.2	80.6	84.1	82.5	90
C7 body (105°C)	77.2	75.5	78.4	76.7	90
Internal plastic enclosure above T1	57	54.6	61.6	59.1	90
External plastic enclosure above T1	54.9	52.9	67.9	65.1	77
Output cord (80°C)	36.7	36	37.6	37.4	65
Ambient	25	25	25	25	--
Actual Ambient during test	40.1	40.0	40.1	40.1	--
Adjustment to 25°C ambient	-15.1	-15	-15.1	-15.1	--

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Clause	Requirement + Test		Result - Remark		Verdict
Model: KPL-065F					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet (70°C)	42.6	38.3	37.9	34.5	55
CX1 body (100°C)	69.3	58.8	67.5	57.5	85
LF1 coil (130°C)	79.5	60.1	79.1	60.8	115
LF2 coil (130°C)	73.5	57.6	71.1	56.4	115
PCB near BD1 (130°C)	78.7	60	79.9	61.9	115
C2 body (105°C)	80.8	64.7	80.2	65	90
T1 coil (Class B)	85.8	74.2	85.7	73.6	95
T1 core (Class B)	81.8	72.4	80.8	69.8	95
PCB under T1 (130°C)	78.3	68.8	75.1	65.4	115
CY1 body (125°C)	74.3	63.2	74.4	63.4	110
IC1 body (110C)	79.3	69.6	77.8	68.6	95
PCB near Q1 (130°C)	84.7	66.7	86.3	68.6	115
PCB near D3 (130C)	83.1	74.6	82.7	74.1	115
C6 body (105°C)	81.9	74.3	82	73.7	90
C7 body (105°C)	76	68.8	76.9	68.7	90
Internal plastic enclosure above T1	65.4	55	68.5	57.9	90
External plastic enclosure above T1	54	46.4	58.5	50.4	77
Output cord (80°C)	35.1	33.5	38.1	36.2	65
Ambient	25	25	25	25	--
Actual Ambient during test	40.0	40.0	40.4	40.1	--
Adjustment to 25°C ambient	-15	-15	-15.4	-15.1	--
Model: KPL-065J					
Test condition	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--
Position of UUT	Label down	Label down	Label up	Label up	--
AC Inlet (70°C)	48	43.1	51.7	46.4	55
CX1 body (100°C)	60.3	56.7	63.9	58.1	85
LF1 coil (130°C)	81.1	66.1	85.4	68	115
LF2 coil (130°C)	69.3	60.1	74.2	62	115
PCB near BD1 (130°C)	77.2	66.8	82.9	69.5	115
C2 body (105°C)	66.9	61.8	74	65.3	90
T1 coil (Class B)	78.4	75	84.3	77.2	95
T1 core (Class B)	68.4	66.5	75.9	69.6	95
PCB under T1 (130°C)	70.4	68	74.4	68.6	115
CY1 body (125°C)	73.7	69.6	78.4	71.2	110
IC1 body (110C)	69.4	67.6	72.5	67.3	95
PCB near Q1 (130°C)	91.6	82.9	98	86.1	115
PCB near D3 (130C)	74.1	73.8	77.3	73.6	115
C6 body (105°C)	68.7	69.4	73.1	69.9	90
C7 body (105°C)	67.2	67.4	70.3	66.6	90

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Clause	Requirement + Test				Result - Remark		Verdict
Internal plastic enclosure above T1							
	54.1	53.2	60.5	56.4	90		
External plastic enclosure above T1							
	50.8	51.5	62.6	57.9	77		
Output cord (80°C)							
	34.4	35.4	33.8	32.7	65		
Ambient							
	25	25	25	25	--		
Actual Ambient during test							
	40.0	40.0	40.4	40.1	--		
Adjustment to 25°C ambient							
	-15	-15	-15.4	-15.1	--		
Model: KPL-065M							
Test condition							
	90V 60Hz	264V 50Hz	90V 60Hz	264V 50Hz	--		
Position of UUT							
	Label down	Label down	Label up	Label up	--		
AC Inlet (70°C)							
	39.1	35.7	44.2	38.4	55		
CX1 body (100°C)							
	54.2	49.3	57.7	50.2	85		
LF1 coil (130°C)							
	68	52.5	74.1	54.4	115		
LF2 coil (130°C)							
	61.6	50.4	66.5	51.5	115		
PCB near BD1 (130°C)							
	72.8	54.8	78.2	56.5	115		
C2 body (105°C)							
	62.6	54.5	68.6	56.7	90		
T1 coil (Class B)							
	66.9	63.2	72.2	65.2	95		
T1 core (Class B)							
	60.9	58.5	66.8	61.4	95		
PCB under T1 (130°C)							
	66.1	61.9	64.6	58.2	115		
CY1 body (125°C)							
	62.7	57.4	67	58.8	110		
IC1 body (110C)							
	62.8	59.5	63.9	58.8	95		
PCB near Q1 (130°C)							
	75.7	60.9	80.3	62.4	115		
PCB near D3 (130C)							
	65.1	63.5	67.2	63.8	115		
C6 body (105°C)							
	59.9	58.9	63.4	60.1	90		
C7 body (105°C)							
	57.2	55.6	60.8	56.9	90		
Internal plastic enclosure above T1							
	52	48.3	57.3	51	90		
External plastic enclosure above T1							
	43	41.1	54.7	49.4	77		
Output cord (80°C)							
	30.9	30.9	30.4	29.9	65		
Ambient							
	25	25	25	25	--		
Actual Ambient during test							
	40.0	40.0	40.0	40.1	--		
Adjustment to 25°C ambient							
	-15	-15	-15	-15.1	--		
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
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Supplementary information:							
* Temperature limit for TS1 of accessible enclosure according to Table 38.							
Note 1: The temperatures were measured under the worse case normal mode defined in clause B.2.1.							
Note 2: Having a specified maximum operational ambient temperature of 40°C for KPL-xy (PCB with FUSE1), KPL-xy, KPL-xy-VI (PCB with F1,F2 and x=065,066), GTR, 2ABF, 2ACL(xxx=050,060,065,068); 45°C for KPL-xy,KPL-xy-VI (PCB with F1,F2 and x=030, 040, 048, 050, 060); 50°C for 2ACL(xxx=025, 030), the maximum permitted temperatures (in °C) are calculated as follows:							
Winding components (providing safety isolation):							
Class B - Tmax = 120°C - 10°C = 110°C							

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Clause		Requirement + Test				Result - Remark		Verdict	
B.2.5		TABLE: Input test (Report 31581397.030)							P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status	
Model : PAA060M (24V/2.5A)									
90	60	1.201	--	67.7	--	F1	1.201	Max. Normal Load- 24V,2.5A	
100	50	1.050	1.7	67.4	--	F1	1.050	Same as above	
100	60	1.040	1.7	67.4	--	F1	1.040	Same as above	
240	50	0.550	1.7	67.0	--	F1	0.550	Same as above	
240	60	0.550	1.7	67.0	--	F1	0.550	Same as above	
264	50	0.510	--	67.0	--	F1	0.510	Same as above	
Model : 2ACL060MB (24V/2.5A)									
90	60	1.390	--	65.35	--	F1, F2	1.390	Max. Normal Load- 24V,2.5A	
100	50	1.250	1.7	64.93	--	F1, F2	1.250	Same as above	
100	60	1.300	1.7	64.88	--	F1, F2	1.300	Same as above	
240	50	0.750	1.7	65.16	--	F1, F2	0.750	Same as above	
240	60	0.720	1.7	64.89	--	F1, F2	0.720	Same as above	
264	50	0.690	--	64.42	--	F1, F2	0.690	Same as above	
Model : 2ACL068S(54V/1.25A)									
90	60	1.518	--	76.0	--	F1	1.518	Max. Normal Load- 54V/1.25A	
100	50	1.362	1.7	75.4	--	F1	1.362	Same as above	
100	60	1.393	1.7	75.4	--	F1	1.393	Same as above	
240	50	0.791	1.7	73.1	--	F1	0.791	Same as above	
240	60	0.760	1.7	73.1	--	F1	0.760	Same as above	
254	50	0.758	--	73.4	--	F1	0.758	Same as above	
264	50	0.737	--	73.8	--	F1	0.737	Same as above	
Model : KPL-065A-KV(36V/1.81A)									
90	60	1.520	--	73.8	--	F1,F2	1.520	Max. Normal Load- 36V/1.81A	
100	50	1.348	1.7	73.2	--	F1,F2	1.348	Same as above	
100	60	1.406	1.7	73.2	--	F1,F2	1.406	Same as above	
240	50	0.820	1.7	71.0	--	F1,F2	0.820	Same as above	
240	60	0.790	1.7	70.9	--	F1,F2	0.790	Same as above	
254	50	0.786	--	71.1	--	F1,F2	0.786	Same as above	
264	50	0.764	--	71.2	--	F1,F2	0.764	Same as above	
Model : KPL-065T-KV(52V/1.25A)									
90	60	1.497	--	72.4	--	F1,F2	1.497	Max. Normal Load- 52V/1.25A	
100	50	1.327	1.7	71.9	--	F1,F2	1.327	Same as above	
100	60	1.385	1.7	71.9	--	F1,F2	1.385	Same as above	
240	50	0.819	1.7	70.8	--	F1,F2	0.819	Same as above	
240	60	0.789	1.7	70.8	--	F1,F2	0.789	Same as above	

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Clause	Requirement + Test					Result - Remark		Verdict
254	50	0.787	--	71.1	--	F1,F2	0.787	Same as above
264	50	0.764	--	71.2	--	F1,F2	0.764	Same as above
Model : KPL-065P-KV(54V/1.20A)								
90	60	0.543	--	72.6	--	F1,F2	0.543	Max. Normal Load- 54V/1.2A
100	50	0.546	1.7	71.6	--	F1,F2	0.546	Same as above
100	60	0.524	1.7	71.6	--	F1,F2	0.524	Same as above
240	50	0.364	1.7	70.8	--	F1,F2	0.364	Same as above
240	60	0.376	1.7	70.8	--	F1,F2	0.376	Same as above
254	50	0.362	--	70.9	--	F1,F2	0.362	Same as above
264	50	0.356	--	71.0	--	F1,F2	0.356	Same as above
Model : KPL-066F-KV (12V/5.5A) (LF2: T12.7*7.9*5C)								
90	60	1.582	--	77.5	--	F1,F2	1.582	Max. Normal Load- 12V/5.5A
100	50	1.421	1.7	76.9	--	F1,F2	1.421	Same as above
100	60	1.450	1.7	76.8	--	F1,F2	1.450	Same as above
240	50	0.813	1.7	74.3	--	F1,F2	0.813	Same as above
240	60	0.776	1.7	74.3	--	F1,F2	0.776	Same as above
254	50	0.774	--	74.3	--	F1,F2	0.774	Same as above
264	50	0.749	--	74.4	--	F1,F2	0.749	Same as above
Model : 2ACL030B								
90	60	0.727	--	35.7	--	F1	0.727	Max. Normal Load- 5V,6A
100	60	0.676	1.7	35.4	--	F1	0.676	Same as above
240	50	0.405	1.7	35.0	--	F1	0.405	Same as above
264	50	0.391	--	35.1	--	F1	0.391	Same as above
Model : 2ACL025B								
90	60	0.619	--	29.4	--	F1	0.619	Max. Normal Load- 5V,5A
100	60	0.579	1.7	29.2	--	F1	0.579	Same as above
240	50	0.352	1.7	29.0	--	F1	0.352	Same as above
264	50	0.340	--	29.0	--	F1	0.340	Same as above
Model : KPL-030S-VI								
90	60	0.754	--	33.1	--	F1	0.754	Max. Normal Load- 48V,0.63A
100	60	0.708	1.7	32.8	--	F1	0.708	Same as above
240	50	0.414	1.7	33.1	--	F1	0.414	Same as above
264	50	0.391	--	33.7	--	F1	0.391	Same as above
Model : KPL-065U-VI								
90	60	1.472	--	74.5	--	F1	1.472	Max. Normal Load- 56V,1.16A
100	60	1.364	1.7	73.9	--	F1	1.364	Same as above
240	50	0.819	1.7	72.7	--	F1	0.819	Same as above

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Clause	Requirement + Test				Result - Remark			Verdict
264	50	0.769	--	72.7	--	F1	0.769	Same as above
Model : KPL-060U-VI								
90	60	1.381	--	68.6	--	F1	1.381	Max. Normal Load- 56V,1.07A
100	60	1.276	1.7	67.4	--	F1	1.276	Same as above
240	50	0.765	1.7	66.9	--	F1	0.765	Same as above
264	50	0.710	--	66.5	--	F1	0.710	Same as above
Model : KPL-050U-VI								
90	60	1.174	--	56.7	--	F1	1.174	Max. Normal Load- 56V,0.89A
100	60	1.096	1.7	56.4	--	F1	1.096	Same as above
240	50	0.647	1.7	55.1	--	F1	0.647	Same as above
264	50	0.604	--	55.4	--	F1	0.604	Same as above
Model : KPL-030U-VI								
90	60	0.775	--	33.5	--	F1	0.775	Max. Normal Load- 56V,0.54A
100	60	0.740	1.7	33.8	--	F1	0.740	Same as above
240	50	0.428	1.7	34.3	--	F1	0.428	Same as above
264	50	0.399	--	34.5	--	F1	0.399	Same as above
Model : GTR0382								
90	60	0.9108	--	46.302	--	F1	0.9108	Max. Normal Load-5.2V/3.8, 12V/1.5A
100	60	0.8510	1.2	46.780	--	F1	0.8510	Same as above
240	50	0.4791	1.2	45.376	--	F1	0.4791	Same as above
264	50	0.4566	--	45.855	--	F1	0.4566	Same as above
Model : 2ABF036F								
90	60	0.9028	--	40.932	--	F1	0.9028	Max. Normal Load- 12V,3.0A
100	60	0.8496	1.7	40.668	--	F1	0.8496	Same as above
240	50	0.4546	1.7	40.840	--	F1	0.4546	Same as above
264	50	0.4250	--	40.877	--	F1	0.4250	Same as above
Model : 2ACL060K								
90	60	1.3558	--	68.313	--	F1	1.3558	Max. Normal Load- 19V,3.16A
100	60	1.2719	1.7	67.825	--	F1	1.2719	Same as above
240	50	0.7209	1.7	66.901	--	F1	0.7209	Same as above
264	50	0.6873	--	66.895	--	F1	0.6873	Same as above
Model : 2ACL060M								

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Clause	Requirement + Test					Result - Remark		Verdict
90	60	1.3613	--	67.518	--	F1	1.3613	Max. Normal Load- 24V,2.5A
100	60	1.2652	1.7	67.803	--	F1	1.2652	Same as above
240	50	0.7264	1.7	66.716	--	F1	0.7264	Same as above
264	50	0.6856	--	67.186	--	F1	0.6856	Same as above
Model : 2ACL060R								
90	60	1.3467	--	68.212	--	F1	1.3467	Max. Normal Load- 48V,1.25A
100	60	1.2492	1.7	67.729	--	F1	1.2492	Same as above
240	50	0.7201	1.7	66.908	--	F1	0.7201	Same as above
264	50	0.6763	--	66.754	--	F1	0.6763	Same as above
Model : 2ACL065R								
90	60	1.4264	--	71.619	--	F1	1.4264	Max. Normal Load- 48V,1.35A
100	60	1.3103	1.7	71.063	--	F1	1.3103	Same as above
240	50	0.7564	1.7	69.894	--	F1	0.7564	Same as above
264	50	0.7136	--	70.323	--	F1	0.7136	Same as above
Model : 2ACL060S								
90	60	1.3455	--	67.986	--	F1	1.3455	Max. Normal Load- 54V,1.1A
100	60	1.2473	1.7	67.487	--	F1	1.2473	Same as above
240	50	0.7192	1.7	66.235	--	F1	0.7192	Same as above
264	50	0.6838	--	67.051	--	F1	0.6838	Same as above
Model : 2ACL065S								
90	60	1.4630	--	73.999	--	F1	1.4630	Max. Normal Load- 54V,1.2A
100	60	1.3531	1.7	73.380	--	F1	1.3531	Same as above
240	50	0.7860	1.7	72.148	--	F1	0.7860	Same as above
264	50	0.7383	--	71.864	--	F1	0.7383	Same as above
Model : 2ACL050U								
90	60	1.1619	--	57.647	--	F1	1.1619	Max. Normal Load- 56V,0.9A
100	60	1.0829	1.7	57.345	--	F1	1.0829	Same as above
240	50	0.6191	1.7	56.403	--	F1	0.6191	Same as above
264	50	0.5826	--	56.816	--	F1	0.5826	Same as above
Model : 2ACL060U								
90	60	1.3762	--	68.635	--	F1	1.3762	Max. Normal Load- 56V,1.07A
100	60	1.2769	1.7	68.133	--	F1	1.2769	Same as above
240	50	0.7377	1.7	67.704	--	F1	0.7377	Same as above
264	50	0.6928	--	67.784	--	F1	0.6928	Same as above

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Clause		Requirement + Test				Result - Remark		Verdict
Model : 2ACL065U								
90	60	1.4788	--	75.120	--	F1	1.4788	Max. Normal Load- 56V,1.16A
100	60	1.3677	1.7	74.466	--	F1	1.3677	Same as above
240	50	0.7936	1.7	73.129	--	F1	0.7936	Same as above
264	50	0.7461	--	73.083	--	F1	0.7461	Same as above
Model : 2ABF048F								
90	50	1.08	--	53.5	--	F1	1.08	Max. Normal Load: 12V,4A
90	60	1.12	--	53.5	--	F1	1.12	Same as above
100	50	1.01	1.7	53.5	--	F1	1.01	Same as above
100	60	1.04	1.7	53.5	--	F1	1.04	Same as above
240	50	0.63	1.7	55.3	--	F1	0.63	Same as above
240	60	0.61	1.7	55.3	--	F1	0.61	Same as above
254	50	0.60	--	55.3	--	F1	0.60	Same as above
254	60	0.59	--	55.3	--	F1	0.59	Same as above
264	50	0.58	--	55.3	--	F1	0.58	Same as above
264	60	0.57	--	55.3	--	F1	0.57	Same as above
Model : 2ABF060F								
90	50	1.35	--	67.3	--	F1	1.35	Max. Normal Load: 12V,5A
90	60	1.41	--	67.3	--	F1	1.41	Same as above
100	50	1.26	1.7	67.0	--	F1	1.26	Same as above
100	60	1.30	1.7	67.0	--	F1	1.30	Same as above
240	50	0.76	1.7	65.5	--	F1	0.76	Same as above
240	60	0.73	1.7	65.5	--	F1	0.73	Same as above
254	50	0.72	--	65.5	--	F1	0.72	Same as above
254	60	0.70	--	65.5	--	F1	0.70	Same as above
264	50	0.70	--	65.5	--	F1	0.70	Same as above
264	60	0.68	--	65.5	--	F1	0.68	Same as above
Model : 2ABF065F								
90	50	1.45	--	73.5	--	F1	1.45	Max. Normal Load: 12V,5.4A
90	60	1.51	--	73.6	--	F1	1.51	Same as above
100	50	1.34	1.7	73.0	--	F1	1.34	Same as above
100	60	1.39	1.7	73.1	--	F1	1.39	Same as above
240	50	0.81	1.7	71.0	--	F1	0.81	Same as above
240	60	0.79	1.7	71.0	--	F1	0.79	Same as above
254	50	0.78	--	71.0	--	F1	0.78	Same as above
254	60	0.76	--	71.0	--	F1	0.76	Same as above
264	50	0.76	--	71.0	--	F1	0.76	Same as above
264	60	0.74	--	71.0	--	F1	0.74	Same as above

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Clause	Requirement + Test					Result - Remark		Verdict

Model : 2ABF060R								
90	50	1.29	--	65.2	--	F1	1.29	Max. Normal Load: 48V, 1.25A
90	60	1.33	--	65.3	--	F1	1.33	Same as above
100	50	1.20	1.7	65.0	--	F1	1.20	Same as above
100	60	1.24	1.7	65.1	--	F1	1.24	Same as above
240	50	0.74	1.7	64.2	--	F1	0.74	Same as above
240	60	0.72	1.7	64.1	--	F1	0.72	Same as above
254	50	0.71	--	64.1	--	F1	0.71	Same as above
254	60	0.68	--	64.1	--	F1	0.68	Same as above
264	50	0.68	--	64.1	--	F1	0.68	Same as above
264	60	0.66	--	64.1	--	F1	0.66	Same as above
Model : KPL-060I-VI (16Vdc / 3.75A)								
90	60	1.387	--	68.77	--	F1, F2	1.387	Max. Normal Load: 16Vdc / 3.75A
100	60	1.291	1.7	68.25	--	F1, F2	1.291	Same as above
240	50	0.740	1.7	66.69	--	F1, F2	0.740	Same as above
264	50	0.700	--	67.02	--	F1, F2	0.700	Same as above
Model : KPL-066F-VI (12Vdc / 5.5A)								
90	60	1.522	--	76.34	--	F1, F2	1.522	Max. Normal Load: 12Vdc / 5.5A
100	60	1.41	1.7	76.22	--	F1, F2	1.41	Same as above
240	50	0.82	1.7	74.04	--	F1, F2	0.82	Same as above
264	50	0.763	--	75.00	--	F1, F2	0.763	Same as above
Model : KPL-065J-VI (18Vdc / 3.61A)								
90	60	1.491	--	75.03	--	F1, F2	1.491	Max. Normal Load: 18Vdc / 3.61A
100	60	1.375	1.7	74.35	--	F1, F2	1.375	Same as above
240	50	0.797	1.7	73.05	--	F1, F2	0.797	Same as above
264	50	0.745	--	73.47	--	F1, F2	0.745	Same as above
Model : KPL-065M-VI (24Vdc / 2.71A)								
90	60	1.485	--	75.45	--	F1, F2	1.485	Max. Normal Load: 24Vdc / 2.71A
100	60	1.380	1.7	74.45	--	F1, F2	1.380	Same as above
240	50	0.796	1.7	72.33	--	F1, F2	0.796	Same as above
264	50	0.746	--	72.63	--	F1, F2	0.746	Same as above
Model : KPL-065S-VI (48Vdc / 1.35A)								
90	60	1.440	--	72.06	--	F1, F2	1.440	Max. Normal Load: 48Vdc / 1.35A
100	60	1.335	1.7	71.50	--	F1, F2	1.335	Same as above

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Clause	Requirement + Test				Result - Remark			Verdict
240	50	0.775	1.7	69.74	--	F1, F2	0.775	Same as above
264	50	0.726	--	70.06	--	F1, F2	0.726	Same as above
Model : KPL-060I (14Vdc / 4.29A)								
90	50	1.263	--	69.3		FUSE1	1.263	Max. Normal Load: 14Vdc / 4.29A
90	60	1.276	--	69.3		FUSE1	1.276	Same as above
100	50	1.157	1.7	68.6		FUSE1	1.157	Same as above
100	60	1.169	1.7	68.8		FUSE1	1.169	Same as above
240	50	0.532	1.7	67.5		FUSE1	0.532	Same as above
240	60	0.525	1.7	67.5	--	FUSE1	0.525	Same as above
254.4	50	0.509	--	67.4	--	FUSE1	0.509	Same as above
254.4	60	0.502	--	67.4	--	FUSE1	0.502	Same as above
264	50	0.494	--	67.2	--	FUSE1	0.494	Same as above
264	60	0.488	--	67.3	--	FUSE1	0.488	Same as above
Model : KPL-065F (12Vdc / 5.42A)								
90	50	1.359	--	75.3	--	FUSE1	1.359	Max. Normal Load: 12Vdc / 5.42A
90	60	1.371	--	75.2	--	FUSE1	1.371	Same as above
100	50	1.241	1.7	74.4	--	FUSE1	1.241	Same as above
100	60	1.253	1.7	74.5	--	FUSE1	1.253	Same as above
240	50	0.572	1.7	73.2	--	FUSE1	0.572	Same as above
240	60	0.563	1.7	73.2	--	FUSE1	0.563	Same as above
254.4	50	0.546	--	73.0	--	FUSE1	0.546	Same as above
254.4	60	0.538	--	73.0	--	FUSE1	0.538	Same as above
264	50	0.531	--	73.0	--	FUSE1	0.531	Same as above
264	60	0.524	--	73.0	--	FUSE1	0.524	Same as above
Model : KPL-065J (18Vdc / 3.61A)								
90	50	1.356	--	75.4	--	FUSE1	1.356	Max. Normal Load: 18Vdc / 3.61A
90	60	1.369	--	75.3	--	FUSE1	1.369	Same as above
100	50	1.237	1.7	74.5	--	FUSE1	1.237	Same as above
100	60	1.252	1.7	74.6	--	FUSE1	1.252	Same as above
240	50	0.572	1.7	73.3	--	FUSE1	0.572	Same as above
240	60	0.565	1.7	73.4	--	FUSE1	0.565	Same as above
254.4	50	0.549	--	73.3	--	FUSE1	0.549	Same as above
254.4	60	0.542	--	73.5	--	FUSE1	0.542	Same as above
264	50	0.534	--	73.4	--	FUSE1	0.534	Same as above
264	60	0.528	--	73.5	--	FUSE1	0.528	Same as above
Model : KPL-065M (24Vdc / 2.71A)								
90	50	1.333	--	73.7	--	FUSE1	1.333	Max. Normal Load: 24Vdc / 2.71A
90	60	1.347	--	73.7	--	FUSE1	1.347	Same as above

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Clause	Requirement + Test					Result - Remark		Verdict
100	50	1.223	1.7	72.8	--	FUSE1	1.223	Same as above
100	60	1.234	1.7	73.1	--	FUSE1	1.234	Same as above
240	50	0.560	1.7	71.2	--	FUSE1	0.560	Same as above
240	60	0.551	1.7	71.3	--	FUSE1	0.551	Same as above
254.4	50	0.537	--	71.5	--	FUSE1	0.537	Same as above
254.4	60	0.529	--	71.5	--	FUSE1	0.529	Same as above
264	50	0.524	--	72.1	--	FUSE1	0.524	Same as above
264	60	0.518	--	72.3	--	FUSE1	0.518	Same as above
Supplementary information:								
The maximum measured current under rated voltage did not exceed 110% of the rated current.								

B.3, B.4		TABLE: Abnormal operating and fault condition tests (Report 31581397.030) (Report 31581397.036)					P
Ambient temperature T _{amb} (°C)..... :					25 oC, if not specified		—
Power source for EUT: Manufacturer, model/type, outputrating . :					--		—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
Model: PAA060M							
BD1 AC to +	s-c	240	1 sec	F1	--	F1 opened, no hazards	
C2	s-c	240	1 sec	F1	--	F1 opened, no hazards	
Q1 pin 2 – 1	s-c	240	1 sec	F1	--	F1 opened, R19, R20, D6, Q1 damaged, no hazards	
Q1 pin 2 – 3	s-c	240	1 sec	F1	--	F1 opened, R22, R21, Q1 damaged, no hazards	
T1 pin 1 – 3	s-c	240	45 min	F1	0.05	Unit shut down, no components damaged, T1 = 34°C, no hazards	
T1 pin 9 – 10	s-c	240	40 min	F1	0.05	Unit shut down, no components damaged, T1 = 32°C, no hazards	
U2 pin 3 – 7	s-c	240	35 min	F1	0.05	Unit shut down, no components damaged, T1 = 33°C, no hazards	
U2 pin 1 – 2	s-c	240	30 min	F1	0.05	Unit shut down, no components damaged, T1 = 36°C, no hazards	
D1	s-c	240	25 min	F1	0.05	Unit shut down, no components damaged, T1 = 37°C, no hazards	
R16	s-c	240	1 sec	F1	--	F1 opened, SCR1, Q1, D7 damaged, no hazards	
U1 pin 3 – 8	s-c	240	40 min	F1	0.06	Unit shut down, no components damaged, T1 = 39°C, no hazards	
Output +24V	Overload	240V	4hours	F1	0.555	Temp. was stable at load	

IEC 62368-1						
Clause	Requirement + Test				Result - Remark	
MODEL: PAA060M						3.05A, Maximum temperature Ambient=30.7°C, T1 coil=101.6°C, T1 core=94.0°C, Enclosure outside near T1=67.6°C unit shutdown at load 3.0A No hazardous; Hi-pot passes
Varistor(*Test were performed on product with each source listed in table 4.1.2)	Overload (G.8.2.2)	480V	4h 52min	F1	--	Test resistor R _x : 3840Ω→1920Ω→960Ω→480 Ω→240Ω→0Ω Observations: The test was continued until temperature stability, no damaged
Model: 2ACL060MB						
BD1(+ ~ -)	Short (SC)	264V	1 sec	F1	--	F1 opened, No hazardous; Hi-pot passes
C2	Short (SC)	264V	1 sec	F1	--	F1 opened,BD1damaged No hazardous; Hi-pot passes
Q1(D-G)	S-c	240V	1 sec.	F1	--	F1 opened, BD1,Q1,R48,D5,IC3,R27,R2 8,R9,R15,R16,R18damaged No hazardous, Hi-pot passes.
Q1(D-S)	S-c	240V	1 sec.	F1	--	F1 opened BD1,Q1, R9,R15,R16,R18,R28,IC3 damaged No hazardous, Hi-pot passes.
Q1(G-S)	S-c	240V	10 mins	F1	0.026	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC1 (1-2)	Short (SC)	264V	10 mins	F1	0.026	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC1 (3-4)	Short (SC)	264V	10 mins	F1	0.026	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC3 (5-1)	Short (SC)	264V	10 mins	F1	0.026	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC3 (5-2)	Short (SC)	264V	10 mins	F1	0.026	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC2 (2-3)	Short (SC)	264V	10 mins	F1	0.026	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
R9	Short (SC)	264V	10 mins	F1	0.65	Normal working No hazard, Hi-pot passes.

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
C19	Short (SC)	264V	10 mins	F1	0.026	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
D3	Short (SC)	264V	10 mins	F1	0.026	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
T1 pin 1 to 3	Short (SC)	264V	10 mins	F1	0.027~0.06	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
T1 pin 4 to 6	Short (SC)	264V	10 mins	F1	0.027~0.05	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
T1 pin 8 to 11	Short (SC)	264V	10 mins	F1	0.027~0.057	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
Output +12V	Short (SC)	264V	10 mins	F1	0.027~0.075	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
Output+24V Model 2ACL060MB	Overload (OL)	240V	4 hours	F1	0.819	Temp. was stable at load 4.2A, Maximum temperature Ambient=33.5°C, T1 coil=113.4°C, T1 core=100.9°C, outside Enclosure near T1=65.8°C unit shutdown at load 6.5 A No hazardous; Hi-pot passes
Varistor(*Test were performed on product with each source listed in table 4.1.2)	Overload (G.8.2.2)	480V	4 hours	F1	--	Test resistor R _x : 3840Ω→1920Ω→960Ω→480Ω→240Ω→0Ω Observations: The test was continued until temperature stability, no damaged
Model: 2ACL068S						
BD1	Short (SC)	240V	1 sec	F1,F2	--	F1, F2 ,BD1 opened No hazardous; Hi-pot passes
C2	Short (SC)	240V	1 sec	F1,F2	--	F1, F2 ,BD1 opened No hazardous; Hi-pot passes
Q1 (G-S)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
Q1 (D-S)	Short (SC)	240V	1 sec	F1,F2	--	F1, F2 , opened R9, R15, R16, R18,R23, Q1 damaged No hazardous; Hi-pot passes
Q1 (D-G)	Short (SC)	240V	1 sec	F1,F2	--	F1, F2 , opened R9, R15, R16, R18,R23, Q1 damaged

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Clause	Requirement + Test				Result - Remark	Verdict
						No hazardous; Hi-pot passes
R9	Short (SC)	240V	30mins	F1,F2	0.818	Normal working, PF=0.362 No hazardous; Hi-pot passes
IC3 (1-5)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC3 (2-5)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, IC3 damaged No hazardous; Hi-pot passes
IC1 (1-2)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC1 (3-4)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
Q2 (D-S)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
T1 (1-3)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
T1 (4-6)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
T1 (8, 9 – 11, 12)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
Output	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
Output MODEL: 2ACL0068S	Overload	240V	5.5hr	F1	0.634	Temp. was stable at load 1.46A, Maximum temperature Ambient=28.7°C, T1 coil=90.0°C, T1 core=81.7°C, External plastic enclosure above T1=58.4°C, No hazardous; Hi-pot passes
Output MODEL: 2ACL030B	Overload	240V	4hr	F1,F2	0.339	Temp. was stable at load 7.6A, Maximum temperature Ambient=30.1°C, T1 coil=83.0°C, T1 core=78.8°C, External plastic enclosure above T1=58.2°C No hazardous; Hi-pot passes
Output	Overload	240V	4hr	F1,F2	0.651	Temp. was stable at load

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Clause	Requirement + Test				Result - Remark	
MODEL: 2ACLO60K						4.3A, Maximum temperature Ambient=24.7°C, T1 coil=97.8°C, T1 core=92.1°C, External plastic enclosure above T1=63.9°C No hazardous; Hi-pot passes
Output MODEL: 2ACLO60M	Overload	240V	4hr	F1,F2	0.676	Temp. was stable at load 3.3A, Maximum temperature Ambient=26.0°C, T1 coil=90.5°C, T1 core=87.3°C, External plastic enclosure above T1=58.6°C No hazardous; Hi-pot passes
Output MODEL: 2ACLO65R	Overload	240V	4hr	F1,F2	0.756	Temp. was stable at load 1.9A, Maximum temperature Ambient=25.5°C, T1 coil= 104.8°C, T1 core=97.5°C, External plastic enclosure above T1=65.0°C No hazardous; Hi-pot passes
Output MODEL: 2ACLO65U	Overload	240V	4hr	F1,F2	0.743	Temp. was stable at load 1.48A, Maximum temperature Ambient=24.6°C, T1 coil= 110.4°C, T1 core=103°C External plastic enclosure above T1=72.4°C No hazardous; Hi-pot passes
Varistor(*Test were performed on product with each source listed in table 4.1.2)	Overload (G.8.2.2)	480V	4 hours	F1	--	Test resistor R _x : 3840Ω→1920Ω→960Ω→480 Ω→240Ω→0Ω Observations: The test was continued until temperature stability, no damaged
Model: KPL-065A-KV (F1: T8A, F2:T3.15A)						
LF1 Pin 1-2	Short (SC)	240V	1 sec	F1, F2	--	F1,F2 opened, No hazardous; Hi-pot passes
LF2 Pin 1-2	Short (SC)	240V	1 sec	F1, F2	--	F1,F2 opened, No hazardous; Hi-pot passes
BD1 Pin 2-3	Short (SC)	240V	1 sec	F1, F2	--	F1,F2 opened, No hazardous; Hi-pot passes
C2	Short (SC)	240V	1 sec	F1, F2	--	F1,F2 opened, No hazardous; Hi-pot passes
Q1 Pin G-S	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately,

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Clause	Requirement + Test				Result - Remark	Verdict
						recoverable No hazardous; Hi-pot passes
Q1 Pin S-D	Short (SC)	240V	1 sec	F1, F2	--	F1,F2 opened, BD1, R9, R15, R16, R18,R23, Q1 damaged No hazardous; Hi-pot passes
Q1 Pin G-D	Short (SC)	240V	1 sec	F1, F2	--	F1,F2 opened, BD1, R9, R15, R16, R18,R23, Q1 damaged No hazardous; Hi-pot passes
R6	Open (O-C)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
R23	Short (SC)	240V	1 sec	F1, F2	--	F1,F2 opened, BD1, Q1 damaged No hazardous; Hi-pot passes
D2	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
D3	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC1 Pin 1-2	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC1 Pin 3-4	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC1 Pin 1	Open (OC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC1 Pin 3	Open (OC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC3 Pin 1-5	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC3 Pin 2-5	Short (SC)	240V	1 sec	F1, F2	0.023	Unit shutdown immediately, IC3 damaged No hazardous; Hi-pot passes
T1 Pin 1-4	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
T1 Pin 3-6	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
T1 Pin 8 – 11, 12	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
Output MODEL: KPL-	Short (SC)	240V	30mins	F1, F2	0.023	Unit shut down No hazardous; Hi-pot passes

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Clause	Requirement + Test				Result - Remark		Verdict
065A-KV							
Output MODEL: KPL-065A-KV	Overload	240V	6hr	F1, F2	1.03	Temp. was stable at load 2.47A, Maximum temperature Ambient=28.3°C, T1 coil=92.4°C, T1 core=83.3°C No hazardous; Hi-pot passes	
Varistor(*Test were performed on product with each source listed in table 4.1.2)	Overload (G.8.2.2)	480V	4 hours	F1	--	Test resistor R _x : 3840Ω→1920Ω→960Ω→480Ω→240Ω→0Ω Observations: The test was continued until temperature stability, no damaged	
Model: 2ACL030B							
T1 pin 1 to 3	Short (SC)	240V	30mins	F1	0.025→0.116	Unit shut down No hazardous; Hi-pot passes	
T1 pin 4 to 6	Short (SC)	240V	30mins	F1	0.025→0.185	Unit shut down No hazardous; Hi-pot passes	
T1 pin 7 to 8,9	Short (SC)	240V	30mins	F1	0.025→0.076	Unit shut down No hazardous; Hi-pot passes	
T1 pin 8,9 to 11,12	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes	
Q2 (D-S)	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes	
Output MODEL: 2ACL030B	Short (SC)	240V	30mins	F1	0.025→0.091	Unit shut down No hazardous; Hi-pot passes	
Output MODEL: 2ACL030B	Overload	240V	4hr	F1	0.339	Temp. was stable at load 7.6A, Maximum temperature Ambient=30.1°C, T1 coil=83.0°C, T1 core=78.8°C No hazardous; Hi-pot passes	
Varistor(*Test were performed on product with each source listed in table 4.1.2)	Overload (G.8.2.2)	480V	4 hours	F1	--	Test resistor R _x : 3840Ω→1920Ω→960Ω→480Ω→240Ω→0Ω Observations: The test was continued until temperature stability, no damaged	
Model: KPL-065U-VI							
T1 pin 1 to 4	Short (SC)	240V	30mins	F1	0.024	Unit shut down No hazardous; Hi-pot passes	
T1 pin 3 to 6	Short (SC)	240V	30mins	F1	0.024	Unit shut down No hazardous; Hi-pot passes	
T1 pin 8,9 to	Short (SC)	240V	30mins	F1	0.024	Unit shut down	

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Clause	Requirement + Test				Result - Remark	
11,12						No hazardous; Hi-pot passes
D3	Short (SC)	240V	30mins	F1	0.024	Unit shut down No hazardous; Hi-pot passes
Output MODEL: KPL065U	Short (SC)	240V	30mins	F1	0.024	Unit shut down No hazardous; Hi-pot passes
Output MODEL: KPL065U	Overload	240V	4hr	F1	0.718	Temp. was stable at load 1.64A, Maximum temperature Ambient=30.8°C, T1 coil=113.9°C, T1 core=109.8°C No hazardous; Hi-pot passes
Varistor(*Test were performed on product with each source listed in table 4.1.2)	Overload (G.8.2.2)	480V	4 hours	F1	--	Test resistor R _x : 3840Ω→1920Ω→960Ω→480 Ω→240Ω→0Ω Observations: The test was continued until temperature stability, no damaged
Model: GTR0382						
BD1(+ ~ -)	Short (SC)	240V	1 sec	F1	--	F1 opened,BD1,damaged No hazardous; Hi-pot passes
C2	Short (SC)	240V	1 sec	F1	--	F1 opened,BD1,damaged No hazardous; Hi-pot passes
Q1 (G-S)	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes
Q1 (G-D)	Short (SC)	240V	1 sec	F1	--	F1 opened, Q1,IC3,BD1,D5,R9,R15,R16 damaged No hazardous; Hi-pot passes
Q1 (D-S)	Short (SC)	240V	1 sec	F1	--	F1 opened, Q1,IC3,BD1,R9,R15,R16 damaged No hazardous; Hi-pot passes
R9	Short (SC)	240V	30mins	F1	0.025→0.097	Unit shut down No hazardous; Hi-pot passes
IC1 (1-2)	Short (SC)	240V	30mins	F1	0.025→0.081	Unit shut down No hazardous; Hi-pot passes
IC1 (3-4)	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes
IC3 (5-1)	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes
IC3 (5-2)	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes
T1 pin 1 to 3	Short (SC)	240V	30mins	F1	0.106→0.178	Unit shut down No hazardous; Hi-pot passes
T1 pin 6 to 7	Short (SC)	240V	30mins	F1	0.025→0.038	Unit shut down No hazardous; Hi-pot passes
T1 pin10 to 12	Short (SC)	240V	30mins	F1	0.025→0.	Unit shut down

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Clause	Requirement + Test				Result - Remark	
					073	No hazardous; Hi-pot passes
Q2 (D-S)	Short (SC)	240V	30mins	F1	0.025→0.039	Unit shut down No hazardous; Hi-pot passes
Output +5.2V	Short (SC)	240V	30mins	F1	0.227	+5.2V output shut down, +12V output normal working No hazardous; Hi-pot passes
Output +12V	Short (SC)	240V	30mins	F1	0.025→0.097	Unit shut down No hazardous; Hi-pot passes
Output +12V	Overload	240V	9hr	F1	0.510	Temp. was stable at load 3.3A, Maximum temperature Ambient=33.0°C, T1 coil=122.8°C, T1 core=118.2°C No hazardous; Hi-pot passes
Varistor(*Test were performed on product with each source listed in table 4.1.2)	Overload (G.8.2.2)	480V	4 hours	F1	--	Test resistor R _x : 3840Ω→1920Ω→960Ω→480Ω→240Ω→0Ω Observations: The test was continued until temperature stability, no damaged
Model: 2ACL						
BD1(+ ~ -)	Short (SC)	240V	1 sec	F1	--	F1 opened, BD1, TH1, damaged No hazardous; Hi-pot passes
C2	Short (SC)	240V	1 sec	F1	--	F1 opened, BD1, TH1, damaged No hazardous; Hi-pot passes
Q1 (G-S)	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes
Q1 (G-D)	Short (SC)	240V	1 sec	F1	--	F1 opened, Q1, IC3, BD1, TH1, R9, R15, R16, R18, R23 damaged No hazardous; Hi-pot passes
Q1 (D-S)	Short (SC)	240V	1 sec	F1	--	F1 opened, Q1, IC3, BD1, TH1, R9, R15, R16, R18, R23 damaged No hazardous; Hi-pot passes
R9	Short (SC)	240V	30mins	F1	0.025→0.177	Unit shut down No hazardous; Hi-pot passes
IC1 (1-2)	Short (SC)	240V	30mins	F1	0.025→0.142	Unit shut down No hazardous; Hi-pot passes
IC1 (3-4)	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes
IC3 (5-1)	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes
IC3 (5-2)	Short (SC)	240V	30mins	F1	0.025	Unit shut down, IC3

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Clause	Requirement + Test				Result - Remark	Verdict
						damaged No hazardous; Hi-pot passes
T1 pin 1 to 3	Short (SC)	240V	30mins	F1	0.028→0.084	Unit shut down No hazardous; Hi-pot passes
T1 pin 4 to 6	Short (SC)	240V	30mins	F1	0.027→0.33	Unit shut down No hazardous; Hi-pot passes
T1 pin 8,9 to 11,12	Short (SC)	240V	30mins	F1	0.025→0.068	Unit shut down No hazardous; Hi-pot passes
Q2 (D-S)	Short (SC)	240V	30mins	F1	0.025→0.072	Unit shut down No hazardous; Hi-pot passes
Output MODEL: 2ACL060K	Short (SC)	240V	30mins	F1	0.026→0.094	Unit shut down No hazardous; Hi-pot passes
Output MODEL: 2ACL060K	Overload	240V	4hr	F1	0.651	Temp. was stable at load 4.3A, Maximum temperature Ambient=24.7°C, T1 coil=97.8°C, T1 core=92.1°C No hazardous; Hi-pot passes
Output MODEL: 2ACL060M	Short (SC)	240V	30mins	F1	0.027→0.092	Unit shut down No hazardous; Hi-pot passes
Output MODEL: 2ACL060M	Overload	240V	4hr	F1	0.676	Temp. was stable at load 3.3A, Maximum temperature Ambient=24.7°C, T1 coil=90.5°C, T1 core=87.3°C No hazardous; Hi-pot passes
Output MODEL: 2ACL065R	Short (SC)	240V	30mins	F1	0.025→0.074	Unit shut down No hazardous; Hi-pot passes
Output MODEL: 2ACL065R	Overload	240V	4hr	F1	0.756	Temp. was stable at load 1.9A, Maximum temperature Ambient=25.5°C, T1 coil=104.8°C, T1 core=97.5°C No hazardous; Hi-pot passes
Output MODEL: 2ACL065U	Short (SC)	240V	30mins	F1	0.034→0.082	Unit shut down No hazardous; Hi-pot passes
Output MODEL: 2ACL065U	Overload	240V	4hr	F1	0.743	Temp. was stable at load 1.48A, Maximum temperature Ambient=24.6°C, T1 coil=110.4°C, T1 core=103°C No hazardous; Hi-pot passes

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Clause	Requirement + Test			Result - Remark		Verdict
Varistor(*Test were performed on product with each source listed in table 4.1.2)	Overload (G.8.2.2)	480V	4 hours	F1	--	Test resistor R _x : 3840Ω→1920Ω→960Ω→480Ω→240Ω→0Ω Observations: The test was continued until temperature stability, no damaged
Model: 2ABF						
BD1(+ ~ -)	S-C	240	1s	F1	--	F1 open, no hazards, Hi-pot passes
C1	S-C	240	1s	F1	--	F1 open, no hazards, Hi-pot passes
Q2(D-G)	S-C	240	1s	F1	--	F1 open, Q2, R34, R35, R36, R37, R38 damage, no hazards.
Q2(G-S)	S-C	240	30mins	F1	0.79 to 0.03	Unit shutdown immediately, No damage, no hazards. Hi-pot passes
Q2(D-S)	S-C	240	1s	F1	--	F1 open, Q2, R34, R35, R36, R37, R38 damage, no hazards. Hi-pot passes
R36	S-C	240	1s	F1	--	F1 open, Q2, U2, BD1 damage, no hazards. Hi-pot passes
U4(1-2)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
U4(3-4)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
U4(1)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
U4(3)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
T1(1-3)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
T1(4-6)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
T1(8,9-11,12)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
U2(5-2)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
U2(5-2)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
Output Model: 2ABF065F	O-L	240	5hrs	F1	0.77 to 0.86 to 0.91 to 0.2	Temp. was stable at load 6.65A, Maximum temperature Ambient=26°C, T1 coil=81.1°C, T1 core=74.5°C, Unit shutdown at load 7.0A,

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Clause	Requirement + Test				Result - Remark	Verdict
						No damage. No hazard.
Output Model: 2ABF065F	S-C	240	30mins	F1	0.77 to 0.03	Unit shutdown immediately. No damage. No hazard.
Output Model: 2ABF060R	O-L	240	5hrs	F1	0.83 to 0.93 to 0.98 to 0.2	Temp. was stable at load 1.9A, Maximum temperature Ambient=25.3°C, T1 coil=92.9°C, T1 core=79.6°C, Unit shutdown at load 2.0A. No damage. No hazard.
Output Model: 2ABF065F	S-C	240	30 mins	F1	0.83 to 0.03	Unit shutdown immediately. No damage. No hazard.
Varistor(*Test were performed on product with each source listed in table 4.1.2)	Overload (G.8.2.2)	480V	4 hours	F1	--	Test resistor R _x : 3840Ω→1920Ω→960Ω→480Ω→240Ω→0Ω Observations: The test was continued until temperature stability, no damaged
Model: KPL-060I-VI						
Output	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Output	o-l	240V	6 hrs 34 mins	F1, F2	0.928	Unit shut down. IP(IC3) CT(Max. temp: T1 coil=83.0 °C, T1 core=71.8 °C, Ambient=25.8°C) Max overload current 4.7 A NC, NT, NB. No hazards
LF1 Pin 1-2	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately NC, NT, NB. No hazards
LF2 Pin 1-2	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately NC, NT, NB. No hazards
BD1 Pin 2-3	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately CD(BD1) NC, NT, NB. No hazards
C2	s-c	240V	<1 sec	F1, F2	-	F1, F2 opened immediately NC, NT, NB. No hazards
Q1 Pin G-S	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards.
Q1 Pin S-D	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
Q1 Pin G-D	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately

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Clause	Requirement + Test				Result - Remark	Verdict
						CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
R6	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
R23	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(Q1, BD1) NC, NT, NB. No hazards
D2	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
D3	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 1-2	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 3-4	s-c	240V	10mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 1	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 3	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 1-5	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 2-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 3-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 4-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 6-5	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(IC3, BD1, Q1, R9, R15, R16, R18, R23) NC, NT, NB. No hazards
T1 Pin 1-4	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
T1 Pin 3-6	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
T1 Pin 8, 9 – 11, 12	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
Model: KPL-066F-VI						
Output	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
Output	o-l	240V	17Hours	F1, F2	1.01	CT(Max. temp: T1 coil=100.8C, T1 core=87.3C,

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Clause	Requirement + Test			Result - Remark		Verdict
			25mins			Ambient=26.5C) Max overload current 7.16 A NC, NT, NB. No hazards
LF1 Pin 1-2	s-c	240V	<1 sec	F1, F2	--	F1, F2 opened immediately NC, NT, NB. No hazards
LF2 Pin 1-2	s-c	240V	<1 sec	F1, F2	--	F1, F2 opened immediately NC, NT, NB. No hazards
BD1 Pin 2-3	s-c	240V	<1 sec	F1, F2	--	F1, F2 opened immediately CD (BD1) NC, NT, NB. No hazards
C2	s-c	240V	<1 sec	F1, F2	--	F1, F2 opened immediately NC, NT, NB. No hazards
Q1 Pin G-S	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards.
Q1 Pin S-D	s-c	240V	<1 sec	F1, F2	--	F1, F2 opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
Q1 Pin G-D	s-c	240V	<1 sec	F1, F2	--	F1, F2 opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
R6	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
R23	s-c	240V	<1 sec	F1, F2	-	F1, F2 opened immediately CD(Q1, BD1) NC, NT, NB. No hazards
D2	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
D3 D6	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 1-2	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 3-4	s-c	240V	10mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 1	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 3	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC3 Pin 1-5	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 2-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards

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Clause	Requirement + Test				Result - Remark	Verdict
IC3 Pin 3-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 4-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 6-5	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD (IC3, BD1, Q1, R9, R15, R16, R18, R23), NC, NT, NB. No hazards
T1 Pin 1-4	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 3-6	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 8, 9 – 11, 12	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Varistor(*Test were performed on product with each source listed in table 4.1.2)	Overload (G.8.2.2)	480V	4 hours	F1	--	Test resistor R _x : 3840Ω→1920Ω→960Ω→480 Ω→240Ω→0Ω Observations: The test was continued until temperature stability, no damaged
Model: KPL-065J-VI						
Output	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Output	o-l	240V	18Hour	F1, F2	0.983	CT (Max. temp: T1 coil=86.2 °C, T1 core=72.6 °C, Ambient=25.1°C) Max overload current 4.5 A NC, NT, NB. No hazards
LF1 Pin 1-2	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately NC, NT, NB. No hazards
LF2 Pin 1-2	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately NC, NT, NB. No hazards
BD1 Pin 2-3	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately CD (BD1) NC, NT, NB. No hazards
C2	s-c	240V	<1 sec	F1, F2	-	F1, F2 opened immediately NC, NT, NB. No hazards
Q1 Pin G-S	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards.
Q1 Pin S-D	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards

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Clause	Requirement + Test			Result - Remark		Verdict
Q1 Pin G-D	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
R6	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
R23	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(Q1, BD1) NC, NT, NB. No hazards
D2	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
D3	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 1-2	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 3-4	s-c	240V	10mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 1	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 3	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC3 Pin 1-5	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 2-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 3-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 4-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 6-5	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(IC3, BD1, Q1, R9, R15, R16, R18, R23) NC, NT, NB. No hazards
T1 Pin 1-4	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 3-6	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 8, 9 – 11, 12	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Model: KPL-065M-VI						

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Clause	Requirement + Test				Result - Remark	Verdict
Output	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Output	o-l	240V	12 hrs 38 mins	F1, F2	1.067	CT (Max. temp: T1 coil=112.9 °C, T1 core=100.3 °C, Ambient=22.8°C) Max overload current 3.41 A NC, NT, NB. No hazards
LF1 Pin 1-2	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately NC, NT, NB. No hazards
LF2 Pin 1-2	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately NC, NT, NB. No hazards
BD1 Pin 2-3	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately CD(BD1) NC, NT, NB. No hazards
C2	s-c	240V	<1 sec	F1, F2	-	F1, F2 opened immediately NC, NT, NB. No hazards
Q1 Pin G-S	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards.
Q1 Pin S-D	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
Q1 Pin G-D	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
R6	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
R23	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(Q1, BD1) NC, NT, NB. No hazards
D2	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
D3 D6	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 1-2	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 3-4	s-c	240V	10mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 1	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 3	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards

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Clause	Requirement + Test				Result - Remark	Verdict
IC3 Pin 1-5	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 2-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 3-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 4-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 6-5	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(IC3, BD1, Q1, R9, R15, R16, R18, R23) NC, NT, NB. No hazards
T1 Pin 1-4	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 3-6	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 8, 9 – 11, 12	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Model: KPL-065S-VI						
Output	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Output	o-l	240V	12Hour 46mins	Fuse 1 Fuse 2	0.974	CT(Max. temp: T1 coil=81.2 °C, T1 core=72.2 °C, Ambient=26.2°C) Max overload current 1.6 A NC, NT, NB. No hazards
LF1 Pin 1-2	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	F1,F2 opened immediately NC, NT, NB. No hazards
LF2 Pin 1-2	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	F1,F2 opened immediately NC, NT, NB. No hazards
BD1 Pin 2-3	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	F1,F2 opened immediately CD(BD1) NC, NT, NB. No hazards
C2	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	F1, F2 opened immediately NC, NT, NB. No hazards
Q1 Pin G-S	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards.
Q1 Pin S-D	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards

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Clause	Requirement + Test			Result - Remark		Verdict
Q1 Pin G-D	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
R6	o-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
R23	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	Fuse opened immediately CD(Q1, BD1) NC, NT, NB. No hazards
D2	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
D3	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 1-2	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 3-4	s-c	240V	10mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 1	o-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 3	o-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 1-5	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 2-5	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 3-5	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 4-5	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 6-5	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	Fuse opened immediately CD(IC3, BD1, Q1, R9, R15, R16, R18, R23) NC, NT, NB. No hazards
T1 Pin 1-4	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
T1 Pin 3-6	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
T1 Pin 8, 9 – 11, 12	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
Model: KPL-065F						
LF1 Pin 1-2	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately NC, NT, NB. No hazards

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Clause	Requirement + Test				Result - Remark	Verdict
LF2 Pin 1-2	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately NC, NT, NB. No hazards
BD1 Pin 2-3	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(BD1) NC, NT, NB. No hazards
C2	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(BD1) NC, NT, NB. No hazards
Q1 Pin G-S	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards.
Q1 Pin S-D	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(BD1, C2, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
Q1 Pin G-D	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
R6	o-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
R23	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(Q1, BD1) NC, NT, NB. No hazards
D2	s-c	240V	10 mins	Fuse 1	0.084	Unit shut down. IP(IC3) NC, NT, NB. No hazards
D3	s-c	240V	10 mins	Fuse 1	0.136	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 1-2	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 3-4	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 1	o-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 3	o-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 1-5	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 2-5	s-c	240V	<1 sec	Fuse 1	--	RT*, CD(IC3) NC, NT, NB. No hazards.
IC3 Pin 3-5	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 4-5	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards

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Clause	Requirement + Test				Result - Remark	
IC3 Pin 6-5	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(IC3, BD1, Q1, R9, R15, R16, R18, R23), NC, NT, NB. No hazards
T1 Pin 1-4	s-c	240V	10 mins	Fuse 1	0.121	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 3-6	s-c	240V	10 mins	Fuse 1	0.200	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 8, 9 – 11, 12	s-c	240V	10 mins	Fuse 1	0.200	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Varistor(*Test were performed on product with each source listed in table 4.1.2)	Overload (G.8.2.2)	480V	4 hours	F1	--	Test resistor R _x : 3840Ω→1920Ω→960Ω→480Ω→240Ω→0Ω Observations: The test was continued until temperature stability, no damaged
Model: KPL-065M						
LF1	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately NC, NT, NB. No hazards.
LF2	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately NC, NT, NB. No hazards.
BD1 Pin 2-3	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(BD1) NC, NT, NB. No hazards.
C2	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(BD1) NC, NT, NB. No hazards.
Q1 Pin G-S	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards.
Q1 Pin S-D	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards.
Q1 Pin G-D	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards.
R6	o-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
R23	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(Q1, BD1) NC, NT, NB. No hazards.

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Clause	Requirement + Test				Result - Remark	Verdict
D2	s-c	240V	10 mins	Fuse 1	0.080	Unit shut down. IP(IC3) NC, NT, NB. No hazards
D3	s-c	240V	10 mins	Fuse 1	0.138	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 1-2	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 3-4	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 1	o-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 3	o-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 1-5	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 2-5	s-c	240V	<1 sec	Fuse 1	--	RT*, CD(IC3) NC, NT, NB, No hazards.
IC3 Pin 3-5	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 4-5	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 6-5	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately. CD(IC3, BD1, Q1, R9, R15, R16, R18, R23) NC, NT, NB, No hazards
T1 Pin 1-4	s-c	240V	10 mins	Fuse 1	0.132	Unit shut down. IP(IC3) NC, NT, NB. No hazards
T1 Pin 3-6	s-c	240V	10 mins	Fuse 1	0.118	Unit shut down. IP(IC3) NC, NT, NB. No hazards
T1 Pin 8, 9 – 11, 12	s-c	240V	10 mins	Fuse 1	0.142	Unit shut down. IP(IC3) NC, NT, NB. No hazards
Model: KPL-050F						
Output	s-c	240V	10 mins	Fuse1	0.102	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Output	o-l	240V	8 hrs 1min	Fuse1	0.101	Unit shut down. IP(IC3) CT(Max. temp: T1 coil=115.7 °C, T1 core=109.6 °C, Ambient=24.7 °C) Max overload current 6.0 A NC, NT, NB. No hazards
Model: KPL-050M						
Output	s-c	240V	10 mins	Fuse1	0.081	Unit shut down. IP(IC3) NC, NT, NB, No hazards

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Clause	Requirement + Test			Result - Remark		Verdict
Output	o-l	240V	8 hrs 50 mins	Fuse1	0.080	Unit shut down. IP(IC3) CT(Max. temp: T1 coil=97.1 °C, T1 core=90.5 °C, Ambient=24.7 °C) Max overload current 3.35 A NC, NT, NB. No hazards
Model: KPL-065F						
Output	s-c	240V	10 mins	Fuse1	0.108	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Output	o-l	240V	9 hrs 47 mins	Fuse1	0.106	Unit shut down. IP(IC3) CT(Max. temp: T1 coil=101.1 °C, T1 core=98.7 °C, Ambient=24.9 °C) Max overload current 6.95 A NC, NT, NB. No hazards
Model: KPL-060I						
Output	s-c	240V	10 mins	Fuse1	0.100	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Output	o-l	240V	6 hrs 43 mins	Fuse1	0.100	Unit shut down. IP(IC3) CT(Max. temp: T1 coil=91.5 °C, T1 core=86.9 °C, Ambient=24.3 °C) Max overload current 5.60 A NC, NT, NB. No hazards
Model: KPL-065J						
Output	s-c	240V	10 mins	Fuse1	0.076	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Output	o-l	240V	9 hrs 6 mins	Fuse1	0.086	Unit shut down. IP(IC3) CT(Max. temp: T1 coil=94.8 °C, T1 core=87.3 °C, Ambient=24.3 °C) Max overload current 4.55 A NC, NT, NB. No hazards
Model: KPL-065M						
Output	s-c	240V	10 mins	Fuse1	0.092	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Output	o-l	240V	6 hrs 22 mins	Fuse1	0.096	Unit shut down. IP(IC3) CT(Max. temp: T1 coil=85.0 °C, T1 core=79.5 °C, Ambient=24.0 °C) Max overload current 3.1 A NC, NT, NB. No hazards.
Output +54V MODEL:	Overload	240V	5.5 hours	F1	0.634	Temp. was stable at load 1.46A,

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Clause	Requirement + Test				Result - Remark	
2ACL068S						Maximum temperature Ambient=28.7°C, T1 coil=90.0°C, T1 core=81.7°C, Enclosure outside near T1=58.4°C unit shutdown at load 1.48A No hazardous; Hi-pot passes
Output +36V MODEL: KPL065A-KV	Overload	240V	6.5 hours	F1	1.031	Temp. was stable at load 2.47A, Maximum temperature Ambient=28.3°C, T1 coil=92.4°C, T1 core=83.3°C, Enclosure outside near T1=58.5°C unit shutdown at load 2.56A No hazardous; Hi-pot passes
Output +12V MODEL: KPL-066F-VI	Overload	100V	4hours	F1	1.494	Temp. was stable at load 5.72A, Maximum temperature Ambient=26.8°C, Enclosure outside near T1=72.1°C unit shutdown at load 5.8A No hazardous; Hi-pot passes
Output +12V MODEL: KPL-066F-VI	Overload	240V	6hours	F1	0.925	Temp. was stable at load 6.0A, Maximum temperature Ambient=28.1°C, Enclosure outside near T1=90.5°C unit shutdown at load 6.1A No hazardous; Hi-pot passes

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Clause	Requirement + Test			Result - Remark		Verdict
Output +5V MODEL: 2ACL030B	Overload	240V	4 hours	F1	0.339	Temp. was stable at load 7.6A, Maximum temperature Ambient=30.1°C, T1 coil=83.0°C, T1 core=78.8°C, Enclosure outside near T1=58.2°C unit shutdown at load 7.7A No hazardous; Hi-pot passes
Output +56V MODEL: KPL-065U-VI	Overload	100V	4hours	F1	1.541	Temp. was stable at load 1.41A, Maximum temperature Ambient=26.7°C, Enclosure outside near Q1=67.3°C unit shutdown at load 1.44A No hazardous; Hi-pot passes
Output +56V MODEL: KPL-065U-VI	Overload	240V	6hours	F1	1.007	Temp. was stable at load 1.55A, Maximum temperature Ambient=27.9°C, Enclosure outside near Q1=61.6°C unit shutdown at load 1.58A No hazardous; Hi-pot passes
Output +12V&+5V MODEL: GTR0382	Overload	240V	9 hours	F1	0.51	Temp. was stable at load 3.3A, Maximum temperature Ambient=33.0°C, T1 coil=122.8°C, T1 core=118.2°C, Enclosure outside near T1=81.3°C unit shutdown at load 3.4A No hazardous; Hi-pot passes

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Clause	Requirement + Test			Result - Remark		Verdict
Output +12V MODEL: 2BF065F	Overload	100V	5hours	F1	1.514	Temp. was stable at load 5.6A, Maximum temperature Ambient=33.6°C, Enclosure outside near T1=81.1 °C unit shutdown at load 5.7A No hazardous; Hi-pot passes
Output +12V MODEL: 2BF065F	Overload	240V	5hours	F1	0.970	Temp. was stable at load 6.5A, Maximum temperature Ambient=33.2°C, Enclosure outside near T1=73.3 °C unit shutdown at load 6.6A No hazardous; Hi-pot passes
Output +48V MODEL: 2BF060R	Overload	100V	5hours	F1	1.466	Temp. was stable at load 1.47A, Maximum temperature Ambient=33.3°C, Enclosure outside near T1=74.9°C unit shutdown at load 1.49A No hazardous; Hi-pot passes
Output +48V MODEL: 2BF060R	Overload	240V	5hours	F1	1.035	Temp. was stable at load 1.9A, Maximum temperature Ambient=32.9°C Enclosure outside near T1=76.1 °C unit shutdown at load 1.95A No hazardous; Hi-pot passes
Output +56V MODEL: 2ACL065U	Overload	240V	8hours	F1	0.653	Temp. was stable at load 1.37A, Maximum temperature Ambient=27.1°C, T1 coil=109.2 °C, T1 core=102.9 °C, Enclosure outside near

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Clause	Requirement + Test				Result - Remark	Verdict
						T1=67.6 °C unit shutdown at load 1.4A No hazardous; Hi-pot passes
Output +48V MODEL: 2ACL065R	Overload	240V	4hours	F1	0.756	Temp. was stable at load 1.9A, Maximum temperature Ambient=25.5 °C, T1 coil=104.8 °C, T1 core=97.5 °C, Enclosure outside near T1=65.0 °C unit shutdown at load 2.0A No hazardous; Hi-pot passes
Output +24V MODEL: 2ACL060M	Overload	240V	4.5 hours	F1	0.676	Temp. was stable at load 3.3A, Maximum temperature Ambient=26.0 °C T1 coil=90.5 °C, T1 core=87.3 °C, Enclosure outside near T1=58.6 °C unit shutdown at load 3.4A No hazardous; Hi-pot passes
Output +19V MODEL: 2ACL060K	Overload	240V	4 hours	F1	0.651	Temp. was stable at load 4.3A, Maximum temperature Ambient=24.7 °C, T1 coil=97.8 °C, T1 core=92.1 °C, Enclosure outside near T1=63.9 °C unit shutdown at load 4.4A No hazardous; Hi-pot passes
Output +16V MODEL: KPL- 060I-VI	Overload	100V	7hours	F1	1.284	Temp. was stable at load 4.31A, Maximum temperature Ambient=30.2 °C, Enclosure outside near T1=77.5 °C unit shutdown at load 4.4A

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Clause	Requirement + Test				Result - Remark	Verdict
						No hazardous; Hi-pot passes
Output +16V MODEL: KPL-060I-VI	Overload	240V	8hours	F1	0.615	Temp. was stable at load 4.4A, Maximum temperature Ambient=29.4°C, Enclosure outside near T1=75.0°C unit shutdown at load 4.5A No hazardous; Hi-pot passes
Output +18V MODEL: KPL-065J-VI	Overload	100V	7hours	F1	1.240	Temp. was stable at load 3.65A, Maximum temperature Ambient=30.7°C, Enclosure outside near T1=74.2°C unit shutdown at load 3.66A No hazardous; Hi-pot passes
Output +18V MODEL: KPL-065J-VI	Overload	240V	8hours	F1	0.652	Temp. was stable at load 4.26A, Maximum temperature Ambient=29.4°C, Enclosure outside near T1=74.2°C unit shutdown at load 4.3A No hazardous; Hi-pot passes
Output +24V MODEL: KPL-065M-VI	Overload	100V	7hours	F1	1.279	Temp. was stable at load 2.76A, Maximum temperature Ambient=30.4°C, Enclosure outside near T1=79.3°C unit shutdown at load 2.82A No hazardous; Hi-pot passes
Output +24V MODEL: KPL-065M-VI	Overload	240V	8hours	F1	0.656	Temp. was stable at load 3.19A, Maximum temperature Ambient=28.9°C, Enclosure outside near T1=77.3°C

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Clause	Requirement + Test				Result - Remark	Verdict
						unit shutdown at load 3.24A No hazardous; Hi-pot passes
Output +48V MODEL: KPL-065S-VI	Overload	100V	4hours	F1	1.534	Temp. was stable at load 1.54A, Maximum temperature Ambient=28.2°C Enclosure outside near T1=72.6 °C unit shutdown at load 1.57A No hazardous; Hi-pot passes
Output +48V MODEL: KPL-065S-VI	Overload	240V	7hours	F1	1.034	Temp. was stable at load 1.76A, Maximum temperature Ambient=29.0°C, Enclosure outside near T1=78.4 °C unit shutdown at load 1.8A No hazardous; Hi-pot passes
Output +12V MODEL: KPL-050F	Overload	100V	4hours	F1	1.156	Temp. was stable at load 5.19A, Maximum temperature Ambient=28.6°C, Enclosure outside near T1=82.7 °C unit shutdown at load 5.22A No hazardous; Hi-pot passes
Output +12V MODEL: KPL-050F	Overload	240V	7hours	F1	0.843	Temp. was stable at load 5.56A, Maximum temperature Ambient=32.6°C, Enclosure outside near T1=92.7 °C unit shutdown at load 5.67A No hazardous; Hi-pot passes
Output +24V MODEL: KPL-050M	Overload	100V	4hours	F1	1.471	Temp. was stable at load 2.89A, Maximum temperature Ambient=26.8°C, Enclosure outside near

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Clause	Requirement + Test				Result - Remark	Verdict
						T1=68.3 °C unit shutdown at load 2.92A No hazardous; Hi-pot passes
Output +24V MODEL: KPL-050M	Overload	240V	6hours	F1	0.891	Temp. was stable at load 3.15A, Maximum temperature Ambient=28.2°C, Enclosure outside near T1=70.7 °C unit shutdown at load 3.2A No hazardous; Hi-pot passes
Output +16V MODEL: KPL-060I	Overload	100V	4hours	F1	1.279	Temp. was stable at load 4.2A, Maximum temperature Ambient=28.4°C, Enclosure outside near T1=82.5 °C unit shutdown at load 4.3A No hazardous; Hi-pot passes
Output +16V MODEL: KPL-060I	Overload	240V	7hours	F1	0.947	Temp. was stable at load 4.81A, Maximum temperature Ambient=34.0°C, Enclosure outside near T1=87.7 °C unit shutdown at load 4.9A No hazardous; Hi-pot passes
Output +12V MODEL: KPL-065F	Overload	100V	4hours	F1	1.480	Temp. was stable at load 5.82A, Maximum temperature Ambient=28.5°C, Enclosure outside near T1=78.0 °C unit shutdown at load 5.9A No hazardous; Hi-pot passes

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Clause	Requirement + Test			Result - Remark		Verdict
Output +12V MODEL: KPL-065F	Overload	240V	7hours	F1	0.952	Temp. was stable at load 6.3A, Maximum temperature Ambient=29.2°C, Enclosure outside near T1=80.0 °C unit shutdown at load 6.4A No hazardous; Hi-pot passes
Output +18V MODEL: KPL-065J	Overload	100V	4hours	F1	1.277	Temp. was stable at load 3.75A, Maximum temperature Ambient=31.2°C, Enclosure outside near T1=77.9 °C unit shutdown at load 3.80A No hazardous; Hi-pot passes
Output +18V MODEL: KPL-065J	Overload	240V	7hours	F1	0.947	Temp. was stable at load 4.36A, Maximum temperature Ambient=33.5°C, Enclosure outside near T1=77.8 °C unit shutdown at load 4.4A No hazardous; Hi-pot passes
Output +24V MODEL: KPL-065M	Overload	100V	4hours	F1	1.539	Temp. was stable at load 3.09A, Maximum temperature Ambient=28.4°C, Enclosure outside near T1=73.0 °C unit shutdown at load 3.18A No hazardous; Hi-pot passes
Output +24V MODEL: KPL-065M	Overload	240V	7hours	F1	1.036	Temp. was stable at load 3.54A, Maximum temperature Ambient=29.2°C, Enclosure outside near T1=74.8 °C unit shutdown at load 6.67A

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Clause	Requirement + Test				Result - Remark	Verdict
					No hazardous; Hi-pot passes	
Supplementary information:						
<p>All values are recalculated from Tamb respectively</p> <p>Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column "Abnormal/Fault." Specify if test condition by indicating "Abnormal" then the condition for a Clause B.3 test or "Single Fault" then the condition for Clause B.4.</p> <p>1. For fuse open condition, same results come out for each source of fuses.</p> <p>2. For fuse open condition, test was repeated 10 times if resistor was applied.</p> <p>3. The tests performed with all sources of fuse which mentioned in table 4.1.2.</p> <p>4. After each single test, the electric strength test was performed and passed.</p>						

M.3	TABLE: Protection circuits for batteries provided within the equipment						N/A
Is it possible to install the battery in a reverse polarity position? :						—	
Equipment Specification	Charging						
	Voltage (V)			Current (A)			
Manufacturer/type	Battery specification						
	Non-rechargeable batteries		Rechargeable batteries				
	Discharging current (A)	Unintentional charging current (A)	Charging		Discharging current (A)	Reverse charging current (A)	
			Voltage (V)	Current (A)			
Note: The tests of M.3.2 are applicable only when above appropriate data is not available.							
Specified battery temperature (°C)							
Component No.	Fault condition	Charge/discharge mode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Observation
Supplementary information:							
Abbreviation: SC= short circuit; OC= open circuit NL= no chemical leakage; NS= no spillage of liquid; NE= no explosion; NF= no emission of flame or expulsion of molten metal.							

M.4.2	TABLE: Charging safeguards for equipment containing a secondary lithium battery					N/A
Maximum specified charging voltage (V)					—	
Maximum specified charging current (A)					—	
Highest specified charging temperature (°C)						
Lowest specified charging temperature (°C)						
Battery		Operating	Measurement		Observation	

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Clause	Requirement + Test			Result - Remark	Verdict
manufacturer/type	and fault condition	Charging voltage (V)	Charging current (A)	Temp. (°C)	
Supplementary information:					
Abbreviation: SC= short circuit; OC= open circuit; MSCV= maximum specified charging voltage; MSCC= maximum specified charging current; HSCT= highest specified charging temperature; LSCT= lowest specified charging temperature					

Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS) (Report 31581397.030)						P
Output Circuit	Condition	U _{oc} (V)	Time (s)	I _{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
Model: PAA060M							
Normal condition	Normal	24.3	5s	3.8	8	89.3	100
R22	S-C	0	5s	0	8	0	100
U2(1-2)	S-C	0	5s	0	8	0	100
U2(3)	O-C	0	5s	0	8	0	100
Model: 2ACL060MB							
Normal condition	Normal	24.5	5s	3.72	8	88.16 (3.72*23.7)	100
IC1(1-2)	S-C	0	5s	0	8	0	100
IC1(3-4)	S-C	0	5s	0	8	0	100
IC2(2-3)	S-C	0	5s	0	8	0	100
Model: 2ACL068S							
Normal condition	Normal	52.8	120s	2.11	18.51 (1000/54)	111.4 (52.8*2.11)	250
R9	S-C	53.2	120s	1.73	18.51	92.0 (53.2*1.73)	250
IC1 pin1-2	S-C	0	120s	0	18.51	0	250
IC1 pin3-4	S-C	0	120s	0	18.51	0	250
Model: 2ACL065R							
Normal condition	Normal	47.0	120s	2.11	20.83 (1000/48)	99.2 (47.0*2.11)	250

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Clause	Requirement + Test			Result - Remark			Verdict

Model: 2ACL065U							
Normal condition	Normal	56.4	120s	1.80	17.85 (1000/56)	101.5 (56.4*1.80)	250
Model: KPL-065A-KV							
Normal condition	Normal	37.4	5s	2.73	8	95.6 (35.0*2.73)	100
R9	S-C	0	5s	0	8	0	100
R9	O-C	37.4	5s	1.92	8	65.3 (34.0*1.92)	100
IC1 (A)	S-C	0	5s	0	8	0	100
IC1 (B)	S-C	0	5s	0	8	0	100
IC1 (A)	O-C	0	5s	0	8	0	100
Model: 2ACL030B							
Normal condition	Normal	5.193	5s	7.84	8	39.5 (5.14*7.68)	100
IC2 (2-3)	S-C	0	5s	0	8	0	100
IC1 (1-2)	S-C	0	5s	0	8	0	100
IC1 (3-4)	S-C	0	5s	0	8	0	100
R9	S-C	0	5s	Unit damaged (no current measured)	8	Unit damaged (no current measured)	100
Model: KPL-065U-VI							
Normal condition	Normal	56.598	5s	1.78	8	98.4 (55.6*1.77)	100
R9	S-C	0	5s	0	8	0	100
R9	O-C	56.598	5s	1.46	8	79.49 (55.2*1.44)	100
IC1(A)	S-C	0	5s	0	8	0	100
IC1(B)	S-C	0	5s	0	8	0	100
IC1(A)	O-C	0	5s	0	8	0	100

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Clause	Requirement + Test	Result - Remark	Verdict

Model: GTR0382							
Normal condition	Normal	5.403	5s	4.98	8	24.0 (4.86*4.94)	100
R43	S-C	1.212	5s	4.8	8	2.68 (0.9*2.98)	100
R44	S-C	6.41	5s	4.95	8	3.10 (2.82*1.1)	100
Normal condition	Normal	12.223	5s	5.64	8	82.2 (18.6*4.42)	100
U3 (2-3)	S-C	0	5s	0	8	0	100
IC1 (1-2)	S-C	0	5s	0	8	0	100
IC1 (3-4)							
R9	S-C	0	5s	Unit shut down (no current measured)	8	Unit shut down (no current measured)	100
Model: 2ACL060K							
Normal condition	Normal	19.19	5s	4.46	8	82.2 (18.6*4.42)	100
IC2 (2-3)	S-C	0	5s	0	8	0	100
IC1 (1-2)	S-C	0	5s	0	8	0	100
IC1 (3-4)							
R9	S-C	0	5s	Unit damaged (no current measured)	8	Unit damaged (no current measured)	100

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Clause	Requirement + Test	Result - Remark	Verdict

Model: 2ACL060M							
Normal condition	Normal	24.21	5s	3.52	8	78.8 (22.5*3.5)	100
IC2 (2-3)	S-C	0	5s	0	8	0	100
IC1 (1-2)	S-C	0	5s	0	8	0	100
IC1 (3-4)							
R9	S-C	0	5s	Unit damaged (no current measured)	8	Unit damaged (no current measured)	100
Model: 2ACL065R							
Normal condition	Normal	47.914	5s	1.95	8	89.8 (47.0*1.91)	100
IC2 (2-3)	S-C	0	5s	0	8	0	100
IC1 (1-2)	S-C	0	5s	0	8	0	100
IC1 (3-4)							
R9	S-C	0	5s	Unit damaged (no current measured)	8	Unit damaged (no current measured)	100
Model: 2ACL065S							
Normal condition	Normal	53.876	5s	1.84	8	96.3 (53.2*1.81)	100
IC2 (2-3)	S-C	0	5s	0	8	0	100
IC1 (1-2)	S-C	0	5s	0	8	0	100
IC1 (3-4)							
R9	S-C	0	5s	Unit damaged (no current measured)	8	Unit damaged (no current measured)	100

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Clause	Requirement + Test	Result - Remark	Verdict

Model: 2ACL065U							
Normal condition	Normal	56.528	5s	1.81	8	98.6 (55.4*1.78)	100
IC2 (2-3)	S-C	0	5s	0	8	0	100
IC1 (1-2)	S-C	0	5s	0	8	0	100
IC1 (3-4)							
R9	S-C	0	5s	Unit damaged (no current measured)	8	Unit damaged (no current measured)	100
Model: KPL-060I-VI							
Normal condition	Normal	16.18	5s	5.56	8	89.96	100
R9	Sc	0	5s	0	8	0	100
R9	Oc	16.18	5s	4.41	8	69.77	100
IC1(A)	Sc	0	5s	0	8	0	100
IC1(B)	Sc	0	5s	0	8	0	100
IC1(A)	Oc	0	5s	0	8	0	100
IC1(B)	Oc	0	5s	0	8	0	100
Model: KPL-066F-VI							
Normal condition	Normal	12.24	5s	7.20	8	84.96	100
R9	Sc	0	5s	0	8	0	100
R9	Oc	12.23	5s	6.07	8	71.75	100
IC1(A)	Sc	0	5s	0	8	0	100
IC1(B)	Sc	0	5s	0	8	0	100
IC1(A)	Oc	0	5s	0	8	0	100
IC1(B)	Oc	0	5s	0	8	0	100

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Clause	Requirement + Test			Result - Remark			Verdict

Model: KPL-065J-VI							
Normal condition	Normal	18.377	5s	4.40	8	79.20	100
R9	Sc	0	5s	0	8	0	100
R9	Oc	18.32	5s	3.43	8	61.74	100
IC1(A)	Sc	0	5s	0	8	0	100
IC1(B)	Sc	0	5s	0	8	0	100
IC1(A)	Oc	0	5s	0	8	0	100
IC1(B)	Oc	0	5s	0	8	0	100
Model: KPL-065M-VI							
Normal condition	Normal	24.66	5s	3.93	8	95.5	100
R9	Sc	0	5s	0	8	0	100
R9	Oc	24.67	5s	2.81	8	68.76	100
IC1(A)	Sc	0	5s	0	8	0	100
IC1(B)	Sc	0	5s	0	8	0	100
IC1(A)	Oc	0	5s	0	8	0	100
IC1(B)	Oc	0	5s	0	8	0	100
Model: KPL-065S-VI							
Normal condition	Normal	47.900	5s	1.98	8	94.44	100
R9	Sc	0	5s	0	8	0	100
R9	Oc	47.85	5s	1.29	8	61.56	100
IC1(A)	Sc	0	5s	0	8	0	100
IC1(B)	Sc	0	5s	0	8	0	100
IC1(A)	Oc	0	5s	0	8	0	100
Model: KPL-060I							
Normal condition	Normal	15.72	5s	5.83	8	91.65	100
R9	Sc	0.00	5s	0.00	8	0.00	100
IC1(A)	Sc	0.00	5s	0.00	8	0.00	100
IC1(B)	Sc	0.00	5s	0.00	8	0.00	100
IC1(A)	Oc	0.00	5s	0.00	8	0.00	100
IC1(B)	Oc	0.00	5s	0.00	8	0.00	100

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Clause	Requirement + Test	Result - Remark	Verdict

Model: KPL-065F							
Normal condition	Normal	12.08	5s	7.46	8	87.88	100
R9	Sc	0.00	5s	0.00	8	0.00	100
IC1(A)	Sc	0.00	5s	0.00	8	0.00	100
IC1(B)	Sc	0.00	5s	0.00	8	0.00	100
IC1(A)	Oc	0.00	5s	0.00	8	0.00	100
IC1(B)	Oc	0.00	5s	0.00	8	0.00	100
Model: KPL-065J							
Normal condition	Normal	18.03	5s	4.52	8	81.18	100
R9	Sc	0.00	5s	0.00	8	0.00	100
IC1(A)	Sc	0.00	5s	0.00	8	0.00	100
IC1(B)	Sc	0.00	5s	0.00	8	0.00	100
IC1(A)	Oc	0.00	5s	0.00	8	0.00	100
IC1(B)	Oc	0.00	5s	0.00	8	0.00	100
Model: KPL-065M							
Normal condition	Normal	24.02	5s	3.20	8	76.26	100
R9	Sc	0.00	5s	0.00	8	0.00	100
IC1(A)	Sc	0.00	5s	0.00	8	0.00	100
IC1(B)	Sc	0.00	5s	0.00	8	0.00	100
IC1(A)	Oc	0.00	5s	0.00	8	0.00	100
IC1(B)	Oc	0.00	5s	0.00	8	0.00	100
Supplementary Information:							
S-C=Short circuit, O-C=Open circuit							

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Clause	Requirement + Test	Result - Remark	Verdict

T.2, T.3, T.4, T.5	TABLE: Steady force test (Report 31581397.030)					P
Part/Location	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation
External enclosure top, bottom, sides (according to T.5) (All model)	Plastics*	See table 4.1.2	--	250	5	No contact or access to hazardous parts.
Internal components (according to T.2) (All model)	--	--	--	10	5	No contact or access to hazardous parts.
Supplementary information:						
*Test were performed on product with each source listed in table 4.1.2						

T.6, T.9	TABLE: Impact test				N/A
Location/part	Material	Thickness (mm)	Height (mm)	Observation	
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Supplementary information:					
*See table 4.1.2 enclosure materials					

T.7	TABLE: Drop test (Report 31581397.030)				P
Location/part	Material	Thickness (mm)	Height (mm)	Observation	
Three side of enclosure (All model)	Plastics*	See table 4.1.2	1000	The adapter has been subjected to 3 drops of top/bottom/side of enclosure on a hard wooden surface. No hazard as result after drop test for enclosure material.	
Supplementary information:					
*Test were performed on product with each source listed in table 4.1.2					

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Clause	Requirement + Test	Result - Remark	Verdict

T.8	TABLE: Stress relief test (Report 31581397.030)					P
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Enclosure (PAA)	Plastics*	See table 4.1.2	97	7	No safety relevant damages of the enclosure	
Enclosure (KPL)	Plastics*	See table 4.1.2	100	7	No safety relevant damages of the enclosure	
Enclosure (2ABF)	Plastics*	See table 4.1.2	91	7	No safety relevant damages of the enclosure	
Enclosure (2ACL)	Plastics*	See table 4.1.2	93	7	No safety relevant damages of the enclosure	
Enclosure (GTR)	Plastics*	See table 4.1.2	98.7	7	No safety relevant damages of the enclosure	
Supplementary information:						
*Test were performed on product with each source listed in table 4.1.2						

X	TABLE: Alternative method for determining minimum clearances distances				N/A
Clearance distanced between:	Peak of working voltage (V)	Required cl (mm)	Measured cl (mm)		
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Supplementary information:					
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Clause	Requirement + Test	Result - Remark	Verdict

4.1.2 TABLE: Critical components information					
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾
Plastic Enclosure	SABIC INNOVATIVE PLASTICS US L L C	945(GG)	V-0 or better, 120°C, thickness 1.5mm min.	UL94	UL
Alternative	Teijin Chemicals Plastic Compounds Shanghai Ltd	LN-1250G(#)(*)	V-0 or better, 115°C, thickness 1.5mm min.	UL94	UL
Alternative	SABIC Innovative Plastics Japan LLC	940	V-0 or better, 120°C, thickness 1.5 mm min.	UL94	UL
Alternative (for KPL PCB with F1,F2; 2ABF, 2ACL only)	Covestro Deutschland AG [PC Resins]	FR3010HF+	V-0 or better, 85°C, thickness 1.5 mm min.	UL94	UL
Alternative	Teijin Limited Resin And Plastic	LN-1250G(#)(*)	V-0 or better, 120°C, thickness 1.5 mm min.	UL94	UL
Alternative	SABIC INNOVATIVE PLASTICS US L L C	945(GG)	V-0 or better, 120°C, thickness 1.5mm min.	UL94	UL
PCB	Huizhou Times Dragon Technology Co., Ltd.	SDJL-1,SDJL-2	V-1 or better, min. 130°C	UL94, UL796	UL
Alternative	Dong Guan New Energy Printed Circuit Board	NE1000, NE2000, NE4000, NE5000, NE5000A	V-1 or better, min. 130°C	UL94, UL796	UL
Alternative	Jia He Electronic	B1,D1,D, M, M1	V-1 or better, min. 130°C	UL94, UL796	UL
Alternative	Huizhou APL Electronic	APL-1,APL-2	V-1 or better, min. 130°C	UL94, UL796	UL
Alternative	Guang Zhou Yong Zhao Hardware Electronic Co Ltd	CHT-1, CHT-3, CHT-5	V-1 or better, 130°C	UL 94, UL 796	UL
Alternative	Dongguan Shu Yue Electronics Co Ltd	SY-JLH-01, SY-JLH-02, SY-JLH-03	V-1 or better, 130°C	UL 94, UL 796	UL
Appliance Inlet (CON1)	Tecx-Unions Technology	TU-301-SP, TU-301-S	10 A, 250 Vac, 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternative	Tecx-Unions Technology	TU-333	2.5 A, 250 Vac, 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Rong Feng Industrial	RF-190	2.5 A, 250 Vac, 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Rong Feng Industrial	SS-120,SS-7B, SS-7B-1, SS-120-PCB	10 A, 250 Vac, 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Rich Bay	R-30790	2.5 A, 250 Vac, 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Rich Bay	R-301SN	10 A, 250 Vac, 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Zhe Jiang Bei Er Jia Electronic	ST-A01-003J, ST-A01 series	10 A, 250 Vac, 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Zhe Jiang Bei Er Jia Electronic	ST-A04-002	2.5 A, 250 Vac, 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Solteam Electronics	ST-01	10A, 250V(VDE) 15A, 250V(UL) 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Shengming Enterprise	S06-101-B01-2, S06-101-B01-2A,	7A, 250V 100°C	IEC/EN 60320-1+A1, ANSI/UL 498	UL, ENEC
Alternative	Shengming Enterprise	S14-101, S14-102, S14-201, S14-202, S14-203	10A, 250V 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Supercom	SC-8R	10A, 250V	IEC/EN 60320-1 ANSI/UL 498	VDE, UL
Alternative	Supercom	SC-14	2.5A, 250V	IEC/EN 60320-1 ANSI/UL 498	VDE, UL
Alternative	HCR Electronics Co., Ltd	SK01XXX, XXX can be - 01, -02, -05, - 06, -08, -10, - 19, -20, -28, - 43, -52, -64, - 84, -95 or blank	10A, 250V Type C14	IEC 60320-1:2015 EN 60320-1 UL 60320-1 CAN/CSA-C22.2 No. 60320-1	ENEC UL
Alternative	HCR Electronics Co., Ltd	SK03XXX, XXX can be - 04, -06, -05, - 20, -18, -21, - 23, -27 or blank	2.5A, 250V Type C6	IEC 60320-1:2015 EN 60320-1 UL 60320-1 CAN/CSA-C22.2 No. 60320-1	ENEC UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Fuse (Fuse1) (KPL PCB with Fuse1)	XC Electronics (Shenzhen)	4T	T4.0A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	XC Electronics (Shenzhen)	5TE	T4.0A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Ever Island Electric and Walter Electric	2010	T4.0A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Conquer Electronics	PTU	T4.0A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Conquer Electronics	MST	T4.0A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Littelfuse, Inc. Wickmann-Werke	392	T4.0A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Walter Electronic	ICP	T4.0A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Fuse (F1) (Optional) (KPL PCB with F1, F2)	XC Electronics (Shenzhen) Corp. Ltd.	4T	T6.3A or T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	XC Electronics (Shenzhen) Corp. Ltd.	5TE	T6.3A or T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Ever Island Electric Co., Ltd. and Walter Electric	2010	T6.3A or T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alternative	Conquer Electronics Co., Ltd.	PTU	T6.3A or T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Conquer Electronics Co., Ltd.	MST	T6.3A or T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Littelfuse, Inc. Wickmann-Werke	392	T6.3A or T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Walter Electronic Co. Ltd.	ICP	T6.3A or T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Dongguan Better Electronics Technology Co., Ltd	932	T6.3A or T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Fuse(F1) (2ABF, 2ACL)	Cooper Bussmann	SS-5	T3.15A or T6.3A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Littelfuse Wickmann Werke	392	T3.15A or T6.3A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Walter	2010	T3.15A or T6.3A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Conquer	MST	T3.15A or T6.3A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Hollyland	5ET-SERIES	T3.15A or T6.3A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alternative	Nippon	SLT	T3.15A or T6.3A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Dongguan Better Electronics Technology Co., Ltd	932	T3.15A or T6.3A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	XC Electronics (Shenzhen) Corp. Ltd.	5TE	T3.15A or T6.3A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Fuse(F1) (GTR)	Cooper Bussmann	SS-5	T3.15A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Littelfuse Wickmann Werke	392	T3.15A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Walter	2010	T3.15A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Conquer	MST	T3.15A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Hollyland	5ET-SERIES	T3.15A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Nippon	SLT	T3.15A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Dongguan Better Electronics Technology Co., Ltd	932	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Fuse (F1) (PAA)	Wickmann	19372, 382	T2.5A or T3.15A, 250V	IEC/EN 60127-1 IEC/EN 60127-3 ANSI/UL 248-1 ANSI/UL 248-14	VDE, UL
Alternative	Bel	MRT	T2.5A or T3.15A, 250V	IEC/EN 60127-1 IEC/EN 60127-3 ANSI/UL 248-1 ANSI/UL 248-14	VDE, UL
Alternative	Littelfuse	LT-5	T2.5A or T3.15A, 250V	IEC/EN 60127-1 IEC/EN 60127-3 ANSI/UL 248-1 ANSI/UL 248-14	VDE, UL
Alternative	Save Fusetech	SR-5	T2.5A or T3.15A, 250V	IEC/EN 60127-1 IEC/EN 60127-3 ANSI/UL 248-1 ANSI/UL 248-14	VDE, UL
Alternative	Conquer	MET	T2.5A or T3.15A, 250V	IEC/EN 60127-1 IEC/EN 60127-3 ANSI/UL 248-1 ANSI/UL 248-14	VDE, UL
Alternative	Dongguan Better Electronics Technology Co., Ltd	932	T2.5A or T3.15A, 250V	IEC/EN 60127-1 IEC/EN 60127-3 ANSI/UL 248-1 ANSI/UL 248-14	VDE, UL
Alternative	XC Electronics (Shenzhen)	5TR	T2.5A or T3.15A, 250V	IEC/EN 60127-1 IEC/EN 60127-3 ANSI/UL 248-1 ANSI/UL 248-14	VDE, UL
Alternative	Suzhou Walter Electronic	2000	T2.5A or T3.15A, 250V	IEC/EN 60127-1 IEC/EN 60127-3 ANSI/UL 248-1 ANSI/UL 248-14	VDE, UL
Fuse (F2) (KPL PCB with F1,F2) (2ABF, 2ACL [optional])	XC Electronics (Shenzhen)	4T, 3T	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	XC Electronics (Shenzhen)	5TE	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Ever Island Electric and Walter Electric	2010	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Conquer Electronics	PTU	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alternative	Conquer Electronics	MST	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Littelfuse, Inc. Wickmann-Werke	392	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Walter Electronic	ICP	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Littelfuse	677	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Bussman Fuse	SS-5	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Hollyland	5ET-SERIES	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Dongguan Better Electronics Technology Co., Ltd	932	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Fuse (F3) (2ACL, y=R,S,U [optional])	XC Electronics (Shenzhen)	4T	T1.6A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Walter Electronic	ICP	T1.6A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Conquer Electronics	PDU, PTU	T1.6A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alternative	Littlefuse	677	T1.6A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Varistor (Optional) (TVS1,TVS2, TVS3: KPL, 2ACL,GTR) (ZNR1: 2ABF, PAA)	Thinking Electronic Industrial	TVR14681&, TVR14681-V, TVR10681-V, TVR10681&, & followed by "-D"	Rated 420 Vac, 680 Vac, Max. 4500A, 105°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	VDE, UL
Alternative	Success Electronics Co Ltd	SVR14D681K, SVR10D681K	Rated 420 Vac, 680Vdc, Max. 4500A, 125°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	VDE, UL
Alternative	Success Electronics (Huizhou) Co Ltd	SVR10D681K *****, SVR14D681K *****,	Rated 420 Vac, 680Vdc, Max. 4500A, 125°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	UL
Alternative	Shantou High-New Zone Songtian Enterprise	14D681K, 10D681K	Rated 420 Vac, 680 Vdc, Max. 4500A, 125°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	VDE, UL
X-Capacitor (CX1) (X1 or X2 type) (Optional)	Okaya Electric Industries	LE	Max. 0.47uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	ENEC, UL
Alternative	Ultra Tech Xphi Enterprise	HQX	Max. 0.47uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	Hua Jung Components	MKP	Max. 0.47uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	ENEC, UL
(Alternative)	Yimanfeng	MPX/MKP	Max. 0.47uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	ENEC, UL
(Alternative)	Okaya Electric Industries	RE ,LE	Max. 0.47uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	Pilkor Electronics	PCX2 337	Max. 0.47uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	ARCO	R.46	Max. 0.47uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	Shantou High-New Technology Development Zone songtian Enterprise	MPX	Max. 0.47uF, min. 250 Vac, 100°C	IEC 60384-14:2005, UL 1414	VDE,UL
(Alternative)	Chiefcon Electronics	CKX	Max. 0.47uF, min. 250 Vac, 110°C	IEC 60384-14:2005, UL 1414	ENEC,UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Bleeder Resistor (R2,R3,R4,R5) (KPL PCB with FUSE1)	Tzaiyuan Enterprise	SMD***** HSMD*****	2.2MΩ 1/4 W	IEC 62368-1:2018	UL CB: DK-88747-UL
Alternative	Yageo Coration	RV1206	2.2MΩ 1/4 W	IEC 62368-1:2014	UL CB: DK-64853-UL
Alternative	Uniroyal Electronics Global	HV06	2.2MΩ 1/4 W	IEC 62368-1:2014	UL CB: DK-92561-UL
Alternative	TA-I Technology	RH12	2.2MΩ 1/4 W	IEC 62368-1:2014	UL CB: DK-68356-M2-UL
Alternative	Guangdong Fenghua Advanced Technology Holding Co., Ltd	RS-06L226FT	2.2MΩ 1/4 W	IEC 62368-1:2018	Nemko CB: NO109707
Bleeder Resistor (R2,R3,R4,R5) (KPL PCB with F1, F2)	Tzaiyuan Enterprise	SMD***** HSMD*****	3.0MΩ or 3.9MΩ 1/4 W	IEC 62368-1:2018	UL CB: DK-88747-UL
Alternative	Yageo Coration	RV1206	3.0MΩ or 3.9MΩ 1/4 W	IEC 62368-1:2014	UL CB: DK-64853-UL
Alternative	Uniroyal Electronics Global	HV06	3.0MΩ or 3.9MΩ 1/4 W	IEC 62368-1:2014	UL CB: DK-92561-UL
Alternative	TA-I Technology	RH12	3.0MΩ or 3.9MΩ 1/4 W	IEC 62368-1:2014	UL CB: DK-68356-M2-UL
Alternative	Guangdong Fenghua Advanced Technology Holding Co., Ltd	RS-06L306FT, RS-06L396FT	3.0MΩ or 3.9MΩ 1/4 W	IEC 62368-1:2018	Nemko CB: NO109707
Bleeder Resistor (R2,R4)(R2A,R4A is not present) (GTR)	Tzaiyuan Enterprise	SMD***** HSMD*****	1/4 W, Max.2MΩ	IEC 62368-1:2018	UL CB: DK-88747-UL
Alternative	Yageo Coration	RV1206	1/4 W, Max.2MΩ	IEC 62368-1:2014	UL CB: DK-64853-UL
Alternative	Uniroyal Electronics Global	HV06	1/4 W, Max.2MΩ	IEC 62368-1:2014	UL CB: DK-92561-UL
Alternative	TA-I Technology	RH12	1/4 W, Max.2MΩ	IEC 62368-1:2014	UL CB: DK-68356-M2-UL
Alternative	Guangdong Fenghua Advanced Technology Holding Co., Ltd	RS-06L206FT	1/4 W, Max.2MΩ	IEC 62368-1:2018	Nemko CB: NO109707
Bleeder Resistor (R2,R4,R2A,R4A) (GTR)	Tzaiyuan Enterprise	SMD***** HSMD*****	1/4 W, Max.4MΩ	IEC 62368-1:2018	UL CB: DK-88747-UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alternative	Yageo Coration	RV1206	1/4 W, Max.4MΩ	IEC 62368-1:2014	UL CB: DK-64853-UL
Alternative	Uniroyal Electronics Global	HV06	1/4 W, Max.4MΩ	IEC 62368-1:2014	UL CB: DK-92561-UL
Alternative	TA-I Technology	RH12	1/4 W, Max.4MΩ	IEC 62368-1:2014	UL CB: DK-68356-M2-UL
Alternative	Guangdong Fenghua Advanced Technology Holding Co., Ltd	RS-06L406FT	1/4 W, Max.4MΩ	IEC 62368-1:2018	Nemko CB: NO109707
Bleeder Resistor (R14,R21) (R14A, R21A is not present) (2ABF)	Tzaiyuan Enterprise	SMD***** HSMD*****	1/4 W, Max. 1.5MΩ	IEC 62368-1:2018	UL CB: DK-88747-UL
Alternative	Yageo Coration	RV1206	1/4 W, Max. 1.5MΩ	IEC 62368-1:2014	UL CB: DK-64853-UL
Alternative	Uniroyal Electronics Global	HV06	1/4 W, Max. 1.5MΩ	IEC 62368-1:2014	UL CB: DK-92561-UL
Alternative	TA-I Technology	RH12	1/4 W, Max. 1.5MΩ	IEC 62368-1:2014	UL CB: DK-68356-M2-UL
Alternative	Guangdong Fenghua Advanced Technology Holding Co., Ltd	RS-06L156FT	1/4 W, Max. 1.5MΩ	IEC 62368-1:2018	Nemko CB: NO109707
Bleeder Resistor (R14,R21,R14A, R21A) (2ABF)	Tzaiyuan Enterprise	SMD***** HSMD*****	1/4 W, Max. 3MΩ	IEC 62368-1:2018	UL CB: DK-88747-UL
Alternative	Yageo Coration	RV1206	1/4 W, Max. 3MΩ	IEC 62368-1:2014	UL CB: DK-64853-UL
Alternative	Uniroyal Electronics Global	HV06	1/4 W, Max. 3MΩ	IEC 62368-1:2014	UL CB: DK-92561-UL
Alternative	TA-I Technology	RH12	1/4 W, Max. 3MΩ	IEC 62368-1:2014	UL CB: DK-68356-M2-UL
Alternative	Guangdong Fenghua Advanced Technology Holding Co., Ltd	RS-06L306FT	1/4 W, Max. 3MΩ	IEC 62368-1:2018	Nemko CB: NO109707
Bleeder Resistor (R2, R4) (R2A,R4A is not present) (2ACL)	Tzaiyuan Enterprise	SMD***** HSMD*****	1/4 W, Max. 1.5MΩ	IEC 62368-1:2018	UL CB: DK-88747-UL
Alternative	Yageo Coration	RV1206	1/4 W, Max. 1.5MΩ	IEC 62368-1:2014	UL CB: DK-64853-UL
Alternative	Uniroyal Electronics Global	HV06	1/4 W, Max. 1.5MΩ	IEC 62368-1:2014	UL CB: DK-92561-UL

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternative	TA-I Technology	RH12	1/4 W, Max.1.5MΩ	IEC 62368-1:2014	UL CB: DK-68356-M2-UL
Alternative	Guangdong Fenghua Advanced Technology Holding Co., Ltd	RS-06L156FT	1/4 W, Max.1.5MΩ	IEC 62368-1:2018	Nemko CB: NO109707
Bleeder Resistor (R2, R4, R2A, R4A: 2ACL)	Tzaiyuan Enterprise	SMD***** HSMD*****	1/4 W, Max.3MΩ	IEC 62368-1:2018	UL CB: DK-88747-UL
Alternative	Yageo Coration	RV1206	1/4 W, Max.3MΩ	IEC 62368-1:2014	UL CB: DK-64853-UL
Alternative	Uniroyal Electronics Global	HV06	1/4 W, Max.3MΩ	IEC 62368-1:2014	UL CB: DK-92561-UL
Alternative	TA-I Technology	RH12	1/4 W, Max.3MΩ	IEC 62368-1:2014	UL CB: DK-68356-M2-UL
Alternative	Guangdong Fenghua Advanced Technology Holding Co., Ltd	RS-06L306FT	1/4 W, Max.3MΩ	IEC 62368-1:2018	Nemko CB: NO109707
Bleeder Resistor (R2, R7) (PAA)	Tzaiyuan Enterprise	SMD***** HSMD*****	Max.1MΩ, 1/4W, SMD type or Metal type	IEC 62368-1:2018	UL CB: DK-88747-UL
Alternative	Yageo Coration	RV1206	Max.1MΩ, 1/4W, SMD type or Metal type	IEC 62368-1:2014	UL CB: DK-64853-UL
Alternative	Uniroyal Electronics Global	HV06	Max.1MΩ, 1/4W, SMD type or Metal type	IEC 62368-1:2014	UL CB: DK-92561-UL
Alternative	TA-I Technology	RH12	Max.1MΩ, 1/4W, SMD type or Metal type	IEC 62368-1:2014	UL CB: DK-68356-M2-UL
Alternative	Guangdong Fenghua Advanced Technology Holding Co., Ltd	RS-06L106FT	Max.1MΩ, 1/4W, SMD type or Metal type	IEC 62368-1:2018	Nemko CB: NO109707
Bridging Capacitor (CY1 for 2ACL, 2ABF, GTR,KPL PCB with Fuse1) (CY1,CY2 for KPL PCB with F1, F2, CY2 Optional) (Y1 type)	TDK Corporation	CD	Max. 3300pF, min. 250 Vac, 125°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	Walsin Technology	AH	Max. 3300pF, min. 250 Vac, 125°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternative	Success Electronics Co., Ltd.	SB, SE	Max. 3300pF, min. 250 Vac, 125°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	Success Electronics Co., Ltd.	SE	Max. 3300pF, min. 250 Vac, 125°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	Xiangtai Electronics Co., Ltd.	YO	Max. 3300pF, min. 250 Vac, 125°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	JYA-NAY Co., Ltd.	JN	Max. 3300pF, min. 250 Vac, 125°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	Murata MFG Co Ltd	KX	Max. 3300pF, min. 250 Vac, 125°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	Welson Industrial Co Ltd	WD	Max. 3300pF, min. 250 Vac, 125°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	Shantou High-New Technology Development Zone songtian Enterprise	CD	Max. 3300pF, min. 250 Vac, 125°C	IEC/EN 60384-14:2005,UL1414	UL, VDE
Y-Capacitor (CY2,CY3) (GTR) (Optional) Y1 or Y2 type	Murata MFG	KX, KY, KH	Min. 250 V, Max. 3300pF 125°C	IEC/EN 60384-14:2005,UL1414	UL, VDE
(Alternative)	TDK-EPC	CD, CS	Min. 250 V, Max. 3300pF 125°C	IEC/EN 60384-14:2005,UL1414	UL, VDE
(Alternative)	Jya-Nay	JN	Min. 250 V, Max. 3300pF 125°C	IEC/EN 60384-14:2005,UL1414	UL, VDE
(Alternative)	Walsin Technology	AH, KL	Min. 250 V, Max. 3300pF 125°C	IEC/EN 60384-14:2005,UL1414	UL, VDE
(Alternative)	Success Electronics	SE, SB, SF	Min. 250 V, Max. 3300pF 125°C	IEC/EN 60384-14:2005,UL1414	UL, VDE
(Alternative)	Welson Industrial	WD, KL	Min. 250 V, Max. 3300pF 125°C	IEC/EN 60384-14:2005,UL1414	UL, VDE
(Alternative)	Shantou High-New Technology Development Zone songtian Enterprise	CE	Min. 250 V, Max. 3300pF 125°C	IEC/EN 60384-14:2005,UL1414	UL, VDE

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Y-Capacitor (CY1, CY2) (PAA) (optional) (Y1 or Y2 type)	Murata	KH	max. 4700pF, 250V, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	Success	SE	max. 4700pF, 250V, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	Success	SB	max. 2200pF, 250V, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	TDK-EPC Corp.	CS	max. 4700pF, 250V, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	Hsuan Tai Electrical Co., Ltd.	CY	max. 4700pF, 250V, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	Panasonic	NS-A	max. 4700pF, 250V, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	Murata Mfg Co., Ltd.	KH	max. 4700pF, 250V, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	Success Electronics	SE	max. 4700pF, 250V, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	Murata Mfg Co., Ltd.	KX	max. 4700pF, 250V, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	TDK Corp.	CD	max. 4700pF, 250V, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	Jya-Nay	JN	max. 4700pF, 250V, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	Welson Industrial	WD	max. 4700pF, 250V, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	Shantou High-New Technology Development Zone songtian Enterprise	CE	max. 4700pF, 250V, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
Bridging Cap. (CY3) (PAA) (Optional)(Y1 type)	Murata	KX	max. 4700pF, 250Vac, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	TDK-EPC	CD	max. 4700pF, 250Vac, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	Success	SE	max. 4700pF, 250Vac, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
(Alternative)	Panasonic	NS-A	max. 4700pF, 250Vac, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	Jya-Nay	JN	max. 4700pF, 250Vac, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	Walsin	AH	max. 4700pF, 250Vac, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	Shantou High-New Technology Development Zone songtian Enterprise	CD	max. 4700pF, 250Vac, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
(Alternative)	Welson	WD	max. 4700pF, 250Vac, 125°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
Bridge Diode (BD1) (KPL, GTR)	Zowie	GBL, GBU	Min. 2 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Shen zhenJU-Topvessel	GBL	Min. 2 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Diodes	KBP	Min. 2 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Liteon	GBL, KBP, GBU, GBJ	Min. 2 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Willas	GBL, KBP	Min. 2 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	SEP	GBU, KBJ, RS	Min. 2 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Panjit	GBL, GBU	Min. 2 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	TSC	UR	Min. 2 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Chongqing Pingwei Enterprise	GBL	Min. 2 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	HY	KBP	Min. 2 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Vishay	KBP	Min. 2 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	UPM	KBP	Min. 2 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	LH	KBP	Min. 2 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	PY	GBP	Min. 2 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Zhonghuan	T2K	Min. 2 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	HS	T2K	Min. 2 A, min. 600 V	IEC/EN 62368-1	Tested with appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alternative	Changzhou Galaxy Century Microelectronics	GBL, GBU, GBS	Min. 2 A, min. 600V	IEC/EN 62368-1	Tested with appliance
Alternative	Yangzhou Yangjie Electronic Technology	GBL, GBU, GBS	Min. 2 A, min. 600V	IEC/EN 62368-1	Tested with appliance
Bridge diode (BD1) (2ABF, 2ACL)	Zowie	GBL, GBU	Min. 4 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	ShenzhenJU-Topvessel	GBL	Min. 4 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Diodes	KBP	Min. 4 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Liteon	GBL, KBP, GBU, GBJ	Min. 4 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Willas	GBL	Min. 4 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	SEP	GBU, KBJ, RS	Min. 4 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Panjit	GBL, GBU	Min. 4 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	TSC	UR,GBL	Min. 4 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Lision	UR,GBL	Min. 4 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	HY	UR,GBL	Min. 4 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Chongqing Pingwei	UR,GBL	Min. 4 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Ripple Capacitor (C2) (KPL PCB with fuse: FUSE1)	Kuan kun Electronic enterprise	SK, SE	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	NCC	KMQ, SMQ, SMG, KMG, KXJ	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	Man Yue Electronics	KM, RT	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	Taiwan Chinsan Electronics	DW, DV, MV, MW, MJ, DJ, VW, MZ, PV	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	Capxon	KM, KL, FL, KF, KY, FK	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	Hunan Aihua Group	WH, RH	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	Lelon Electronics	RGA, RXB, RXC, RXQ	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternative	Taicon	AM, AS, AQ, BY, SD, SK	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	Nichicon	CY, CS	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	ELITE	MV, DV	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	SUSCON	MF, HE, SE	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	SAMXON	RT	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	AISHI	HS	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	Chengxing	GL, KL, KM	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Ripple Capacitor (C2) (KPL PCB with fuse: F1, F2)	Kuan kun Electronic enterprise	SK, SE	68-150uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	NCC	KMQ, SMQ, SMG, KMG, KXJ	68-150 uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	Man Yue Electronics	KM, RT	68-150 uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	Taiwan Chinsan Electronics	DW, DV, MV, MW, MJ, DJ, VW, MZ, PV	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	Capxon	KM, KL, FL, KF, KY, FK	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	Hunan Aihua Group	WH, RH	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	Lelon Electronics	RGA, RXB, RXC, RXQ	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	Taicon	AM, AS, AQ, BY, SD, SK	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	Nichicon	CY, CS	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	ELITE	MV, DV	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternative	SUSCON	MF, HE, SE	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	SAMXON	RT	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	AISHI	HS	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Alternative	Chengxing	GL, KL, KM	68-120uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Electrolytic Capacitors (C1: 2ABF) (C2: 2ACL, GTR, PAA)	Kuan kun Electronic	SK, SE	68-150uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Test with appliance
Alternative	NCC	KMQ, KMG, KXJ	68-150uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Test with appliance
Alternative	Man Yue Electronics	KM, RT	68-150uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Test with appliance
Alternative	Taiwan Chinsan Electronics	DW, DV, MV, MW, MJ, DJ, VW, MZ, PV	68-150uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Test with appliance
Alternative	Capxon	KM, KL, FL, KF, KY, FK	68-150uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Test with appliance
Alternative	Hunan Aihua Group	WH, RH	68-150uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Test with appliance
Alternative	Lelon Electronics	RGA, RXB, RXC, RXQ	68-150uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Test with appliance
Alternative	Taicon	AM, AS, AQ, BY, SD, SK	68-150uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Test with appliance
Alternative	Nichicon	CY, CS	68-150uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Test with appliance
Alternative	ELITE	MV, DV	68-150uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Test with appliance
Alternative	SUSCON	MF, HE, SE	68-150uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Test with appliance
Alternative	SAMXON	RT	68-150uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Test with appliance
Alternative	AISHI	HS	68-150uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Test with appliance

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternative	Chengxing	GL, KL, KM	68-150uF, min. 400 V, min. 105°C	IEC/EN 62368-1	Test with appliance
Transistor (Q1) (KPL)	WINSEMI Electronics	WFF	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	NEC	3SK, 2SK	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	ON Semiconductor	NDF,	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Fairchild	FQPF	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Toshiba Corporation Semiconductor	2SK, TK, K	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Unisonic Technologies	xN, x=8-20	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Miracle Technology	MPF,NPF,NP D	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Miracle Technology	MPF,NPF,NP D	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Magnachip semiconductor	MDF,MMFT	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Alpha & Omega Semiconductor	AOTF	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	SILAN	SVD	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	SL	SVF, SVD	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	STMicroelectronic s	STP	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Fairchild Semiconductor	FCP, FCPF, FDP, FDPF	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	CET	CEF, CED, CEP	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	IPS	ITA, ISA	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
Alternative	Infineon	IPA,IPP,SPA, SPP	Min. 4.5 A, min. 600 V	IEC/EN 62368-1	Tested with appliance
MOSFET (Q2: 2ABF) (Q1: 2ACL, GTR)	Infineon	IPA,IPP,SPA, SPP	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	Hznghzhou Silan Microelectronic	SVF	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	STMicroelectronic s	STF, STP	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	Unisonic Technologies	xN, x=8-20	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	Korea Electronics	KHB,KPS,KF	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	InPower Semiconductor	ITA,ISA,ITD	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternative	Hi-Sincerity Microelectronic	H	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	Wuxi China Resources Semico	CS	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	Miracle Technology	MPF,NPF,NP D	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	Toshiba Corporation	TK,2SK,T	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	Taiwan Semiconductor	TSM	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	LiSion Technology	LS	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	Magnachip semiconductor	MDF,MMFT	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	Niko-Sem	PO	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	Alpha & Omega Semiconductor	AOTF	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	Fairchild Semiconductor	FCP, FCPF, FDP, FDPF	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	Rohm Semiconductor (Taiwan)	R	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	International Rectifier	IRFP, IRFB	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	Trinno Technology	TMPF	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	SILAN	SVD	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	Toshiba	2SK	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	SL	SVF, SVD	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	Jiangsu Dongguan Micro-electronics	DG	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	CET-MOS Corporation	CEF	Min. 8 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Alternative	Winsemi	WFF	Min. 6 A, min. 600 V.	IEC/EN 62368-1	Test with appliance
Current Sensor Resistor (R9,R15,R16, R18,R23) (KPL PCB with FUSE1)	Tzaiyuan Enterprise Co., Ltd	SMD	Min. 1.8 Ω , min. 1/4 W	IEC/EN 62368-1	Tested with appliance
Alternative	Yageo Corporation	SMD	Min. 1.8 Ω , min. 1/4 W	IEC/EN 62368-1	Tested with appliance
Alternative	Giant Chip Technology	SMD	Min. 1.8 Ω , min. 1/4 W	IEC/EN 62368-1	Tested with appliance
Alternative	Kunshan Funtex Electronics	SMD	Min. 1.8 Ω , min. 1/4 W	IEC/EN 62368-1	Tested with appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Current Sensor Resistor (R9,R15,R16, R18,R23) (KPL PCB with F1, F2)	Tzaiyuan Enterprise	SMD	Min. 1.5 Ω , min. 1/4 W	IEC/EN 62368-1	Tested with appliance
Alternative	Yageo Corporation	SMD	Min. 1.5 Ω , min. 1/4 W	IEC/EN 62368-1	Tested with appliance
Alternative	Giant Chip Technology	SMD	Min. 1.5 Ω , min. 1/4 W	IEC/EN 62368-1	Tested with appliance
Alternative	Kunshan Funtex Electronics	SMD	Min. 1.5 Ω , min. 1/4 W	IEC/EN 62368-1	Tested with appliance
Current sense resistor (R34,R35,R36, R37, R38: 2ABF) (R9,R15,R16, R18,R23: 2ACLw=A or blank)	Tzaiyuan Enterprise	SMD	Min. 1.2 Ω , min. 1/4 W	IEC/EN 62368-1	Test with appliance
Alternative	Yageo Corporation	SMD	Min. 1.2 Ω , min. 1/4 W	IEC/EN 62368-1	Test with appliance
Alternative	Giant Chip Technology	SMD	Min. 1.2 Ω , min. 1/4 W	IEC/EN 62368-1	Test with appliance
Alternative	Kunshan Funtex Electronics	SMD	Min. 1.2 Ω , min. 1/4 W	IEC/EN 62368-1	Test with appliance
Current sense resistor (R9,R15,R16,R 18: 2ACLw=B)	Tzaiyuan Enterprise	SMD	Min. 0.51 Ω , min. 1/4 W	IEC/EN 62368-1	Test with appliance
Alternative	Yageo Corporation	SMD	Min. 0.51 Ω , min. 1/4 W	IEC/EN 62368-1	Test with appliance
Alternative	Giant Chip Technology	SMD	Min. 0.51 Ω , min. 1/4 W	IEC/EN 62368-1	Test with appliance
Alternative	Kunshan Funtex Electronics	SMD	Min. 0.51 Ω , min. 1/4 W	IEC/EN 62368-1	Test with appliance
Current Sensor Resistor (R9,R15,R16) (GTR)	Tzaiyuan Enterprise	SMD	Min. 1.4 Ω , min. 1/4 W	IEC/EN 62368-1	Test with appliance
Alternative	Yageo Corporation	SMD	Min. 1.4 Ω , min. 1/4 W	IEC/EN 62368-1	Test with appliance
Alternative	Giant Chip Technology	SMD	Min. 1.4 Ω , min. 1/4 W	IEC/EN 62368-1	Test with appliance
Alternative	Kunshan Funtex Electronics	SMD	Min. 1.4 Ω , min. 1/4 W	IEC/EN 62368-1	Test with appliance
Current Sensor Resistor (R22) (PAA)	Tzaiyuan Enterprise	SMD	0.3-0.75 Ω , min. 1/2 W	IEC/EN 62368-1	Test with appliance
Alternative	Yageo Corporation	SMD	0.3-0.75 Ω , min. 1/2 W	IEC/EN 62368-1	Test with appliance

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternative	Giant Chip Technology	SMD	0.3-0.75 Ω , min. 1/2 W	IEC/EN 62368-1	Test with appliance
Alternative	Kunshan Funtex Electronics	SMD	0.3-0.75 Ω , min. 1/2 W	IEC/EN 62368-1	Test with appliance
Line Choke (LF1) (KPL) (Optional)	Sunycore Electronics	T18*10*7	130°C	IEC/EN 62368-1	Tested with appliance
Alternative	Channel Well Technology	T18*10*7	130°C	IEC/EN 62368-1	Tested with appliance
Alternative	Channel Well Technology	SQ15	130°C	IEC/EN 62368-1	Tested with appliance
Line Choke (LF1) (GTR) (Optional)	Channel Well Technology	T14*8*7	130°C	IEC/EN 62368-1	Tested with appliance
Line Choke (LF2: 2ABF) (LF1: 2ACL)	Channel Well Technology	T16*12*8	130°C	IEC/EN 62368-1	Tested with appliance
Line Choke (LF1: 2ABF) (LF2: 2ACL)	Channel Well Technology	T10*6*5	130°C	IEC/EN 62368-1	Tested with appliance
Line Choke (LF2) (KPL) (Optional)	Sunycore Electronics	T10*6*5+C, T12.7*7.9*5C	130°C	IEC/EN 62368-1	Tested with appliance
Alternative	Channel Well Technology	T10*6*5+C, T12.7*7.9*5C	130°C	IEC/EN 62368-1	Tested with appliance
Line Choke (LF2) (GTR) (Optional)	Channel Well Technology	T9*5*3	130°C	IEC/EN 62368-1	Tested with appliance
Line Choke (LF1) (PAA) (optional)	Channel Well Technology Co., Ltd.	11R140804-ON	120°C	IEC/EN 62368-1	Tested with appliance
Alternative	Wujiang Sunycore	11R140804-ON	120°C	IEC/EN 62368-1	Tested with appliance
Line Choke (LF2) (PAA) (optional)	Channel Well Technology Co., Ltd.	11R140803-ON	120°C	IEC/EN 62368-1	Tested with appliance
Alternative	Wujiang Sunycore	11R140803-ON	120°C	IEC/EN 62368-1	Tested with appliance
Transformer (T1) (O/P 12-16V) (KPL PCB with FUSE1)	Channel Well Technolog	PQ-2620-12	Class B (GH-130)	IEC/EN 62368-1	Tested with appliance
Transformer (T1) (O/P 12-16V) (KPL PCB with F1, F2)	Channel Well Technology	PQ-2620-12-VI	Class B (GH-130)	IEC/EN 62368-1	Tested with appliance
Transformer (T1) (O/P 36V) (KPL PCB with F1,F2)	Channel Well Technology	PQ-2620-36	Class B (GH-130)	IEC/EN 62368-1	Tested with appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Transformer (T1) (O/P 17-24V) (KPL)	Channel Well Technology	PQ-2620-17	Class B (GH-130)	IEC/EN 62368-1	Tested with appliance
Transformer (T1) (O/P 48-56V) (KPL)	Channel Well Technolog	PQ-2620-48	Class B (GH-130)	IEC/EN 62368-1	Tested with appliance
Bobbin	Chang Chun Palstics	T375J	Phenolics, 150°C, V-0	UL94	UL
Triple insulated wire	Great Leoflon Industria	TRW(B)	130°C	IEC/EN 62368-1, UL 2353	VDE, UL
Sleeving	Great Holding Industrial	TFL	200°C, VW-1	UL 224	UL
Transformer (T1) (2ACL, Y=B)	Channel Well Technology	PQ2620-05	Class B	Applicable parts in IEC 62368-1 and acc. To IEC 60085	Accepted by TÜV Rheinland
Transformer (T1) (2ABF, Y=F)	Channel Well Technology	PQ2620-12	Class B	Applicable parts in IEC 62368-1 and acc. To IEC 60085	Accepted by TÜV Rheinland
Transformer (T1) (2ACL, w=A or blank, Y=K,M)	Channel Well Technology	PQ2620-19	Class B	Applicable parts in IEC 62368-1 and acc. To IEC 60085	Accepted by TÜV Rheinland
Transformer (T1) (2ACL, w=B, Y=M)	Channel Well Technology	PQ3220-24V	Class B	Applicable parts in IEC 62368-1 and acc. To IEC 60085	Accepted by TÜV Rheinland
Transformer (T1) (2ACL, 2ABF, Y=R,S,U)	Channel Well Technology	PQ2620-48	Class B	Applicable parts in IEC 62368-1 and acc. To IEC 60085	Accepted by TÜV Rheinland
Bobbin	Chang Chun Palstics	T375J	Phenolics, 150 °C, V-0	UL94	UL
Triple insulated wire	Great Leoflon Industrial	TRW(B)	130°C	IEC/EN 62368-1, UL 2353	VDE, UL
Sleeving	Great Holding Industrial	TFL	200°C, VW-1	UL 224	UL
Transformer (T1) (GTR)	Channel Well Technolog	RM10-12	Class B (GH-130)	IEC/EN 62368-1	Tested with appliance
-Bobbin	Chang Chun Palstics	T375J	Phenolics, 150°C, V-0	UL94	UL
-Triple insulated wire	Great Leoflon Industrial	TRW(B)	130°C	IEC/EN 60950-1, UL 2353	VDE, UL
Transformer (T1) (for models PAA060M)	Channel Well Technology Co., Ltd.	09P260003-ON	Class B	applicable parts in IEC 60950-1 and evaluated acc. to IEC 60085	accepted by TÜV Rheinland

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alternative	Suzhou Zhongtai	09P260003-ON	Class B	Applicable part in IEC 60950-1 and evaluated according to IEC 60085	Accepted by TÜV Rheinland
Triple Insulated wire used in T1	Furukawa	TEX-E	130°C	IEC/EN 62368-1	TÜV
Optocoupler (IC1: KPL, 2ACL, GTR) (U4: 2ABF) (U2: PAA)	Lite-On Technology	LTV-817, LTV-817S	Dti ≥ 0.4 mm, Int. cr > 4.0 mm, Ext. cr = 8.0mm, 110 °C	DIN EN 60747-5-5, UL 1577	VDE, Fimko, UL
Alternative	Cosmo Electronics	K1010	Dti = 0.5 mm, Int. cr = 5.3 mm, Ext. cr = 8.0mm, 110 °C	DIN EN 60747-5-5, UL 1577	VDE, Fimko, UL
Alternative	Toshiba Corp. Semiconductor	TLP781/TL781F	Dti = 0.5 mm, Int. cr = 6.0 mm, Ext. cr = 7.7mm, 110 °C	DIN EN 60747-5-5, UL 1577	VDE, Fimko, UL
Alternative	Everlight Electronics	EL817	Dti = 0.5 mm, Int. cr = 6.0 mm, Ext. cr = 7.7mm, 110 °C	DIN EN 60747-5-5, UL 1577	VDE, Fimko, UL
Alternative	Fairchild Semiconductor	FOD817	Dti ≥ 0.4 mm, Int. cr ≥ 5.0 mm, Ext. cr ≥ 7.0mm, 110 °C	DIN EN 60747-5-5, UL 1577	VDE, Fimko, UL
Alternative	Sharp Corp Electronic Components And Devices Group	PC817	Dti = 0,7 mm, Int. cr = 5,0 mm, Ext. cr = 8,0mm. 110°C	DIN EN 60747-5-5, UL 1577	VDE, UL
Alternative	Sharp Corp Electronic Components And Devices Group	PC123	Dti = 0,7 mm, Int. cr = 5,0 mm, Ext. cr = 8,0mm. 110°C	DIN EN 60747-5-5, UL 1577	VDE, UL
Alternative	Cosmo Electronics	KPC817	di = 0.5 mm, int. dcr = 5.3 mm, ext. dcr = 8.0 mm, 5000 Vac, 100 oC	DIN EN 60747-5-5, UL 1577	UL, VDE
Alternative	Lite-On Technology	LTV-10xx, xx=06,07,08,09	di=0.4mm, thermal cycling, ext. dcr=8.0mm 100°C	DIN EN 60747-5-5, UL 1577	VDE, UL
(Alternative)	Vishay Semiconductor Gmbh	TCLT1008	di=0.4mm, thermal cycling, ext. dcr=8.0mm 100°C	DIN EN 60747-5-5, UL 1577	VDE, UL
(Alternative)	Vishay Semiconductor Gmbh	TCLT1006	di=0.4mm, thermal cycling, ext. dcr=8.0mm 100°C	DIN EN 60747-5-5, UL 1577	VDE, UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Vishay Semiconductor Gmbh	TCET1109	di=0.6mm, thermal cycling, ext. dcr=8.4mm 100°C	DIN EN 60747-5-5, UL 1577	VDE, UL
(Alternative)	CT	CT1018, CT1017	5000 vac isolation ExternalCr. & Cl.. = 8.0mm; Dti. = min. 0.4mm min 100° C	IEC/EN 60747-5-5, UL 1577	VDE, UL
(Alternative)	CT Micro International Corporation	CT817	Dti >0.4mm, ext.dcr>7.0mm, 110° C	IEC/EN 60747-5-5, UL 1577	VDE, UL
Insulator sheet (KPL PCB with fuse: FUSE1)	ITW Electronics Components/ Products (Shanghai)	FORMEXGK-17	V-1 or better, thickness 0.43 mm min.	UL 510A	UL
Alternative	YI-HSN Plastech	YIMEXPP-17	V-1 or better, thickness 0.43 mm min.	UL 510A	UL
Output cable	Xinfeng Kangxin Enterprise	SPT-1	22AWG min, 300V, 80°C min, VW-1	UL 758	UL
Alternative	Channel Well Technology	1185	22AWG min, 300V, 80°C min, VW-1	UL 758	UL
Alternative	Channel Well Technology	10748	22AWG min, 300V, 80°C min, VW-1	UL 758	UL
Alternative	Channel Well Technology	2468	22AWG min, 300V, 80°C min, VW-1	UL 758	UL
Alternative	Channel Well Technology	2464	22AWG min, 300V, 80°C min, VW-1	UL 758	UL
Thermal pad for C2 (KPL O/P _≥ 60W models)	Pioneer Material Precision Tech	PMP-P-300	V-2 or better	UL 94	UL
Rubber pad (under PCB) (KPL)	Inaoc	CR4505	HF-1 or better	UL 94	UL
Thermistor (TH1) (2ABF, 2ACL,GTR) (Optional)	Thinking Electronic	SCK	Max. 5Ω, min. 3A at 25°C	IEC/EN 62368-1	Test with appliance
Alternative	Nanjing shiheng Electronics	MF72	Max. 5Ω, min. 3A at 25°C	IEC/EN 62368-1	Test with appliance

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Gas tube (SA1, SA2 for 2ABF, 2ACL) (TVSA, TVSB for KPL PCB with F1, F2) (optional)	Sinnagata	SPG-xxxM	Min200V	IEC/EN 62368-1	Test with appliance
Alternative	Brightking	BK3200xxx2	Min200V	IEC/EN 62368-1	Test with appliance
Alternative	Littlefuse Inc	SE200+	Min200V	IEC/EN 62368-1	Test with appliance
Alternative	Thinking Electronic industrial	GS22R200-C	Min85V	ANSI/UL 1449	UL
Supplementary information:					
Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Manufacturer Testing Laboratory according to TMP/CTF stage 1 or WMT/CTF stage 2 procedure has been used.

Clause	Measurement / testing	Testing / measuring equipment / material used	Range used	Calibration date (MM/DD/YYYY)
Report No. 31581397.036				
B.3, B4	Abnormal	Agilent Data Acquisition / 34970A / #6	0°C–150°C	01/05/2022
B.3, B4	Abnormal	Chroma Power Meter / 66202 / #18	0-300V/ 0-20A	01/05/2022
Report No. 31581397.030				
5.4.1.4, 6.3.2, 9.0, B.2.6	Heating Test,	Agilent Data Acquisition / 34970A / #6	0°C–150°C	12/23/2019
5.4.1.4, 6.3.2, 9.0, B.2.6	Heating Test	Environment Chamber / 1007H / #14	-40°C–70°C / 25%RH–90%RH	12/23/2019
5.4.1.4, 6.3.2, 9.0, B.2.6	Heating Test	Chroma AC Source / 61505 / #1	0-300V/ 0-20A	12/23/2019
5.4.8	Humidity Conditioning	Environment Chamber / 1007H / #14	-40°C–70°C / 25%RH–90%RH	12/23/2019
5.4.9	Electric Strength	Hi-pot Tester / Associated Research– 3770 / #11	0-5kVrms / 0-6kVdc	12/23/2019
5.5.2.2	Discharge of capacitor	Oscilloscope / Tektronix – TDS3014C / #17	--	12/24/2019
5.6.6.2	Resistance of protective conductors and terminations	Ground Bond Tester / Associated Research – 3140 / #12	0-40A	12/23/2019
5.7.2	Touch Current	Leakage Current Tester / Associated Research – 620L / #13	--	12/24/2019
6.2	Power source circuit classifications	Chroma Power Meter / 66202 / #18	0-300V/ 0-20A	12/23/2019
6.2	Power source circuit classifications	Digital Multimeter / Agilent– 344041A / #15	--	12/23/2019
B.2.5	Input test	Chroma AC Source / 61505 / #1	0-300V/ 0-20A	12/23/2019
B.2.5	Input test	Chroma Power Meter / 66202 / #18	0-300V/ 0-20A	12/23/2019
B.3, B4	Abnormal	Agilent Data Acquisition / 34970A / #6	0°C–150°C	12/23/2019
B.3, B4	Abnormal	Chroma Power Meter / 66202 / #18	0-300V/ 0-20A	12/23/2019



IEC62368_1E- ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment - Part 1: Safety requirements)			
Differences according to : EN IEC 62368-1:2020+A11:2020			
Attachment Form No. : EU_GD_IEC62368_1E			
Attachment Originator : UL(Demko)			
Master Attachment : 2021-02-04			
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	CENELEC COMMON MODIFICATIONS (EN)		P
	Clause numbers in the cells that are shaded light grey are clause references in EN IEC 62368-1:2020+A11:2020. All other clause numbers in that column, except for those in the paragraph below, refers to IEC 62368-1:2018. Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2018 are prefixed "Z".		P
	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords		P
1	Modification to Clause 3.		
3.3.19	Sound exposure <i>Replace 3.3.19 of IEC 62368-1 with the following definitions:</i>		N/A
3.3.19.1	momentary exposure level, MEL metric for estimating 1 s sound exposure level from the HD 483-1 S2 test signal applied to both channels, based on EN 50332-1:2013, 4.2. Note 1 to entry: MEL is measured as A-weighted levels in dB. Note 2 to entry: See B.3 of EN 50332-3:2017 for additional information.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.19.3	<p>sound exposure, E</p> <p>A-weighted sound pressure (p) squared and integrated over a stated period of time, T</p> <p>Note 1 to entry: The SI unit is $\text{Pa}^2 \text{s}$.</p> $E = \int_0^T p(t)^2 dt$		N/A
3.3.19.4	<p>sound exposure level, SEL</p> <p>logarithmic measure of sound exposure relative to a reference value, E_0, typically the 1 kHz threshold of hearing in humans.</p> <p>Note 1 to entry: SEL is measured as A-weighted levels in dB.</p> $SEL = 10 \lg \left(\frac{E}{E_0} \right) \text{ dB}$ <p>Note 2 to entry: See B.4 of EN 50332-3:2017 for additional information.</p>		N/A
3.3.19.5	<p>digital signal level relative to full scale, dBFS</p> <p>levels reported in dBFS are always r.m.s. Full scale level, 0 dBFS, is the level of a dc-free 997-Hz sine wave whose undithered positive peak value is positive digital full scale, leaving the code corresponding to negative digital full scale unused</p> <p>Note 1 to entry: It is invalid to use dBFS for non-r.m.s. levels. Because the definition of full scale is based on a sine wave, the level of signals with a crest factor lower than that of a sine wave may exceed 0 dBFS. In particular, square wave signals may reach +3,01 dBFS.</p>		N/A
2	Modification to Clause 10		
10.6	<p>Safeguards against acoustic energy sources</p> <p>Replace 10.6 of IEC 62368-1 with the following:</p>		N/A
10.6.1.1	<p>Introduction</p> <p>Safeguard requirements for protection against long-term exposure to excessive sound pressure levels from personal music players closely coupled to the ear are specified below. Requirements for earphones and headphones intended for use with personal music players are also covered. A personal music player is a portable equipment intended for use by an ordinary person, that:</p> <ul style="list-style-type: none"> – is designed to allow the user to listen to audio or audiovisual content / material; and – uses a listening device, such as headphones or earphones that can be worn in or on or around the ears; and – has a player that can be body worn (of a size suitable to be carried in a clothing pocket) and 		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>is intended for the user to walk around with while in continuous use (for example, on a street, in a subway, at an airport, etc.).</p> <p>EXAMPLES Portable CD players, MP3 audio players, mobile phones with MP3 type features, PDAs or similar equipment.</p> <p>Personal music players shall comply with the requirements of either 10.6.2 or 10.6.3.</p> <p>NOTE 1 Protection against acoustic energy sources from telecom applications is referenced to ITU-T P.360.</p> <p>NOTE 2 It is the intention of the Committee to allow the alternative methods for now, but to only use the dose measurement method as given in 10.6.5 in future. Therefore, manufacturers are encouraged to implement 10.6.5 as soon as possible.</p> <p>Listening devices sold separately shall comply with the requirements of 10.6.6.</p> <p>These requirements are valid for music or video mode only.</p> <p>The requirements do not apply to:</p> <ul style="list-style-type: none"> – professional equipment; <p>NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.</p> <ul style="list-style-type: none"> – hearing aid equipment and other devices for assistive listening; – the following type of analogue personal music players: <ul style="list-style-type: none"> • long distance radio receiver (for example, a multiband radio receiver or world band radio receiver, an AM radio receiver), and • cassette player/recorder; <p>NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies.</p> <ul style="list-style-type: none"> – a player while connected to an external amplifier that does not allow the user to walk around while in use. <p>For equipment that is clearly designed or intended primarily for use by children, the limits of the relevant toy standards may apply.</p> <p>The relevant requirements are given in EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.</p>		
10.6.1.2	<p>Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz</p> <p>The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of</p>	No such part in this equipment	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body mounted devices, attention is drawn to EN 50360 and EN 50566.</p>		
10.6.2	Classification of devices without the capacity to estimate sound dose		N/A
10.6.2.1	<p>General</p> <p>This standard is transitioning from short-term based (30 s) requirements to long-term based (40 hour) requirements. These clauses remain in effect only for devices that do not comply with sound dose estimation as stipulated in EN 50332-3.</p> <p>For classifying the acoustic output $L_{Aeq, T}$, measurements are based on the A-weighted equivalent sound pressure level over a 30 s period.</p> <p>For music where the average sound pressure (long term $L_{Aeq, T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, measurements may be done over the duration of the complete song. In this case, T becomes the duration of the song.</p> <p>NOTE Classical music, acoustic music and broadcast typically has an average sound pressure (long term $L_{Aeq, T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the content and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song does not exceed the required limit. For example, if the player is set with the programme simulation noise to 85 dB, but the average music level of the song is only 65 dB, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dB.</p>	No such part in this equipment	N/A
10.6.2.2	<p>RS1 limits (to be superseded, see 10.6.3.2)</p> <p>RS1 is a class 1 acoustic energy source that does not exceed the following:</p> <ul style="list-style-type: none"> – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq, T}$ acoustic output shall be ≤ 85 dB when playing the fixed “programme simulation noise” described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 27 mV (analogue interface) or -25 dBFS (digital interface) when playing the fixed “programme 		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	simulation noise" described in EN 50332-1. – The RS1 limits will be updated for all devices as per 10.6.3.2.		
10.6.2.3	RS2 limits (to be superseded, see 10.6.3.3) RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or when the combination of player and listening device is known by other means such as setting or automatic 130 detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 100 dB(A) when playing the fixed "programme simulation noise" as described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 150 mV (analogue interface) or -10 dBFS (digital interface) when playing the fixed "programme simulation noise" as described in EN 50332-1.		N/A
10.6.2.4	RS3 limits RS3 is a class 3 acoustic energy source that exceeds RS2 limits.		N/A
10.6.3	Classification of devices (new)		N/A
10.6.3.1	General Previous limits (10.6.2) created abundant false negative and false positive PMP sound level warnings. New limits, compliant with The Commission Decision of 23 June 2009, are given below.		N/A
10.6.3.2	RS1 limits (new) RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 80 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed "programme simulation noise" described in EN 50332-1.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.6.3.3	RS2 limits (new) RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the weekly sound exposure level, as described in EN 50332-3, shall be ≤ 80 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output level, integrated over one week, as described in EN 50332-3, shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed "programme simulation noise" described in EN 50332-1.		N/A
10.6.4	Requirements for maximum sound exposure		N/A
10.6.4.1	Measurement methods All volume controls shall be turned to maximum during tests. Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable.		N/A
10.6.4.2	Protection of persons Except as given below, protection requirements for parts accessible to ordinary persons, instructed persons and skilled persons are given in 4.3. NOTE 1 Volume control is not considered a safeguard . Between RS2 and an ordinary person , the basic safeguard may be replaced by an instructional safeguard in accordance with Clause F.5, except that the instructional safeguard shall be placed on the equipment, or on the packaging, or in the instruction manual. Alternatively, the instructional safeguard may be given through the equipment display during use. The elements of the instructional safeguard shall be as follows: <div style="text-align: center;">  </div> – element 1a: the symbol  , IEC 60417-6044 (2011-01) – element 2: "High sound pressure" or equivalent wording – element 3: "Hearing damage risk" or equivalent wording – element 4: "Do not listen at high volume levels for long periods." or equivalent wording		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	<p>An equipment safeguard shall prevent exposure of an ordinary person to an RS2 source without intentional physical action from the ordinary person and shall automatically return to an output level not exceeding what is specified for an RS1 source when the power is switched off.</p> <p>The equipment shall provide a means to actively inform the user of the increased sound level when the equipment is operated with an output exceeding RS1. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an output exceeding RS1. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time.</p> <p>NOTE 2 Examples of means include visual or audible signals. Action from the user is always needed.</p> <p>NOTE 3 The 20 h listening time is the accumulative listening time, independent of how often and how long the personal music player has been switched off.</p> <p>A skilled person shall not be unintentionally exposed to RS3.</p>		
10.6.5	Requirements for dose-based systems		N/A
10.6.5.1	<p>General requirements</p> <p>Personal music players shall give the warnings as provided below when tested according to EN 50332-3, using the limits from this clause.</p> <p>The manufacturer may offer optional settings to allow the users to modify when and how they wish to receive the notifications and warnings to promote a better user experience without defeating the safeguards. This allows the users to be informed in a method that best meets their physical capabilities and device usage needs. If such optional settings are offered, an administrator (for example, parental restrictions, business/educational administrators, etc.) shall be able to lock any optional settings into a specific configuration.</p> <p>The personal music player shall be supplied with easy to understand explanation to the user of the dose management system, the risks involved, and how to use the system safely. The user shall be made aware that other sources may significantly contribute to their sound exposure, for example work, transportation, concerts, clubs, cinema, car races, etc.</p>		N/A
10.6.5.2	<p>Dose-based warning and requirements</p> <p>When a dose of 100 % <i>CSD</i> is reached, and at least at every 100 % further increase of <i>CSD</i>, the device shall warn the user and require an acknowledgement. In case the user does not</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	<p>acknowledge, the output level shall automatically decrease to compliance with class RS1.</p> <p>The warning shall at least clearly indicate that listening above 100 % CSD leads to the risk of hearing damage or loss.</p>		
10.6.5.3	<p>Exposure-based requirements</p> <p>With only dose-based requirements, cause and effect could be far separated in time, defying the purpose of educating users about safe listening practice. In addition to dose-based requirements, a PMP shall therefore also put a limit to the short-term sound level a user can listen at.</p> <p>The exposure-based limiter (EL) shall automatically reduce the sound level not to exceed 100 dB(A) or 150 mV integrated over the past 180 s, based on methodology defined in EN 50332-3.</p> <p>The EL settling time (time from starting level reduction to reaching target output) shall be 10 s or faster.</p> <p>Test of EL functionality is conducted according to EN 50332-3, using the limits from this clause. For equipment provided as a package (player with its listening device), the level integrated over 180 s shall be 100 dB or lower. For equipment provided with a standardized connector, the unweighted level integrated over 180 s shall be no more than 150 mV for an analogue interface and no more than -10 dBFS for a digital interface.</p> <p>NOTE In case the source is known not to be music (or test signal), the EL may be disabled.</p>		N/A
10.6.6	Requirements for listening devices (headphones, earphones, etc.)	N/A	
10.6.6.1	<p>Corded listening devices with analogue input</p> <p>With 94 dB L_{Aeq} acoustic pressure output of the listening device, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the input voltage of the listening device when playing the fixed “programme simulation noise” as described in EN 50332-1 shall be ≥ 75 mV.</p> <p>NOTE The values of 94 dB and 75 mV correspond with 85 dB and 27 mV or 100 dB and 150 mV.</p>		N/A
10.6.6.2	<p>Corded listening devices with digital input</p> <p>With any playing device playing the fixed “programme simulation noise” described in EN 50332-1, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like</p>		N/A

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Clause	Requirement + Test			Result - Remark		Verdict																																																												
	equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the $L_{Aeq, T}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.																																																																	
10.6.6.3	Cordless listening devices In cordless mode, – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the cordless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and – with volume and sound settings in the receiving device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the above mentioned programme simulation noise, the $L_{Aeq, T}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.					N/A																																																												
10.6.6.4	Measurement method <i>Measurements shall be made in accordance with EN 50332-2 as applicable.</i>					N/A																																																												
3	Modification to the whole document																																																																	
	Delete all the “country” notes in the reference document according to the following list: <table><tr><td>0.2.1</td><td>Note 1 and 2</td><td>1</td><td>Note 4 and 5</td><td>3.3.8.1</td><td>Note 2</td></tr><tr><td>3.3.8.3</td><td>Note 1</td><td>4.1.15</td><td>Note</td><td>4.7.3</td><td>Note 1 and 2</td></tr><tr><td>5.2.2.2</td><td>Note</td><td>5.4.2.3.2.2 Table 12</td><td>Note c</td><td>5.4.2.3.2.4</td><td>Note 1 and 3</td></tr><tr><td>5.4.2.3.2.4 Table 13</td><td>Note 2</td><td>5.4.2.5</td><td>Note 2</td><td>5.4.5.1</td><td>Note</td></tr><tr><td>5.4.10.2.1</td><td>Note</td><td>5.4.10.2.2</td><td>Note</td><td>5.4.10.2.3</td><td>Note</td></tr><tr><td>5.5.2.1</td><td>Note</td><td>5.5.6</td><td>Note</td><td>5.6.4.2.1</td><td>Note 2 and 3 and 4</td></tr><tr><td>5.6.8</td><td>Note 2</td><td>5.7.6</td><td>Note</td><td>5.7.7.1</td><td>Note 1 and Note 2</td></tr><tr><td>8.5.4.2.3</td><td>Note</td><td>10.2.1 Table 39</td><td>Note 3 and 4 and 5</td><td>10.5.3</td><td>Note 2</td></tr><tr><td>10.6.1</td><td>Note 3</td><td>F.3.3.6</td><td>Note 3</td><td>Y.4.1</td><td>Note</td></tr><tr><td>Y.4.5</td><td>Note</td><td></td><td></td><td></td><td></td></tr></table>					0.2.1	Note 1 and 2	1	Note 4 and 5	3.3.8.1	Note 2	3.3.8.3	Note 1	4.1.15	Note	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 12	Note c	5.4.2.3.2.4	Note 1 and 3	5.4.2.3.2.4 Table 13	Note 2	5.4.2.5	Note 2	5.4.5.1	Note	5.4.10.2.1	Note	5.4.10.2.2	Note	5.4.10.2.3	Note	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3 and 4	5.6.8	Note 2	5.7.6	Note	5.7.7.1	Note 1 and Note 2	8.5.4.2.3	Note	10.2.1 Table 39	Note 3 and 4 and 5	10.5.3	Note 2	10.6.1	Note 3	F.3.3.6	Note 3	Y.4.1	Note	Y.4.5	Note					N/A
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Clause	Requirement + Test	Result - Remark	Verdict
1	Add the following note: <i>NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.</i>		P
5	Modification to 4.Z1		P
4.Z1	Add the following new subclause after 4.9: To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. mains , protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for pluggable equipment type B or permanently connected equipment , to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for pluggable equipment type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.	Protective device included in equipment	P
6	Modification to 5.4.2.3.2.4		N/A
5.4.2.3.2.4	Add the following to the end of this subclause: The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.		N/A
7	Modification to 10.2.1		N/A
10.2.1	Add the following to ^{c)} and ^{d)} in table 39: For additional requirements, see 10.5.1.		N/A
8	Modification to 10.5.1		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	<p>Add the following after the first paragraph:</p> <p>For RS 1 compliance is checked by measurement under the following conditions:</p> <p>In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or pre-sets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.</p> <p>NOTE Z1 Soldered joints and paint lockings are examples of adequate locking.</p> <p>The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.</p> <p>Moreover, the measurement shall be made under fault conditions causing an increase of the high voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.</p> <p>For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.</p> <p>NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.</p>		N/A
9	Modification to G.7.1		P
G.7.1	<p>Add the following note:</p> <p>NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.</p>		P
10	Modification to Bibliography		P
	<p>Add the following notes for the standards indicated:</p> <p>IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.</p>		P
11	ADDITION OF ANNEXES		P

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Clause	Requirement + Test	Result - Remark	Verdict
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P
4.1.15	<p>Denmark, Finland, Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In Denmark: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord."</p> <p>In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p>		P
4.7.3	<p>United Kingdom</p> <p>To the end of the subclause the following is added:</p> <p>The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex</p>		N/A
5.2.2.2	<p>Denmark</p> <p>After the 2nd paragraph add the following:</p> <p>A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>	No high touch current.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.11.1 and Annex G	<p>Finland and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>For separation of the telecommunication network from earth the following is applicable:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), <p>and</p> <ul style="list-style-type: none"> • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5 kV. <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; <p>the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.</p>	No TNV circuits.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.5.2.1	Norway After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
5.5.6	Finland, Norway and Sweden To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.	No such resistors.	N/A
5.6.1	Denmark Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. <i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A
5.6.4.2.1	Ireland and United Kingdom After the indent for pluggable equipment type A , the following is added: – the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug .		P
5.6.4.2.1	France After the indent for pluggable equipment type A , the following is added: – in certain cases, the protective current rating of the circuit supplied from the mains is taken as 20 A instead of 16 A.		P
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.		N/A
5.6.8	Norway To the end of the subclause the following is added: Equipment connected with an earthed mains plug is classified as class I equipment . See the Norway marking requirement in 4.1.15. The symbol IEC 60417-6092, as specified in F.3.6.2, is accepted.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.6	Denmark To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.	No high protective conductor current.	N/A
5.7.6.2	Denmark To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .		N/A
5.7.7.1	Norway and Sweden To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare.	Not such system.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	<p>For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.”</p> <p>Translation to Swedish: ”Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.</p>		
8.5.4.2.3	<p>United Kingdom</p> <p>Add the following after the 2nd dash bullet in 3rd paragraph:</p> <p>An emergency stop system complying with the requirements of IEC 60204-1 and ISO 13850 is required where there is a risk of personal injury.</p>		N/A
B.3.1 and B.4	<p>Ireland and United Kingdom</p> <p>The following is applicable:</p> <p>To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment, until the requirements of Annexes B.3.1 and B.4 are met</p>		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	<p>Denmark</p> <p>To the end of the subclause the following is added:</p> <p>Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a polyphase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.</p> <p>Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a.</p> <p>Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c.</p> <p>Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a</p> <p><i>Justification:</i> Heavy Current Regulations, Section 6c</p>		N/A
G.4.2	<p>United Kingdom</p> <p>To the end of the subclause the following is added:</p> <p>The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.</p>		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	United Kingdom To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc. (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
G.7.1	Ireland To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		N/A
G.7.2	Ireland and United Kingdom To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm ² is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)	N/A	
10.5.2	Germany The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. <i>Justification:</i> German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int+49-531-592-6320, Internet: http://www.ptb.de	No CRT within the equipment.	N/A

IEC 62368-1

IEC 62368-1																																																							
Clause	Requirement + Test	Result - Remark	Verdict																																																				
ZD	IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS (EN)		N/A																																																				
	<table><tr><th rowspan="2">Type of flexible cord</th><th colspan="2">Code designations</th></tr><tr><th>IEC</th><th>CENELEC</th></tr><tr><td colspan="3">PVC insulated cords</td></tr><tr><td>Flat twin tinsel cord</td><td>60227 IEC 41</td><td>H03VH-Y</td></tr><tr><td>Light polyvinyl chloride sheathed flexible cord</td><td>60227 IEC 52</td><td>H03VV-F H03VVH2-F</td></tr><tr><td>Ordinary polyvinyl chloride sheathed flexible cord</td><td>60227 IEC 53</td><td>H05VV-F H05VVH2-F</td></tr><tr><td colspan="3">Rubber insulated cords</td></tr><tr><td>Braided cord</td><td>60245 IEC 51</td><td>H03RT-F</td></tr><tr><td>Ordinary tough rubber sheathed flexible cord</td><td>60245 IEC 53</td><td>H05RR-F</td></tr><tr><td>Ordinary polychloroprene sheathed flexible cord</td><td>60245 IEC 57</td><td>H05RN-F</td></tr><tr><td>Heavy polychloroprene sheathed flexible cord</td><td>60245 IEC 66</td><td>H07RN-F</td></tr><tr><td colspan="3">Cords having high flexibility</td></tr><tr><td>Rubber insulated and sheathed cord</td><td>60245 IEC 86</td><td>H03RR-H</td></tr><tr><td>Rubber insulated, crosslinked PVC sheathed cord</td><td>60245 IEC 87</td><td>H03RV4-H</td></tr><tr><td>Crosslinked PVC insulated and sheathed cord</td><td>60245 IEC 88</td><td>H03V4V4-H</td></tr><tr><td colspan="3">Cords insulated and sheathed with halogen-free thermoplastic compounds</td></tr><tr><td>Light halogen-free thermoplastic insulated and sheathed flexible cords</td><td></td><td>H03Z1Z1-F H03Z1Z1H2-F</td></tr><tr><td>Ordinary halogen-free thermoplastic insulated and sheathed flexible cords</td><td></td><td>H05Z1Z1-F H05Z1Z1H2-F</td></tr></table>	Type of flexible cord	Code designations		IEC	CENELEC	PVC insulated cords			Flat twin tinsel cord	60227 IEC 41	H03VH-Y	Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F	Ordinary polyvinyl chloride sheathed flexible cord	60227 IEC 53	H05VV-F H05VVH2-F	Rubber insulated cords			Braided cord	60245 IEC 51	H03RT-F	Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F	Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F	Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F	Cords having high flexibility			Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H	Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H	Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H	Cords insulated and sheathed with halogen-free thermoplastic compounds			Light halogen-free thermoplastic insulated and sheathed flexible cords		H03Z1Z1-F H03Z1Z1H2-F	Ordinary halogen-free thermoplastic insulated and sheathed flexible cords		H05Z1Z1-F H05Z1Z1H2-F	N/A
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IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1 U.S.A. AND CANADA NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment – Part 1: Safety requirements)			
Differences according to : CSA/UL 62368-1:2019			
TRF template used: : IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No : US_CA_ND_IEC62368_1E			
Attachment Originator : UL(US)			
Master Attachment : Dated 2022-03-04			
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IEC 62368-1 - US and Canadian National Differences Special National Conditions based on Regulations and Other National Differences			
1 (1DV.1) (1.3)	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part 1, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, for such equipment marked or otherwise identified, installation is allowed per the Standard for the Protection of Information Technology Equipment, ANSI/NFPA 75.		P
1 (1DV.2.1)	This standard includes additional requirements for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities. See Annex DVB.		N/A
1 (1DV.2.2)	This standard includes additional requirements for equipment intended for mounting under cabinets. See Annex DVC.		N/A
1 (1DV.2.3)	IEC 62368-3 clause 5 for DC power transfer at ES1 or ES2 voltage levels is considered informative. IEC 62368-3 clause 6 for remote power feeding telecommunication (RFT) circuits is considered normative (see ITU K.50). Alternatively, equipment with RFT circuits are given in either UL 2391 or CSA/UL 60950-21. RFT-C circuits are not permitted unless the RFT-C circuit complies with RFT-V limits ($\leq 200V$ per conductor to earth).		N/A
1 (1DV.3)	For protection against direct lightning strikes, reference is made to NFPA 780 and CAN/CSA-B72 for additional requirements.		N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1 (DV.5)	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.		N/A
4.1 (4.1.17)	<i>For lengths exceeding 3.05 m, external interconnecting cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the NEC.</i>		N/A
	<i>For lengths 3.05 m or less, external interconnecting cable assemblies that are not types specified in the NEC generally are required to have special construction features and identification markings.</i>		P
4.6 (4.6.2)	Wire-wrap terminals have special construction and performance requirements.		N/A
4.8 (4.8.3, 4.8.4.5, 4.8.5)	Coin / button cell batteries have modified special construction and performance requirements.		N/A
5.4.2.3.2 (5.4.2.3.2.1)	<i>Surge Arrestors and Transient Voltage Surge Suppressors installed external to the equipment are required to comply with the appropriate NEC and CEC requirements.</i>		N/A
5.5.9	Receptacles, rated 125-V, single phase, 15- or 20-A accessible to either ordinary, instructed, or skilled persons are required to be provided with GFCI Protection for Personnel if the equipment containing the receptacles is installed outdoors. The protection devices are required to comply with UL 943, and CAN/CSA C22.2 No.144.		N/A
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.7, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment.		P
5.7.8 (5.7.8.1)	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.		N/A
6.5.1	PS3 wiring outside a fire enclosure is required to comply with single fault testing in B.4, or be current limited per one of the permitted methods.		P
Annex F (F.3.3.9)	Output terminals provided for supply of other equipment, except mains supply, are required to be marked with a maximum rating or reference to equipment permitted to be connected.		P
Annex F (F.3.7)	Outdoor Enclosures are required to be classified and marked in accordance with UL 50 or 50E, or CAN/CSA C22.2 No. 94.1 or 94.2.		N/A
Annex G (G.7)	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
	Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
	Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Power supply cords are required to be no longer than 4.5 m in length if used in ITE Rooms.		N/A
	Power supply cords for outdoor equipment are required to be suitable outdoor use type as required by Section 400.4 of the NEC and Rule 4-012 of the CEC, i.e., marked "W."		N/A
Annex H.2	Continuous ringing signals under normal operating conditions up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex H.4	For circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		N/A
Annex Q (Q.3)	Equipment with paired conductor and/or coax communications cables/wiring connected to building wiring are required to have special voltage, current, power and marking requirements.		N/A
Annex DVA (1)	Equipment that is designed such that it may be powered from a separate electrical service, is required to meet applicable requirements for service equipment for control and protection of services and their installation and complies with Article 230 of the National Electrical Code (NEC), NFPA 70 and Section 6 of the Canadian Electrical Code, Part I, CSA C22.1.		N/A
	Equipment intended for use in spaces used for environmental air (plenums) are subjected to special flammability requirements for heat and visible smoke release.		N/A
	For ITE room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Consumer products designed or intended primarily for children 12 years of age or younger are subject to additional requirements in accordance with U.S. and Canadian Regulations.		N/A
	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
	Storage batteries and battery management equipment, other than associated with lead-acid batteries, and including battery backup systems that are not an integral part of stationary AV and ICT equipment, such as provided in separate cabinets, are required to be certified (listed) to the appropriate standard(s) for such storage batteries and equipment.		N/A
Annex DVA (5.6)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Considered.	P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		N/A
Annex DVA (6.4.8)	For ITE room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For equipment with the same dimensions for other applications, an external surface that is not a fire enclosure requires a minimum flammability classification of V-1.		N/A
Annex DVA (10.3)	Equipment with lasers is required to meet the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (10.5)	Equipment that produces ionizing radiation is required to comply with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (F.3.3.4)	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. Additional considerations apply for voltage ratings that exceed the attachment cap rating or that are lower than the "Normal Operating Condition" in Table 2 of CAN/CSA C22.2 No. 235."	Single phase only.	N/A
Annex DVA (F.3.3.6)	Equipment identified for ITE (computer) room installation is required to be marked with the rated current.		N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position, where mounted in an enclosure, vertically mounted disconnect switches and circuit breakers with vertical operating means extending outside the enclosure are required to indicate in a location visible when accessing the external operating means whether the switch or circuit breaker is in the open (off) or closed (on) position.		N/A
Annex DVA (G.3.4)	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
	Where a fuse is used to provide Class 2 or Class 3 current limiting, it is not operator-accessible unless it is non- interchangeable.		N/A
Annex DVA (G.4.2)	Equipment with isolated ground (earthing) receptacles is required to comply with NEC 250.146(D) and CEC 10-400 and 10-612.		N/A
Annex DVA (G.4.3)	Interconnection of units by conductors supplied by a limited power source, or a Class 2 circuit defined in the NEC/CEC may have field wiring connections other than specified in DVH.3, such as wire-wrap and crimp-on types, if the limited power source and Class 2 circuits are separated from all other circuits by barriers, routing or fixing.		N/A
Annex DVA (G.5.3)	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
Annex DVA (G.5.4)	Motor control devices are required for cord-connected equipment with a mains-connected motor if the equipment is rated more than 12 A, or if the equipment has a nominal voltage rating greater than 120 V, or if the motor is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
Annex DVA (G.7)	Flexible cords used outdoors are required to have the suffix "W" marked on the flexible cord.		N/A
Annex DVA (M)	For ITE room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the ITE room remote power-off circuit.		N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (Q)	If applicable per NEC 725.121(C), some limited power sources supplied from AV/ICT equipment are required to have a label indicating the maximum voltage and rated current output for per conductor for each connection point. Where multiple connection points have the same rating, a single label is permitted to be used.		N/A
	Wiring terminals intended to supply Class 2 outputs in accordance with the NEC or CEC Part 1 are required to be marked with the voltage rating and "Class 2" or equivalent. The marking is located adjacent to the terminals and visible during wiring.		N/A
	Applicable parts of Chapter 8 of the NEC, and Rules 54 and 60 of the CEC, may be applicable to ITE installed outdoors with connections to communication systems.		N/A
Annex DVB (1)	Additional requirements apply for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities.		N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.		N/A
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These equipment and components include: appliance couplers, attachment plugs, battery backup systems, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultracapacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, modular data centres, power supply cords, some power distribution equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.	UL approved components used. Refer to table 4.1.2 of IEC 62368-1 test report for details.	P
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.		N/A
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are required to be in accordance with the NEC/CEC.		N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVH (DVH.2.1)	For safe and reliable connection to a mains, permanently connected equipment is to be provided.		N/A
Annex DVH (DVH.2.2)	Additional considerations for D.C. mains.		N/A
Annex DVH (DVH.3.2.1)	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified.		N/A
Annex DVH (DVH.3.2.3)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
Annex DVH (DVH.3.2.4)	All associated mains supply terminals are located in proximity to each other and to the main protective earthing terminal, if any.		N/A
Annex DVH (DVH.3.2.5)	Terminals are located, guarded or insulated so that, should a strand of a conductor escape when the conductor is fitted, there is no likelihood of accidental contact between such a strand and accessible conductive parts or unearthed conductive parts separated from accessible conductive parts by supplementary insulation only.		N/A
Annex DVH (DVH.3.3)	When field connection to an external circuit is via wires (example, free conductors), the wires are not smaller than 18 AWG (0.82 mm ²) and the free length of the wire inside an outlet box or wiring compartment is 150 mm or more.		N/A
Annex DVH (DVH.3.4)	Size of protective earthing conductors and terminals	(See sub-clause 5.6.5)	P
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
Annex DVH (DVH.4.1)	Wire bending space		N/A
Annex DVH (DVH.4.2)	Volume of wiring compartment		N/A
Annex DVH (DVH.4.3)	Separation of circuits		N/A
Annex DVH (DVH.5)	Equipment markings and instructional safeguards		N/A
Annex DVH (DVH.5.1)	Identification of protective earthing terminal		N/A
Annex DVH (DVH.5.2)	Identification of terminal for earthed conductor (neutral)		N/A
Annex DVH (DVH.5.3)	Identification of terminals for aluminium conductors		N/A
Annex DVH (DVH.5.4)	Wire temperature ratings		N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVH (DVH 5.5)	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.		N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.		N/A
Annex DVJ (10.6.1)	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A

IEC 62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1 (AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment)			
Differences according to..... : AS/NZS 62368.1:2022			
TRF template used:..... : IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No. : AU_NZ_ND_IEC62368_1E			
Attachment Originator..... : JAS-ANZ			
Master Attachment..... : 2022-07-01			
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	National Differences		-
Appendix ZZ	Variations to IEC 62368-1:2018 (ED. 3.0) for Australia and New Zealand		P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2018 (ED. 3.0)		P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:		P
2	After the first paragraph, <i>add</i> the following: The Australian or Australian/New Zealand Standards listed below are modified adoptions of, or not equivalent to, the IEC normative references and are required for the application of this Standard. All references in the source text to those IEC normative references shall be replaced by references to the corresponding Australian or Australian/New Zealand Standards. Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably -AS/NZS 3112, <i>Approval and test specification—Plugs and socket-outlets</i> -AS/NZS 3123, <i>Approval and test specification—Plugs, socket-outlets and couplers for general industrial application</i> -AS/NZS 3191, <i>Electric flexible cords</i> -AS/NZS 60884.1, <i>Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i> -IEC 60086-2 <i>Primary batteries — Part 2: Physical and electrical specifications</i> -AS/NZS 60065, <i>Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD)</i> -AS/NZS 60320.1, <i>Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1,</i>		P

IEC 62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p><i>Ed.2.1 (2007) MOD</i></p> <p><i>-AS/NZS 60320.2.2, Appliance couplers for household and similar general purposes</i></p> <p><i>Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)</i></p> <p><i>-AS/NZS 60695.2.11, Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products</i></p> <p><i>-AS/NZS 60695.11.5, Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance</i></p> <p><i>-AS/NZS 60695.11.10, Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods</i></p> <p><i>-AS/NZS 60884.1, Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i></p> <p><i>-AS/NZS 60950.1, Information technology equipment—Safety, Part 1: General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)</i></p> <p><i>IEC 61032:1997, Protection of persons and equipment by enclosures—Probes for verification</i></p> <p><i>-AS/NZS 61558.1, Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 3, MOD)</i></p> <p><i>-AS/NZS 61558.2.16, Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.</i></p>		
4.7.2	<p>Requirements</p> <p><i>Delete the text of the second paragraph and replace with the following:</i></p> <p><i>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet conforming to AS/NZS 3112, shall conform to the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets. Conformity is checked by inspection and, if necessary, by the tests in AS/NZS 3112.</i></p> <p><i>NOTE: Equipment with plug portions for use in countries other than Australia and New Zealand will need to conform to other countries' requirements</i></p> <p><i>Note Additional AS/NZS 3112 Appendix J, TRF is appended to end of this TRF.</i></p>		N/A
4.7.3	<p>Compliance Criteria</p> <p><i>Delete this clause</i></p>		N/A

IEC 62368_1E ATTACHMENT					
Clause	Requirement + Test		Result - Remark	Verdict	
4.8.1	General After second list, <i>add</i> the following: NOTE: Refer to the Consumer Goods (Products Containing Button/Coin Batteries) Safety Standard 2020 and Consumer Goods (Products Containing Button/Coin Batteries) Information Standard 2020 for more information on button cell batteries in Australia..			N/A	
5.4.10.2.1	General <i>Delete</i> the first paragraph and <i>replace</i> with the following: In Australia, the separation is checked by the test given in both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test given in either 5.4.10.2.2 or 5.4.10.2.3..			N/A	
Table 28	<i>Delete</i> Table 28 and <i>replace</i> with the following:			N/A	
Parts		Impulse test		Steady state test	
		New Zealand	Australia	New Zealand	Australia
Parts indicated in Clause 5.4.10.1 a) ^a		2.5 kV	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment.	1.5 kV	3 kV
Parts indicated in Clause 5.4.10.1 b) and c) ^b		1.5 kV ^c		1.0 kV	1.5 kV
^a Surge suppressors shall not be removed. ^b Surge suppressors may be removed, provided that such devices pass the impulse test of Clause 5.4.10.2.2 when tested as components outside the equipment. ^c During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.					
5.4.10.2.2	<i>Delete</i> "NOTE" and <i>replace</i> with "NOTE 1". After NOTE 1, <i>add</i> the following: NOTE 2: For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 3: For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.				N/A
5.4.10.2.3	<i>Delete</i> "NOTE" and <i>replace</i> with "NOTE 1". After NOTE 1, <i>add</i> the following: NOTE 2: For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 3: The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.				N/A
6	Electrically-caused fire				P
6.6	After Clause 6.6, <i>add</i> the new Clauses 6.201 as follows: 6.201 External power supplies, docking stations and other similar devices (see special national conditions)				P

IEC 62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6	Stability of equipment		N/A
Table 36	Footnote ^a , after first sentence, <i>add</i> the following: Equipment having displays with moving images shall include “television sets and display devices”.		N/A
8.6.1	After Clause 8.6.1 <i>add</i> the following new clauses: 8.6.201 Restraining Device fixing point (see special national conditions) 8.6.202 Restraining device (see special national conditions)		N/A
Annex F Paragraph F.3.3.4	Rated Voltage <i>Delete</i> “NOTE” and <i>replace</i> with NOTE 1” After NOTE 1, <i>add</i> the following Equipment that is intended for connection to the supply mains in Australia and New Zealand shall be marked with: (a) A rated voltage of: <ul style="list-style-type: none"> • 230 V for single phase equipment • 400 V for poly phase equipment Or (b) A rated voltage range that includes: <ul style="list-style-type: none"> • 230 V for single phase equipment • 400 V for poly phase equipment NOTE 2: equipment that is not rated as above is not suitable for direct connection to the supply mains in Australia or new Zealand.		P
Annex F.3.3.5	After the list, <i>add</i> the following Equipment that is intended for connection to supply mains in Australia or New Zealand shall be marked with a rated frequency of 50 Hz or a rated frequency range or nominal value which includes 50Hz		P
Annex F.3.8	After “The DC output of an external power supply”, insert “or docking stations and other similar external devices”		N/A
Annex G Paragraph G.4.2	Mains connectors 1 After “IEC 60320”, insert “or AS/NZS 60320 series”. 2 After “IEC 60906-1”, insert “or AS/NZS 3123” 3 <i>After first paragraph add</i> the following: 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.		N/A

IEC 62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Paragraph G.5.3.1	Transformers, General 1 Third dashed point <i>replace</i> 'IEC 61558-1 and the relevant parts of IEC 61558-2' with 'AS/NZS 61558-1 and the relevant parts of AS/NZS 61558.2' 2 Fourth dashed point <i>replace</i> 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.		N/A
Annex G.7.1	Mains supply cords, General Fourth dashed paragraph, <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Table G.7	Sizes of conductors 1 First column, second row, <i>delete</i> "6" and <i>replace</i> with "7.5" 2 Second column, second row, <i>delete</i> '0,75' and <i>replace</i> with '0.75 ^b 3 <i>Delete</i> NOTE 1. 4 <i>Replace</i> 'NOTE 2' with 'NOTE:'. 5 <i>Delete</i> 'Footnote b' and <i>replace</i> with the following: ^b This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm ² three-core supply flexible cords are not permitted; see AS/NZS 3191). 6 Footnote c <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1' 7 Footnote d <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Annex M M 2.1	<i>Add</i> "IEC 60086-2" to the list		N/A
Annex M Paragraph M.3.2	Test method Delete "NOTE" and replace with "NOTE 1" After NOTE 1 <i>add</i> the following: NOTE 2: In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of ES1 may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.		N/A
	Special national conditions (if any)		

IEC 62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.201	<p>External power supplies, docking stations and other similar devices</p> <p>For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage—</p> <ul style="list-style-type: none"> (a) at all ES1 outlets or connectors shall not increase by more than 10 % of the output rated voltage under normal operating conditions, measured after 3 s of introducing a single fault condition and after 3 s of introducing abnormal operating conditions; and (b) of a USB outlet or connector shall not increase by more than 3 V or 10 % of the output rated voltage under normal operating conditions, whichever is higher, measured after 3 seconds of introducing a single fault condition and after 3 s of introducing abnormal operating conditions <p>For equipment with multiple rated voltages at the output, the requirements apply with the equipment configured for each output rated voltage in turn</p> <p>NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when charging secondary lithium batteries. The 3 s measurement delay is based on IEC document 108/742/INF, <i>TC 108, Standards Interpretation Panel Question 15— Output voltage</i>, in relation to similar requirements in IEC 62368-3:2017.</p> <p>Conformity shall be checked by measurement, taking into account the abnormal operating conditions of Annex B.3 and the simulated single fault conditions of Annex B.4.</p>		P
8.6.201	<p>Restraining device fixing point</p> <p>Freestanding-capable MS2 and MS3 television sets and display devices shall be provided with a fixing point to facilitate the anchoring of the equipment from toppling</p> <p>The fixing point shall conform to Clause 8.7 where the fixing point uses a wall, ceiling or other structure mount. Alternatively, the fixing point shall be capable of withstanding a pull equal to the mass of the equipment in all directions without damage</p> <p>Instructions for installation or instructions for use shall be provided to specify correct use of the fixing point</p>		N/A

IEC 62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.202	<p>Restraining device</p> <p>MS2 and MS3 television sets and display devices shall be provided with a restraining device and associated hardware to attach to the television set or display device.</p> <p>The restraining device shall be capable of withstanding a pull equal to the mass of the equipment in all directions.</p> <p>Instructions for installation or instructions for use shall be provided to specify correct use of the fixing point</p>		N/A

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



KPL Series front –top view



KPL Series rear-bottom view

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



KPL: For PCB with fuse: FUSE1



KPL: For PCB with fuse: FUSE1

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



KPL: For PCB with fuse: FUSE1



KPL: For PCB with fuse: FUSE1

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



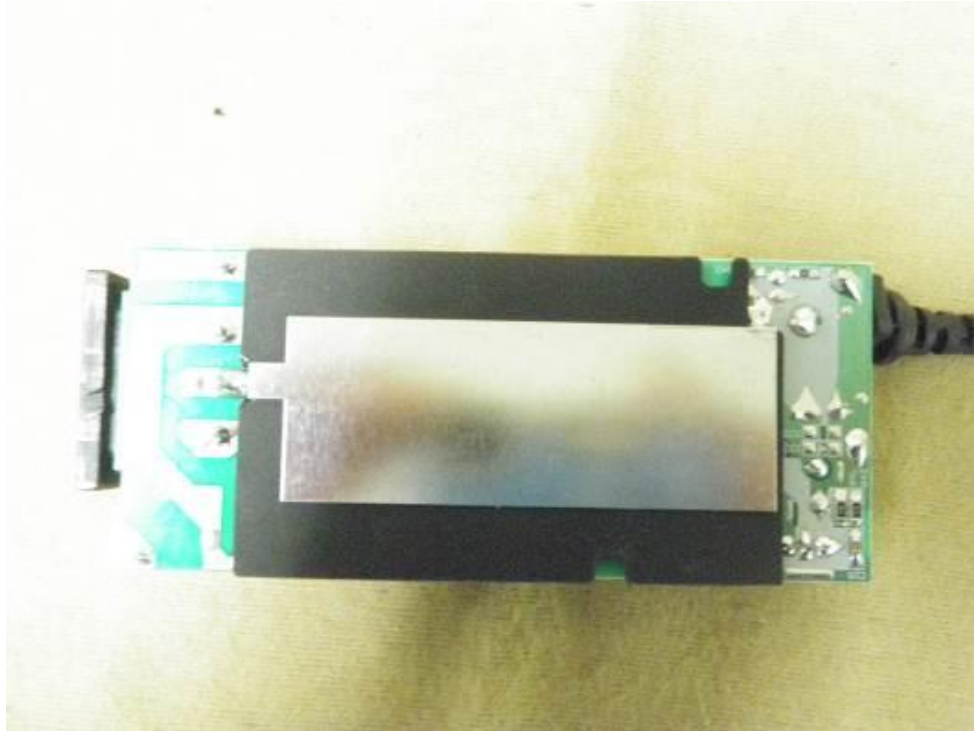
KPL: For PCB with fuse: FUSE1



KPL: For PCB with fuse: FUSE1

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



KPL: For PCB with fuse: FUSE1



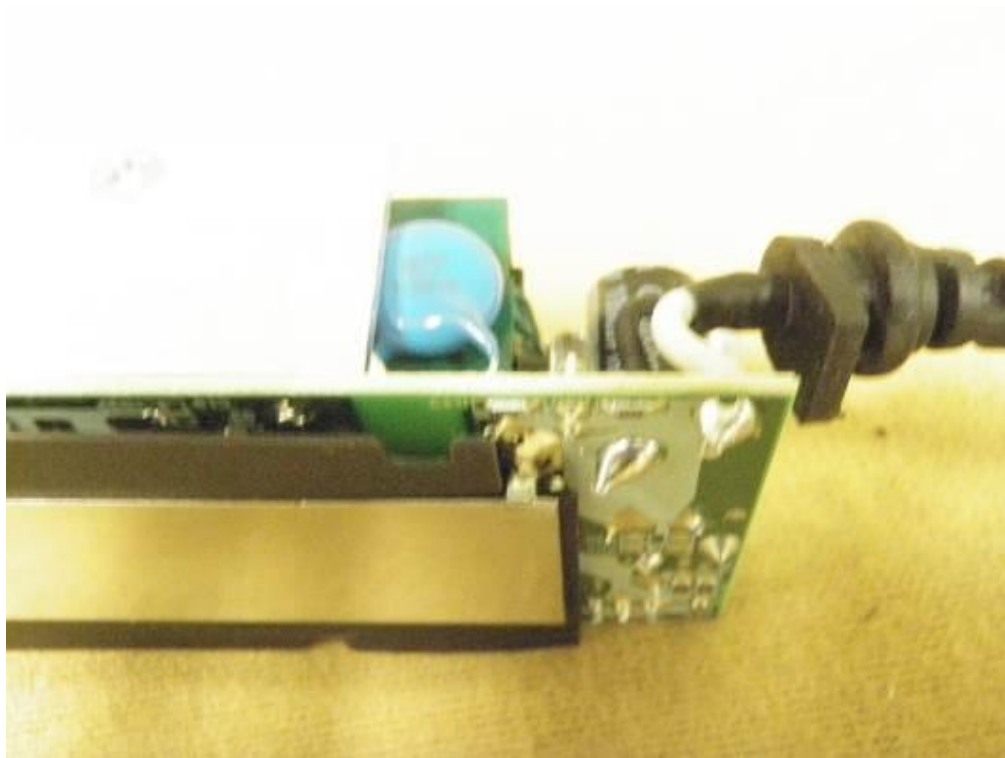
KPL: For PCB with fuse: FUSE1

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



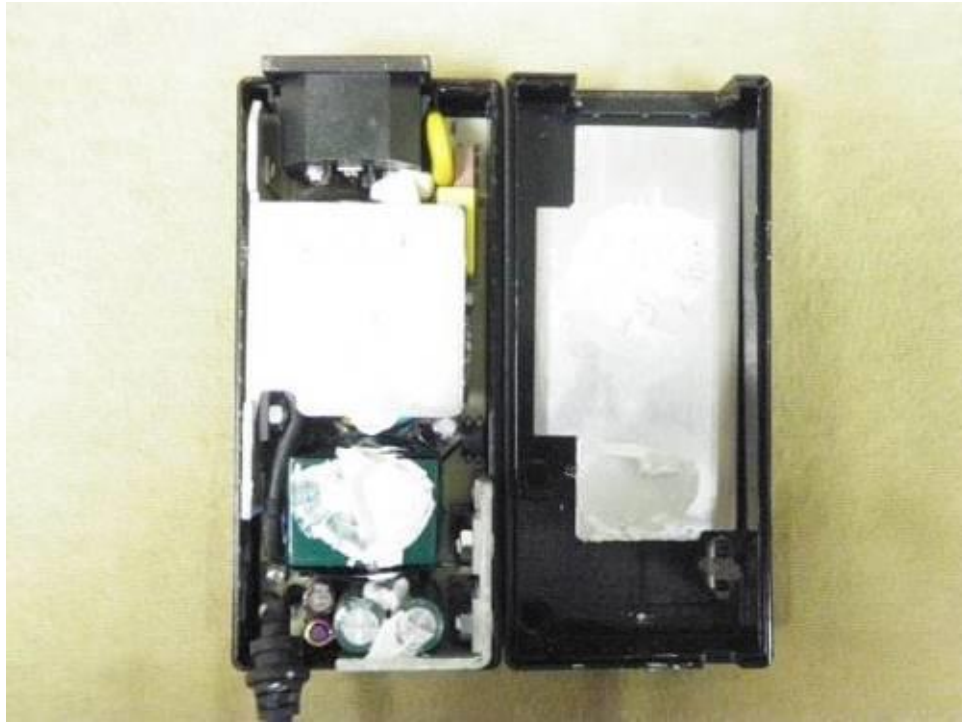
KPL: For PCB with fuse: FUSE1



KPL: For PCB with fuse: FUSE1

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



KPL: For PCB with fuses: F1 and F2



KPL: For PCB with fuses: F1 and F2

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



KPL: For PCB with fuses: F1 and F2



KPL: For PCB with fuses: F1 and F2

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



KPL: For PCB with fuses: F1 and F2



KPL: For PCB with fuses: F1 and F2

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxYwzzzzz



KPL: For PCB with fuses: F1 and F2



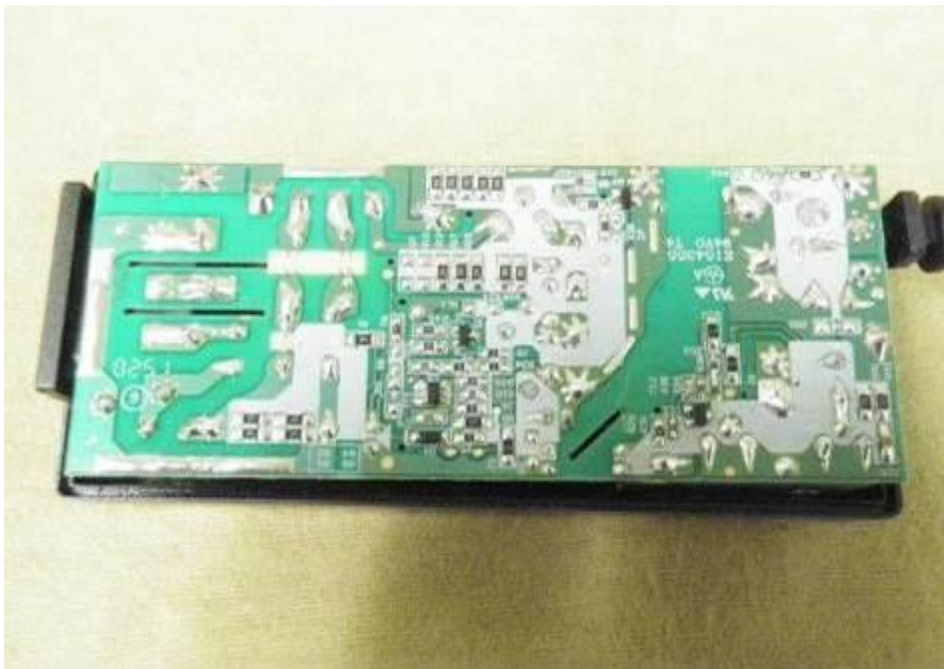
KPL: For PCB with fuses: F1 and F2

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



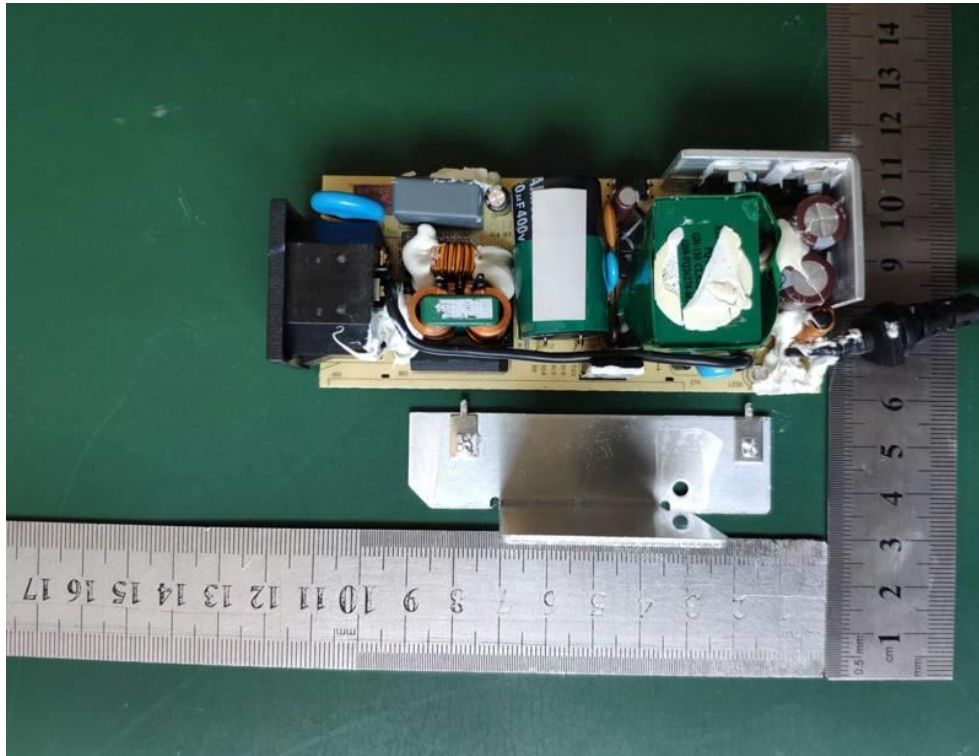
KPL: For PCB with fuses: F1 and F2



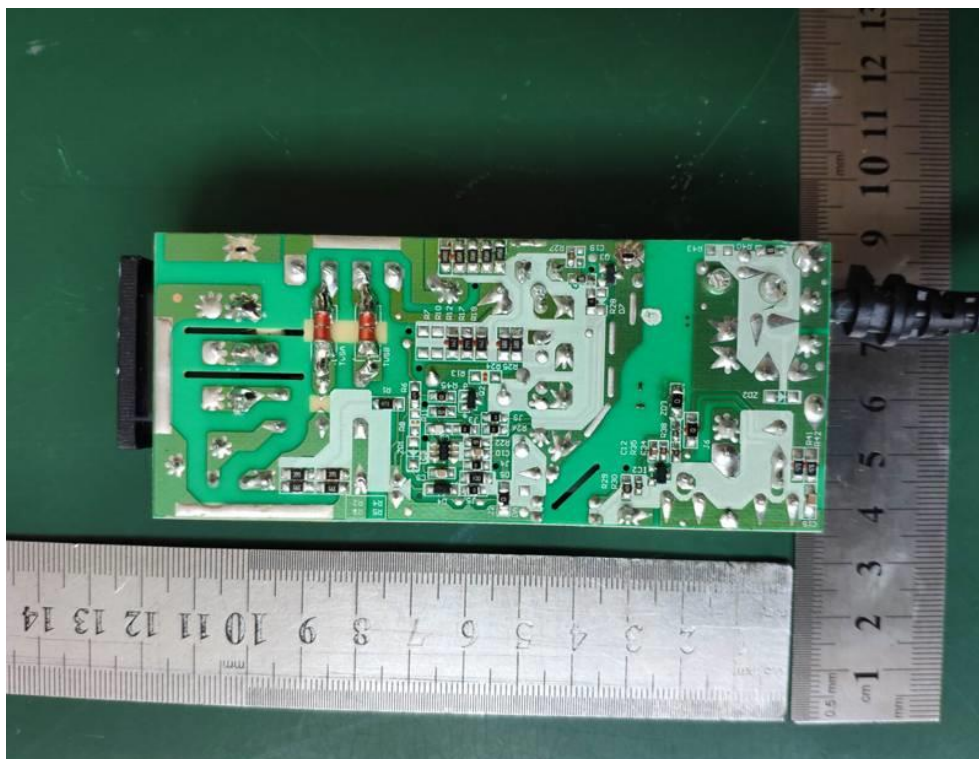
KPL: For PCB with fuses: F1 and F2

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



KPL: For PCB with fuses: F1 and F2



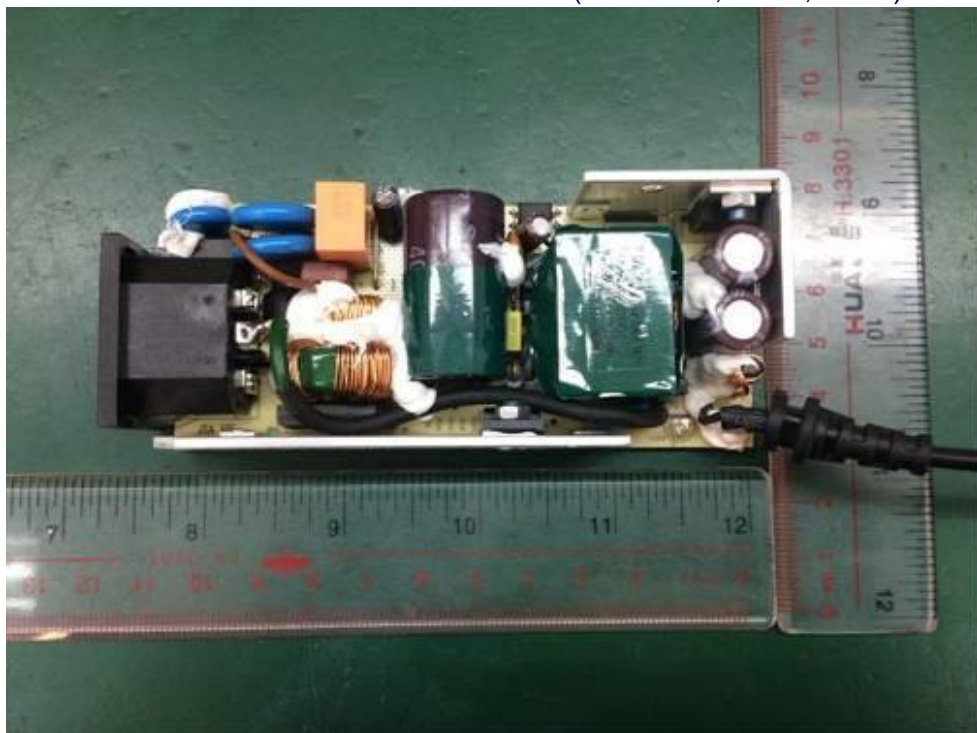
KPL: For PCB with fuses: F1 and F2

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



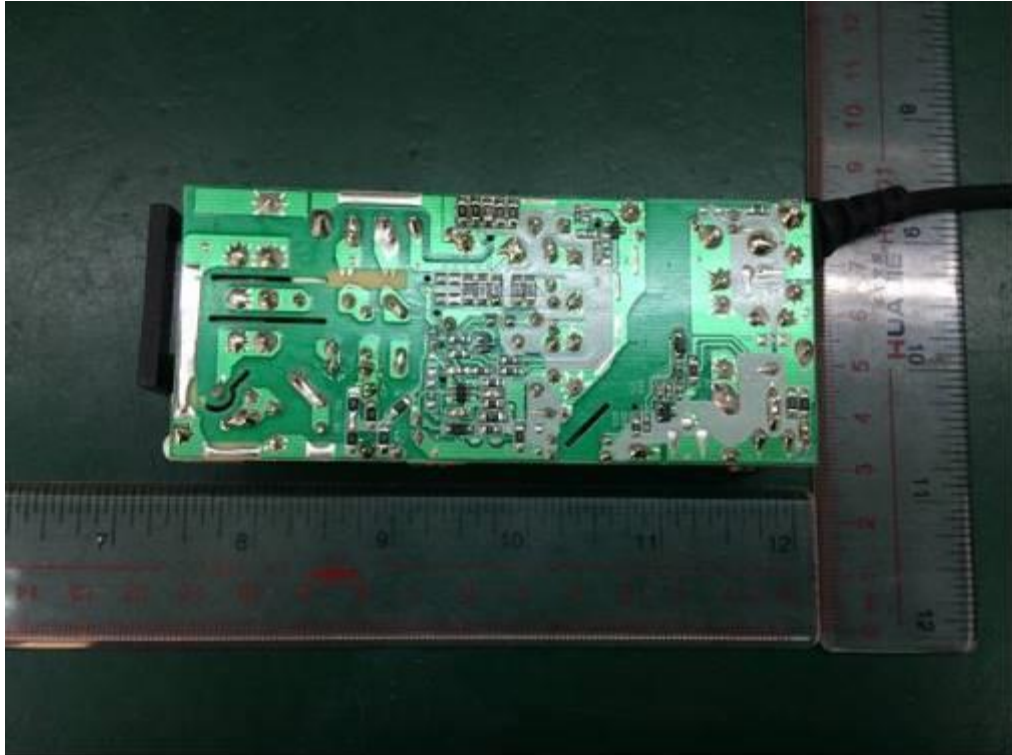
KPL: For PCB with fuses: F1 and F2 (with TVS2, TVS3, TVS4)



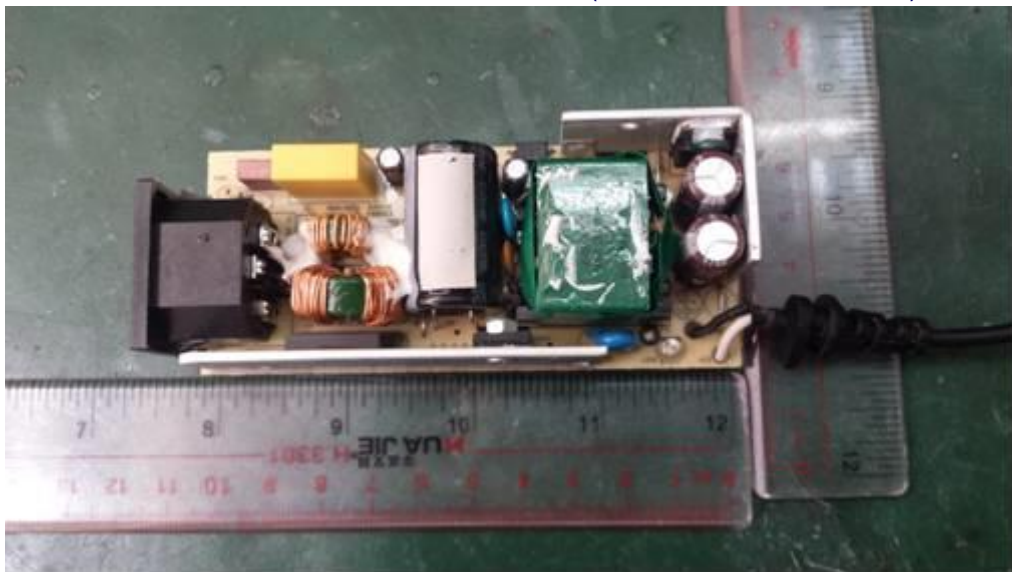
KPL: For PCB with fuses: F1 and F2 (with TVS2, TVS3, TVS4)

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



KPL: For PCB with fuses: F1 and F2 (with TVS2, TVS3, TVS4)



KPL: For PCB with fuses: F1 and F2 (without green/yellow wire)

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxYwzzzzz



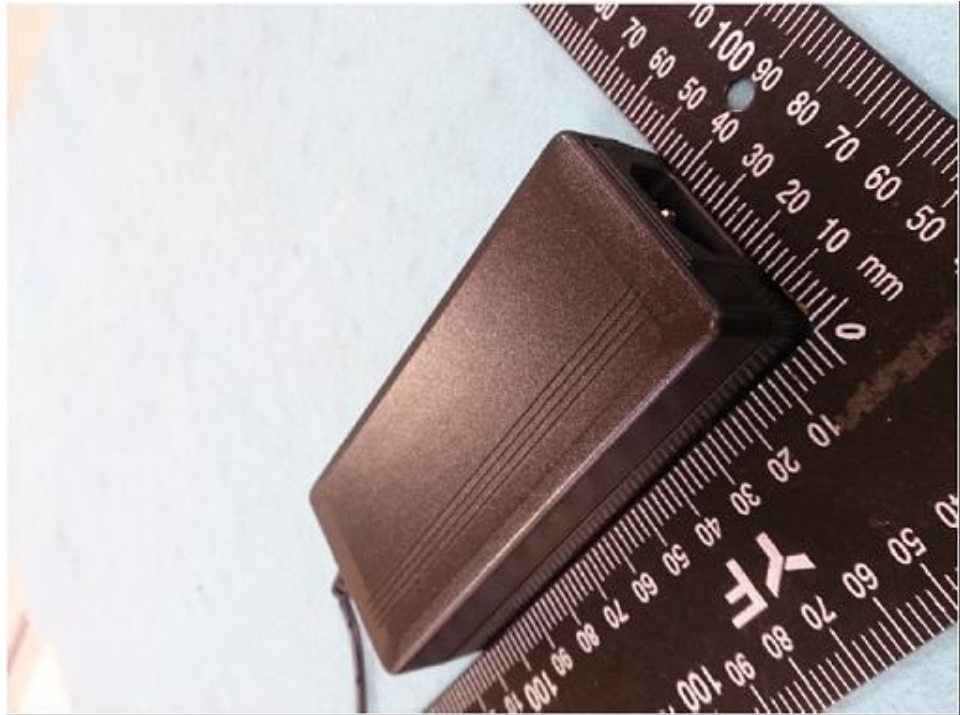
KPL: For trademark Synology



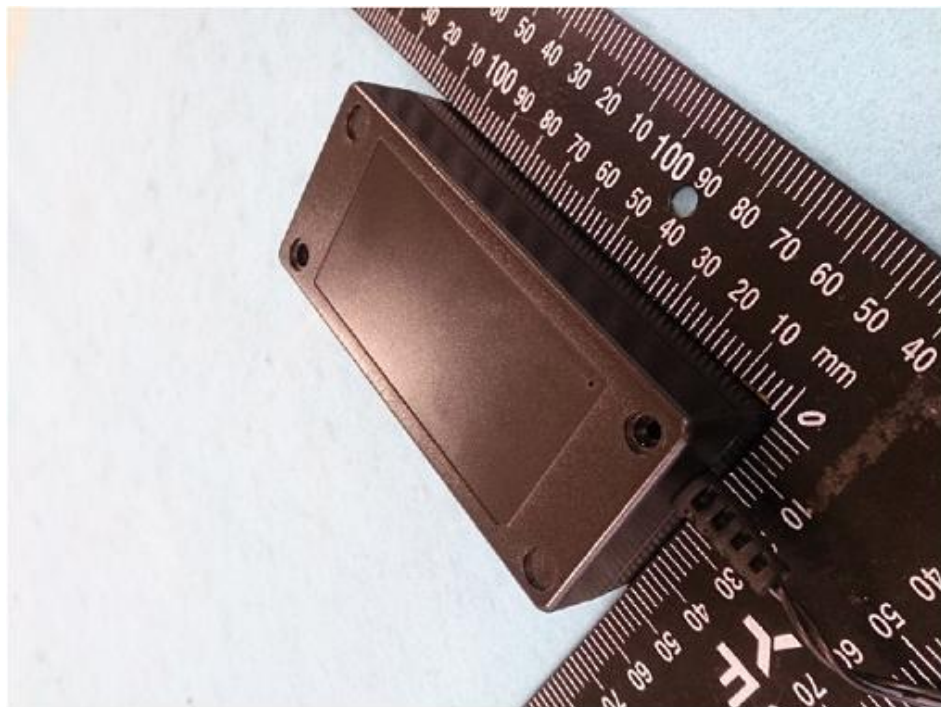
KPL: For trademark Synology

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxYwzzzzz



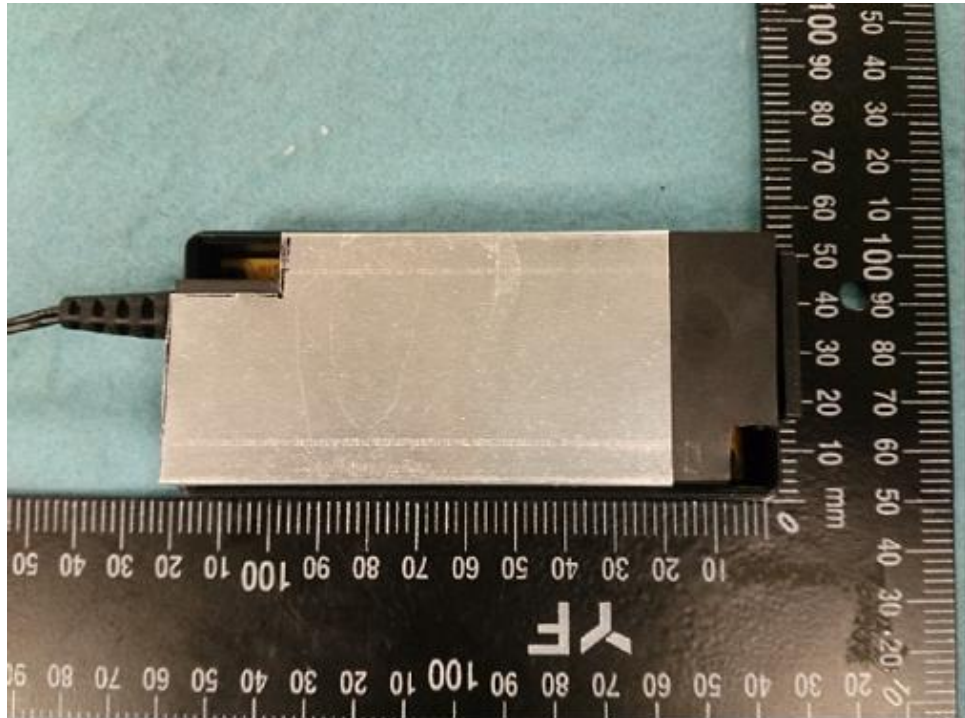
2ABF and 2ACL (without LED)



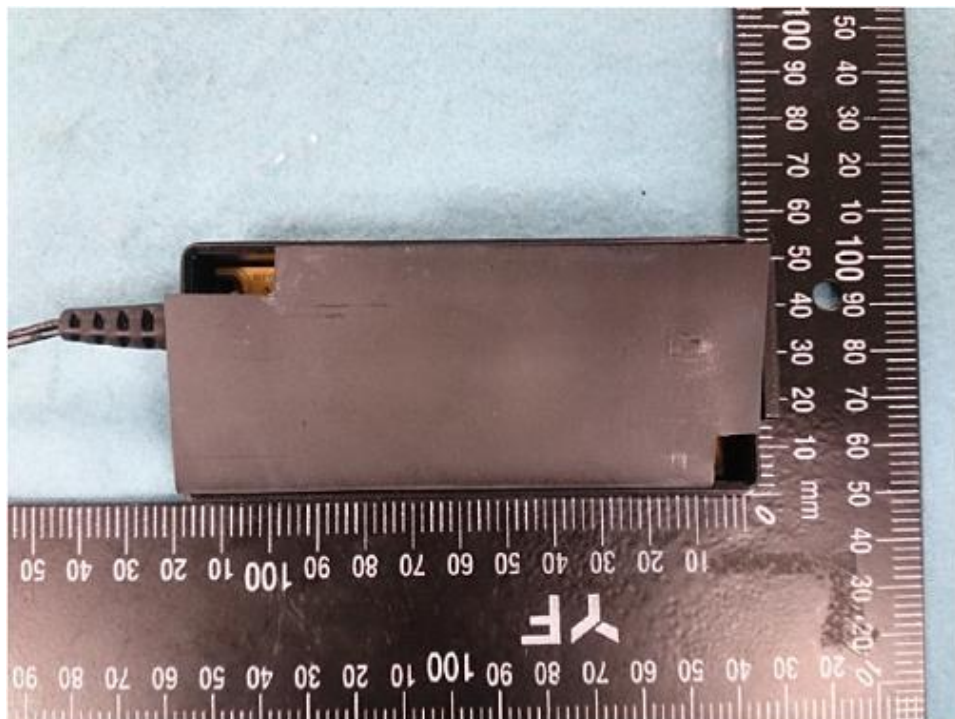
2ABF and 2ACL

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



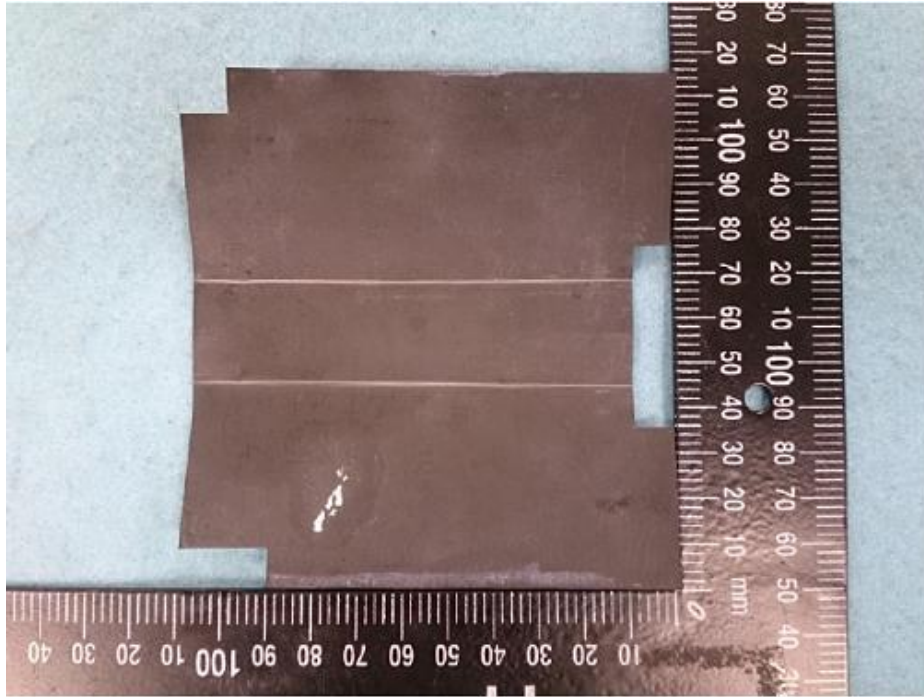
2ABF and 2ACL (except Y=B)



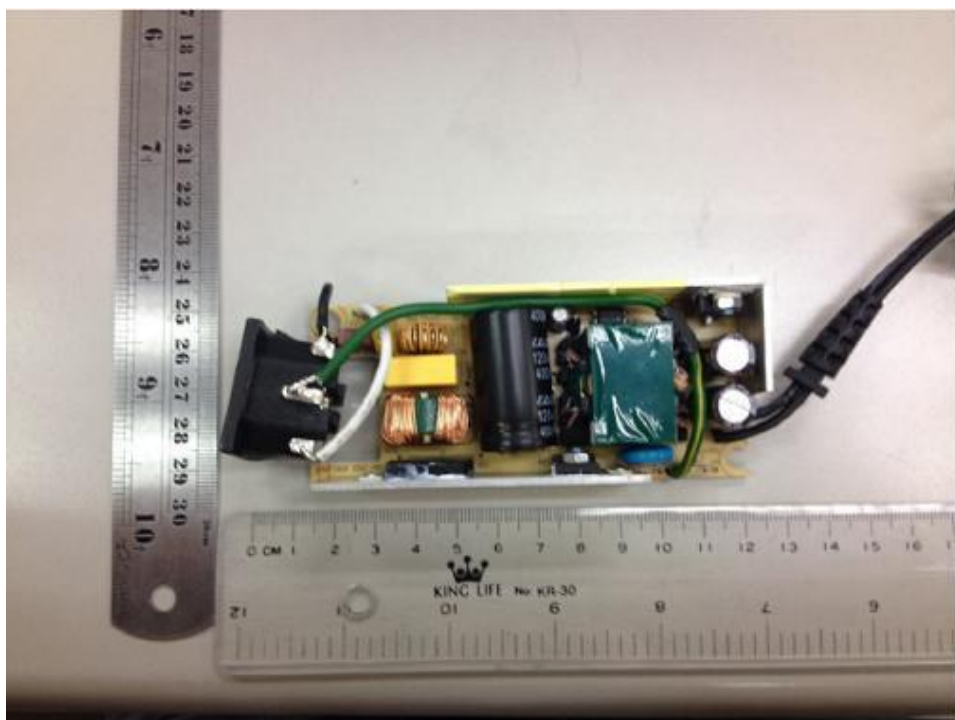
2ABF and 2ACL (except Y=B)

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxYwzzzzz



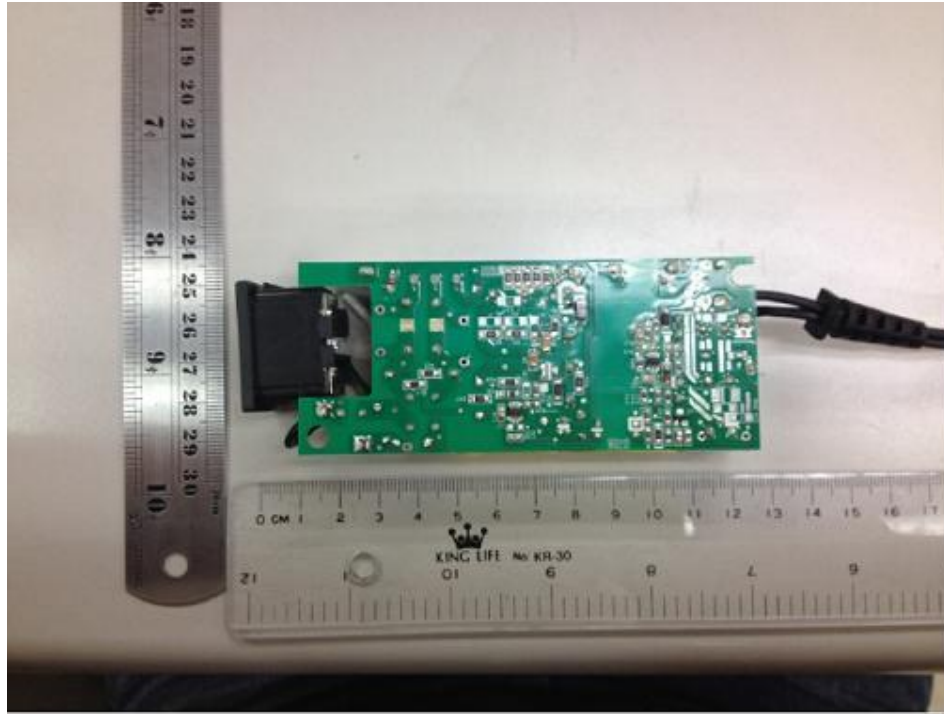
2ABF and 2ACL (except Y=B)



2ABF and 2ACL

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



2ABF and 2ACL



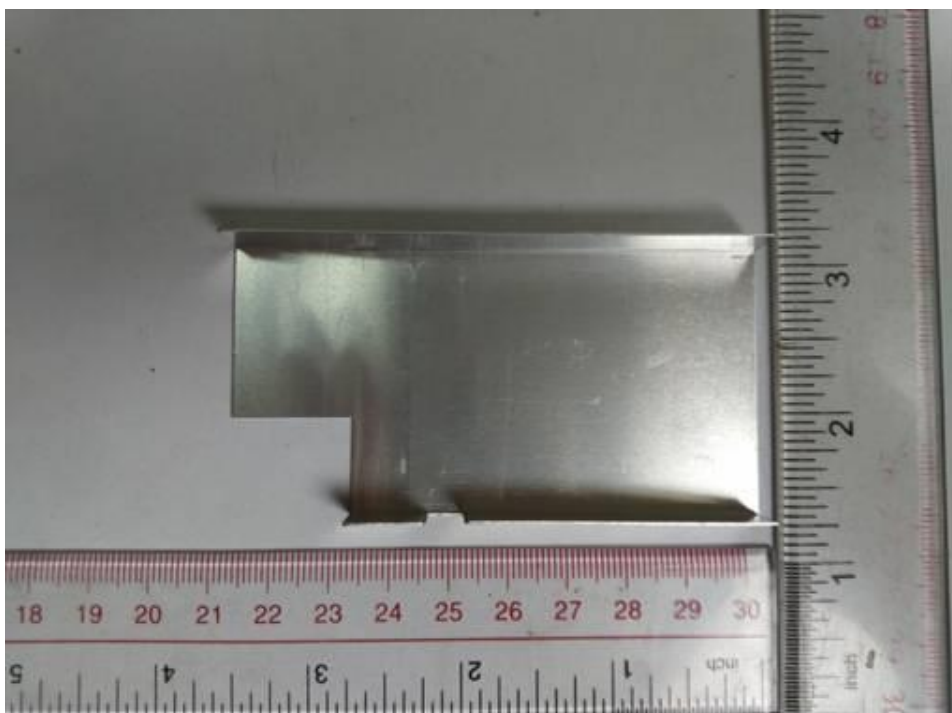
2ABF and 2ACL with LED

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



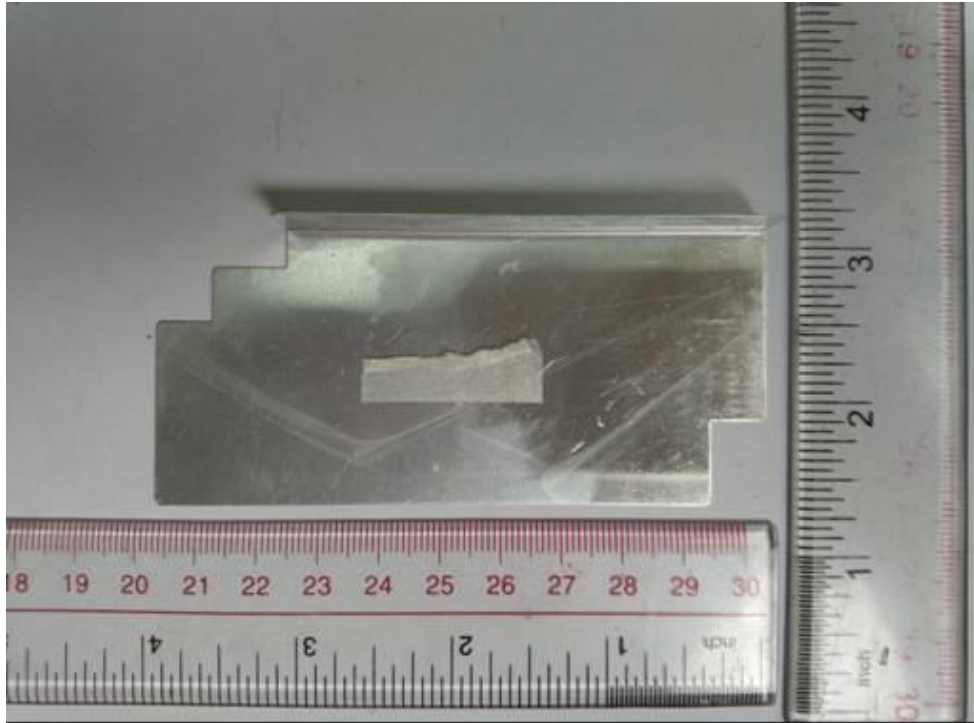
2ABF and 2ACL (except Y=B)



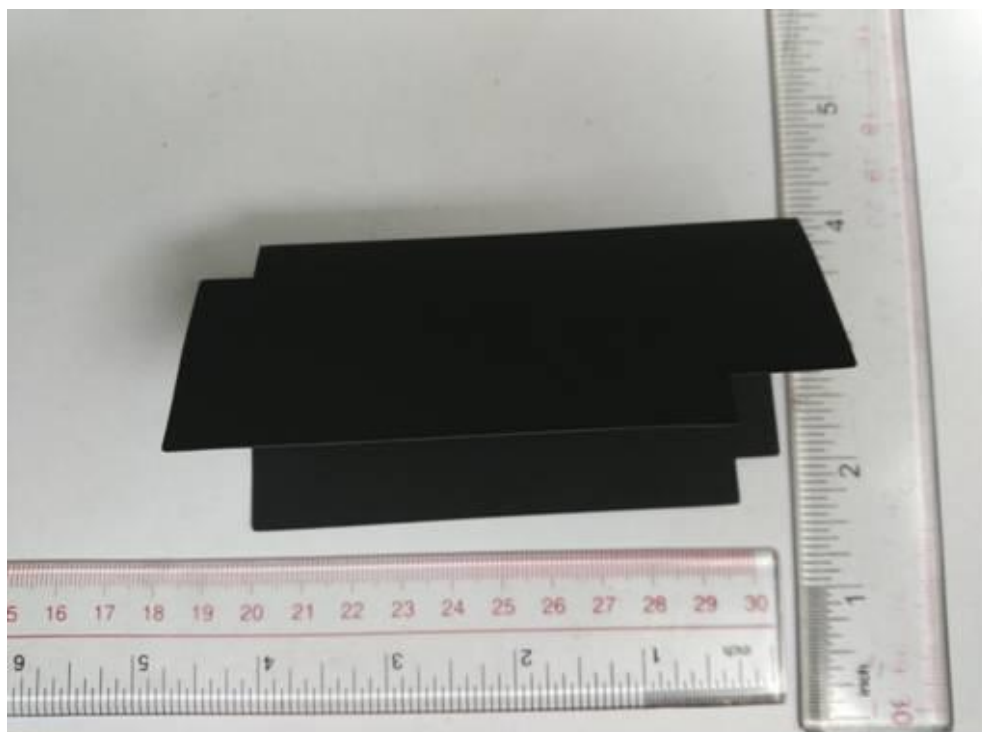
2ABF and 2ACL Top HS (except Y=B)

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



2ABF and 2ACL Bottom HS (except Y=B)



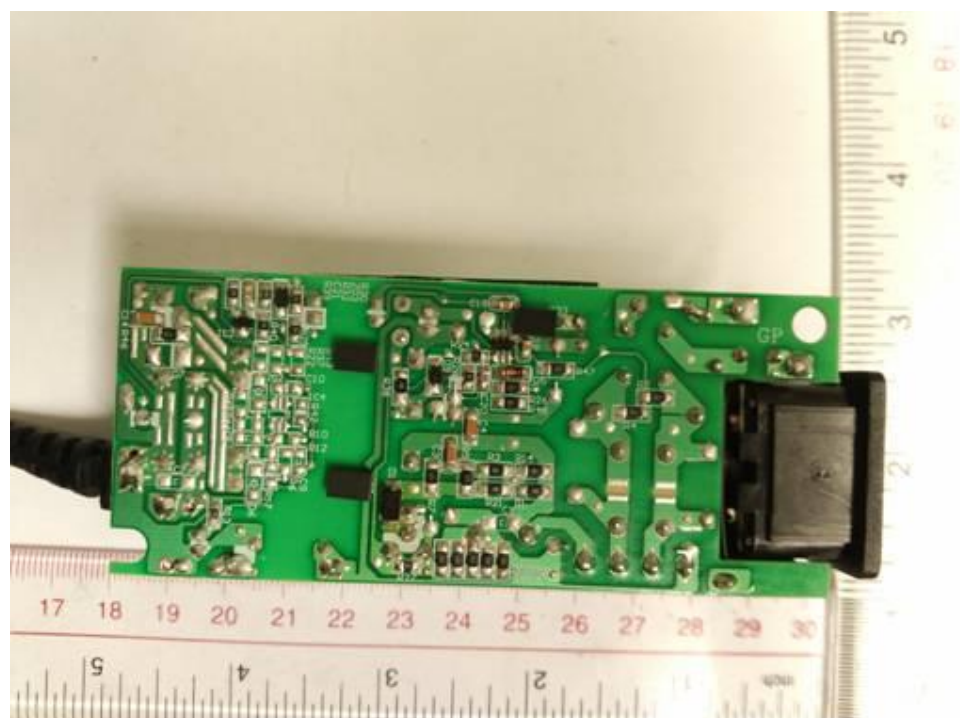
2ABF and 2ACL Mylar (except Y=B)

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



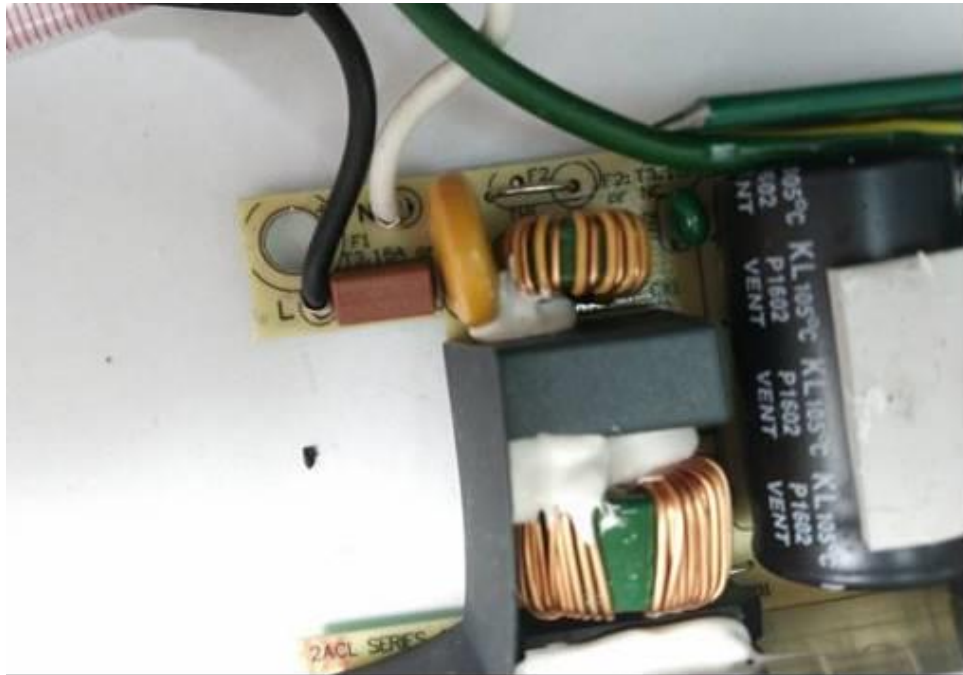
2ABF and 2ACL



2ABF and 2ACL

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxYwzzzzz



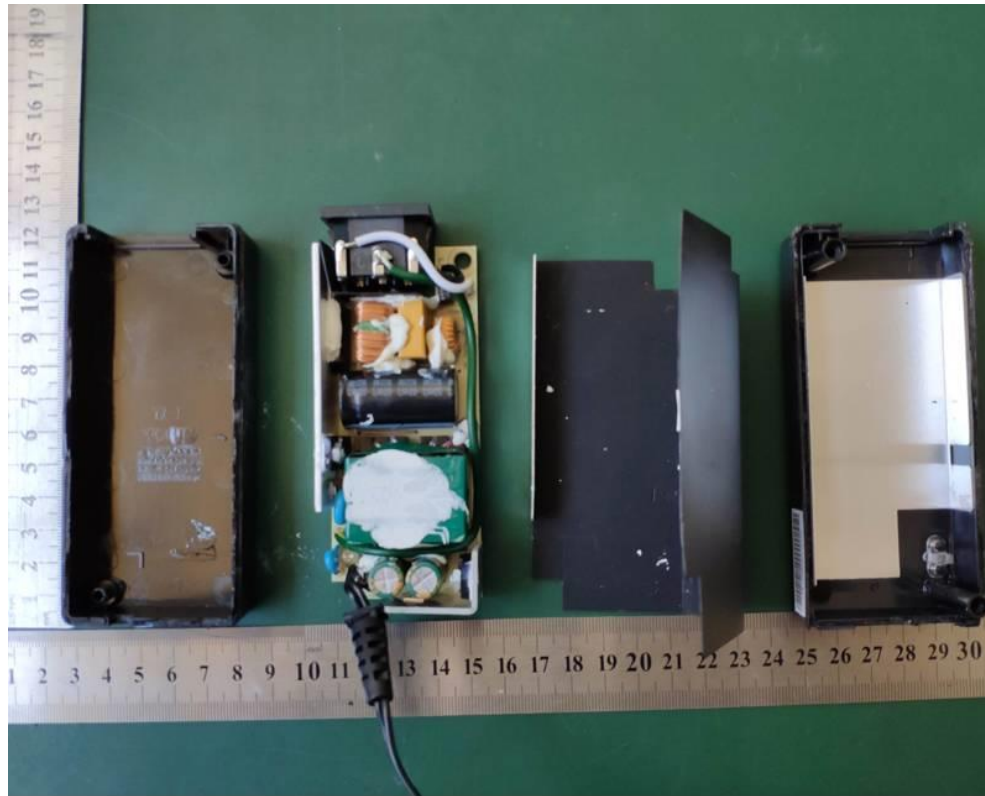
2ABF and 2ACL



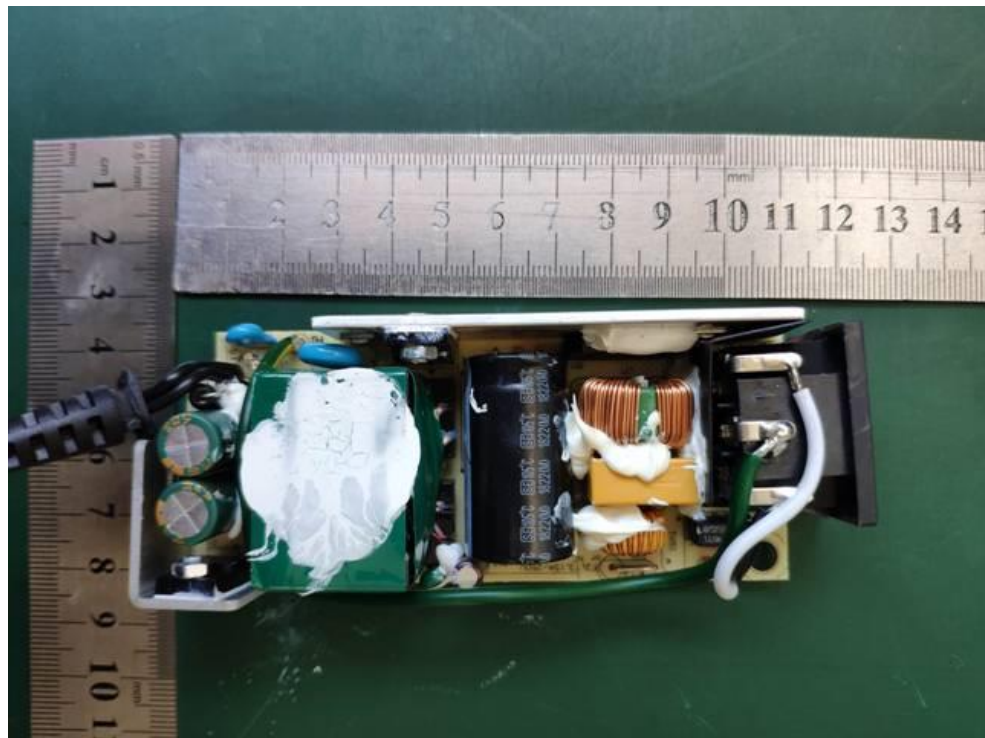
Alternative HS2 (L=20mm) for 2ABF and 2ACL

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxYwzzzzz



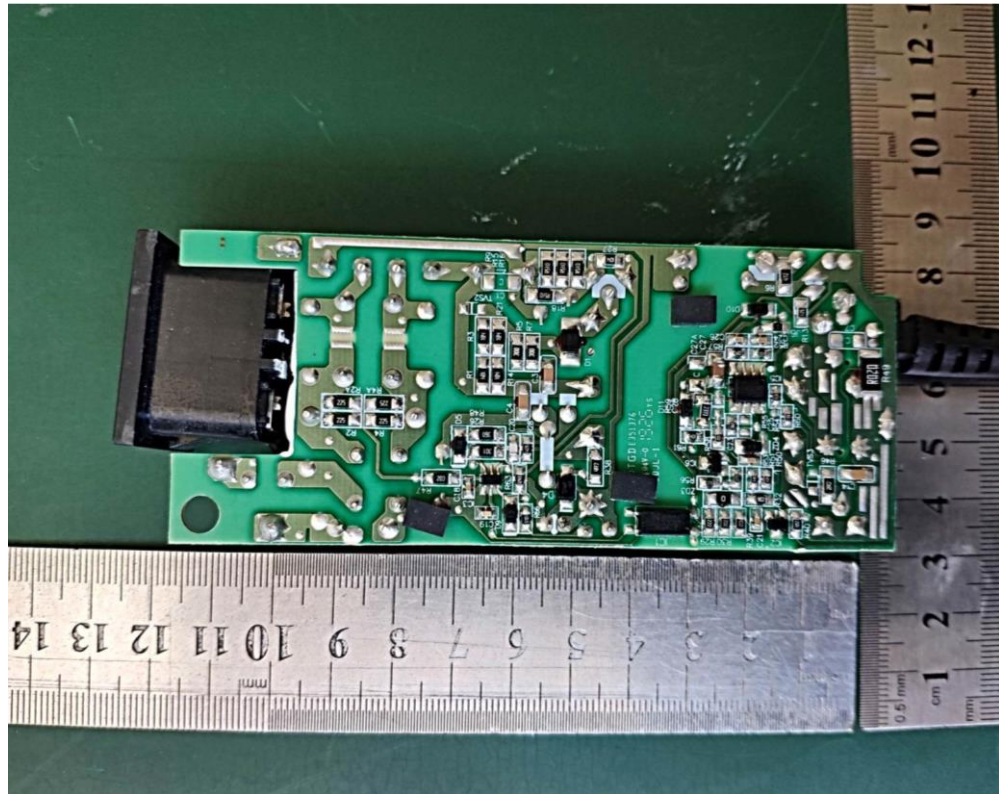
2ACL060MB



2ACL060MB

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



2ACL060MB



KPL PCB with fuse: F1 and F2 (CY1 and CY2)

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



GTRxxxYzzzzz



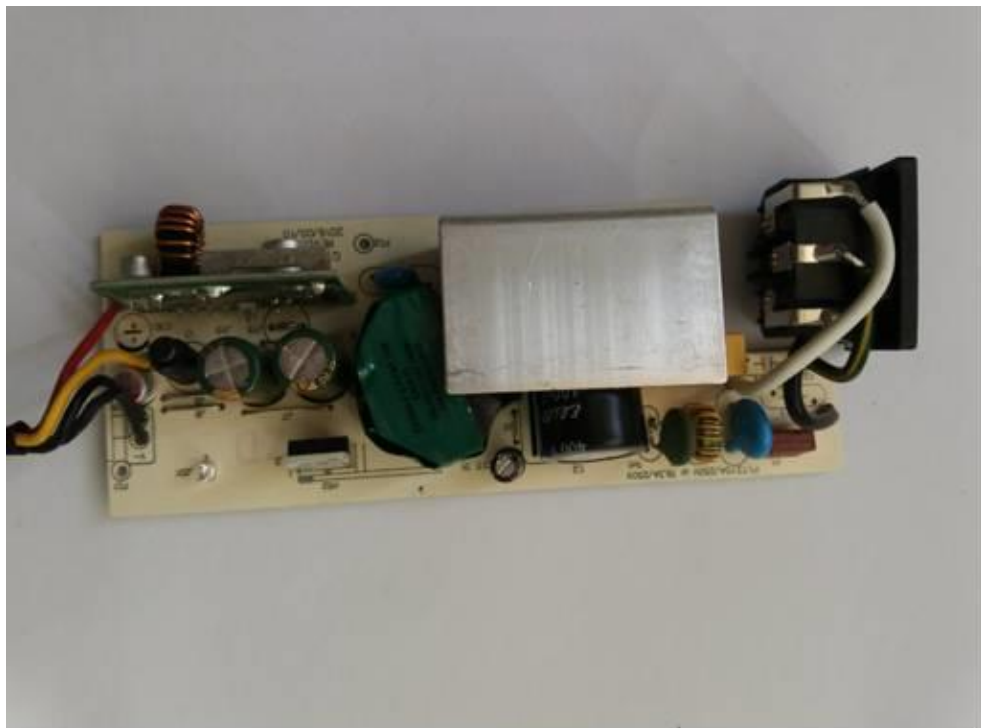
GTRxxxYzzzzz

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



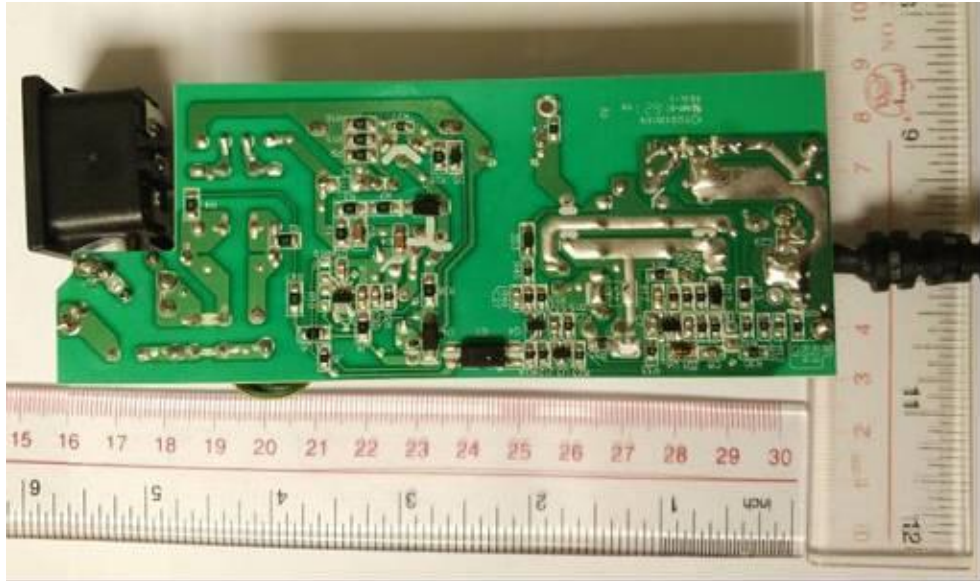
GTRxxxYzzzzz



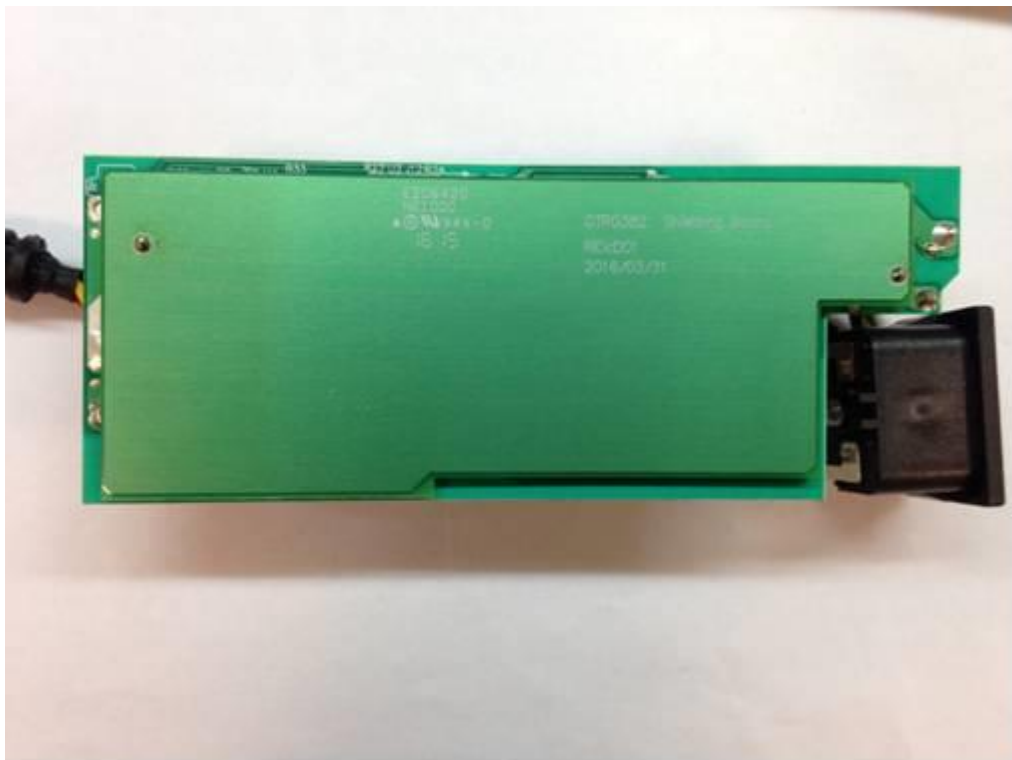
GTRxxxYzzzzz

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



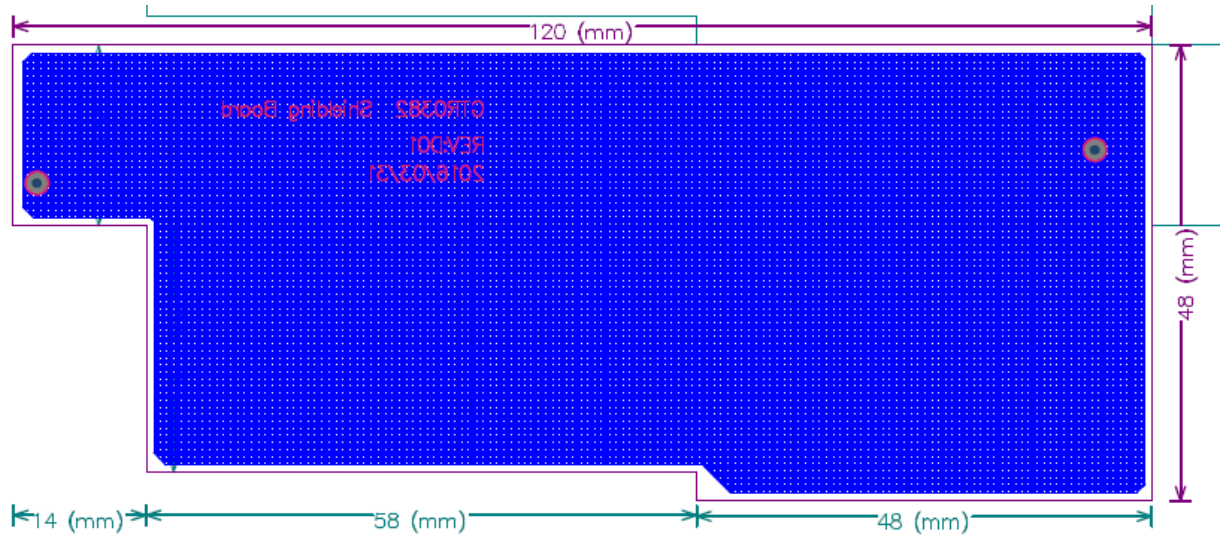
GTRxxxYzzzzz



GTRxxxYzzzzz

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



GTRxxxYzzzzz
(Shielding PCB)



2ACL, Y=B

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



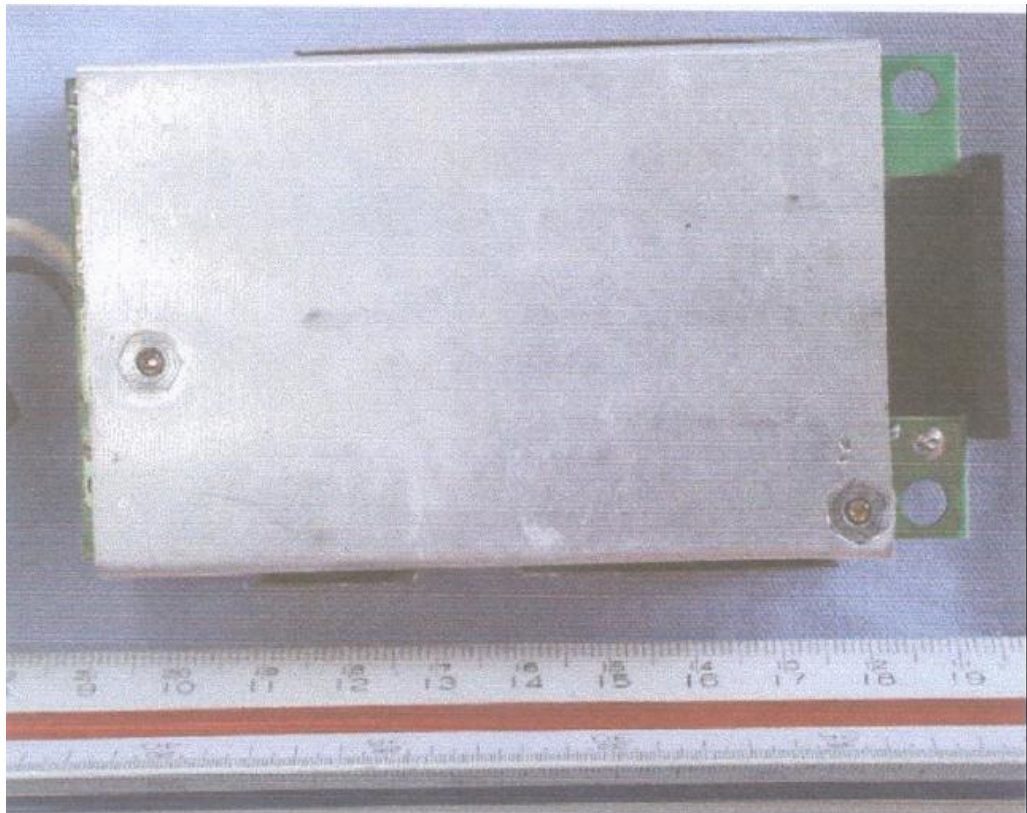
2ACL (except Y=B) Alternative PCB with R2A, R4A, F3, L1



PAA060M

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

**PAA060M**

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

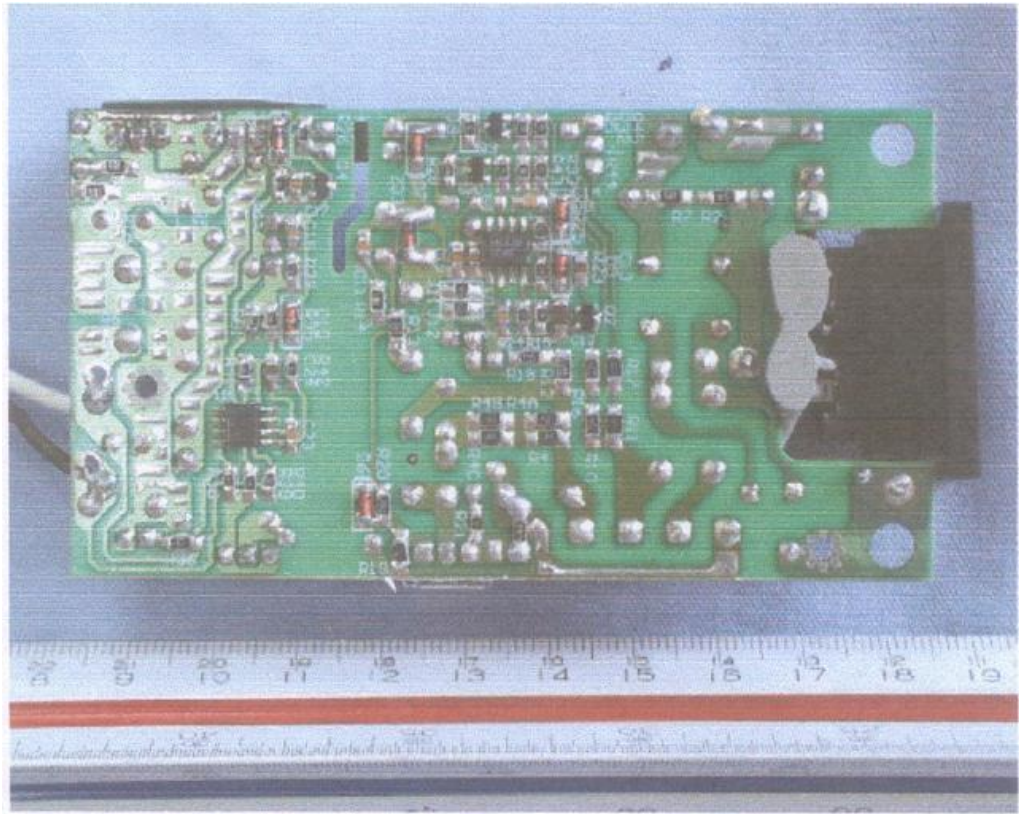
PAA060M



PAA060M

Product: AC Adapter

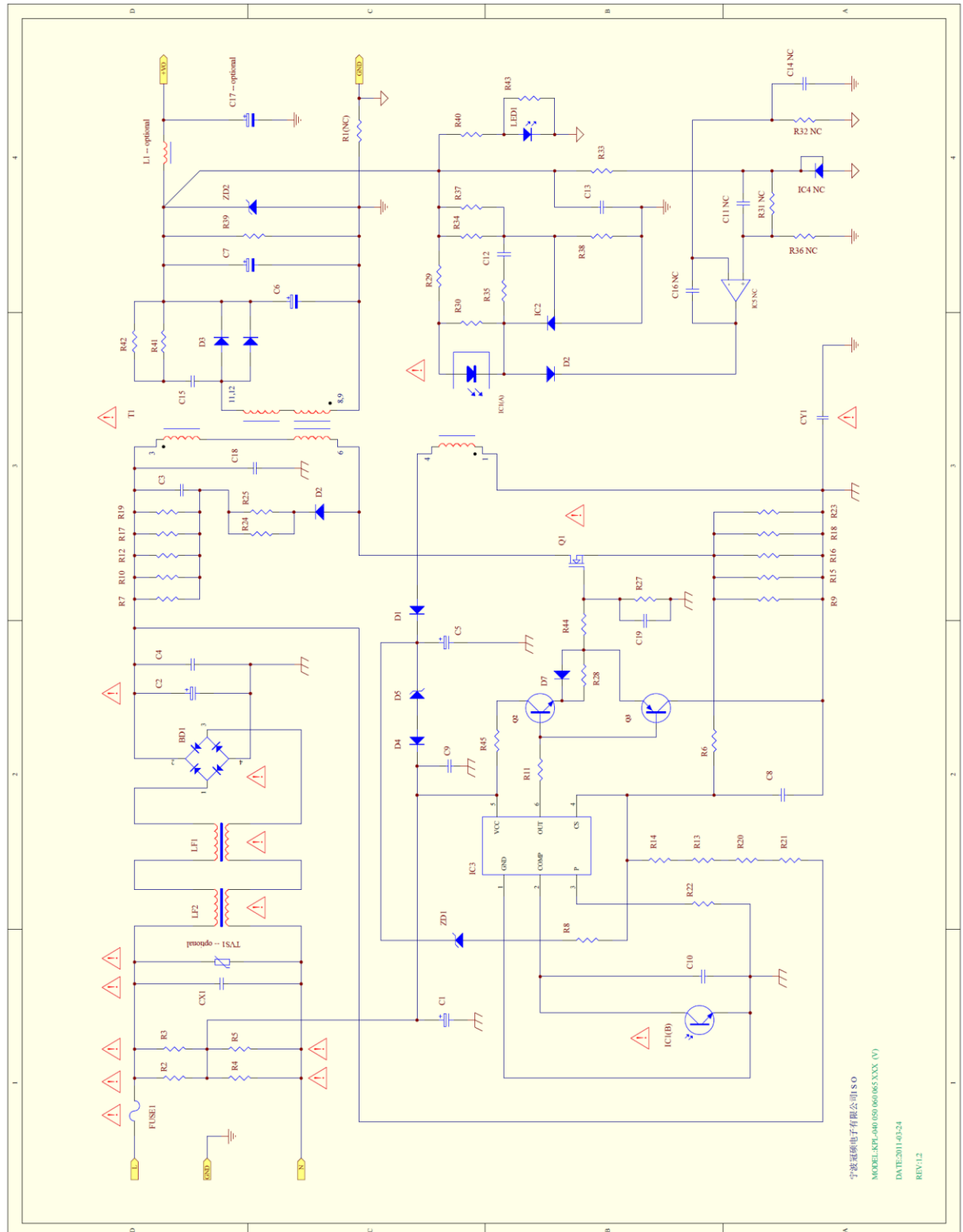
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



PAA060M

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxYwzzzzz

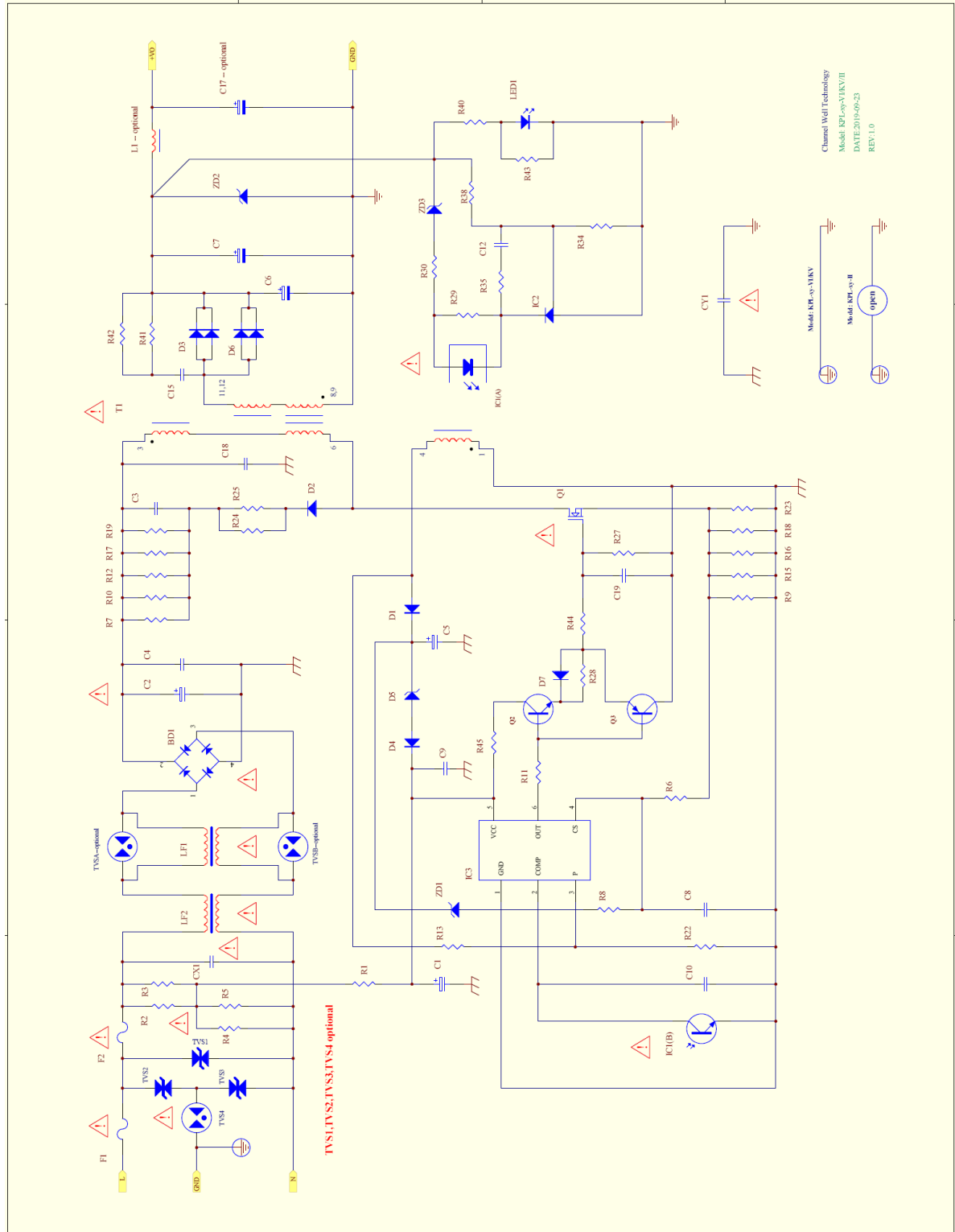


KPL(PCB with FUSE1)

宁波莱佛电子有限公司 S.O
 MODEL: KPL-040 050 060 065 XXX (V)
 DATE: 2011-03-24
 REV: 1.2

Product: AC Adapter

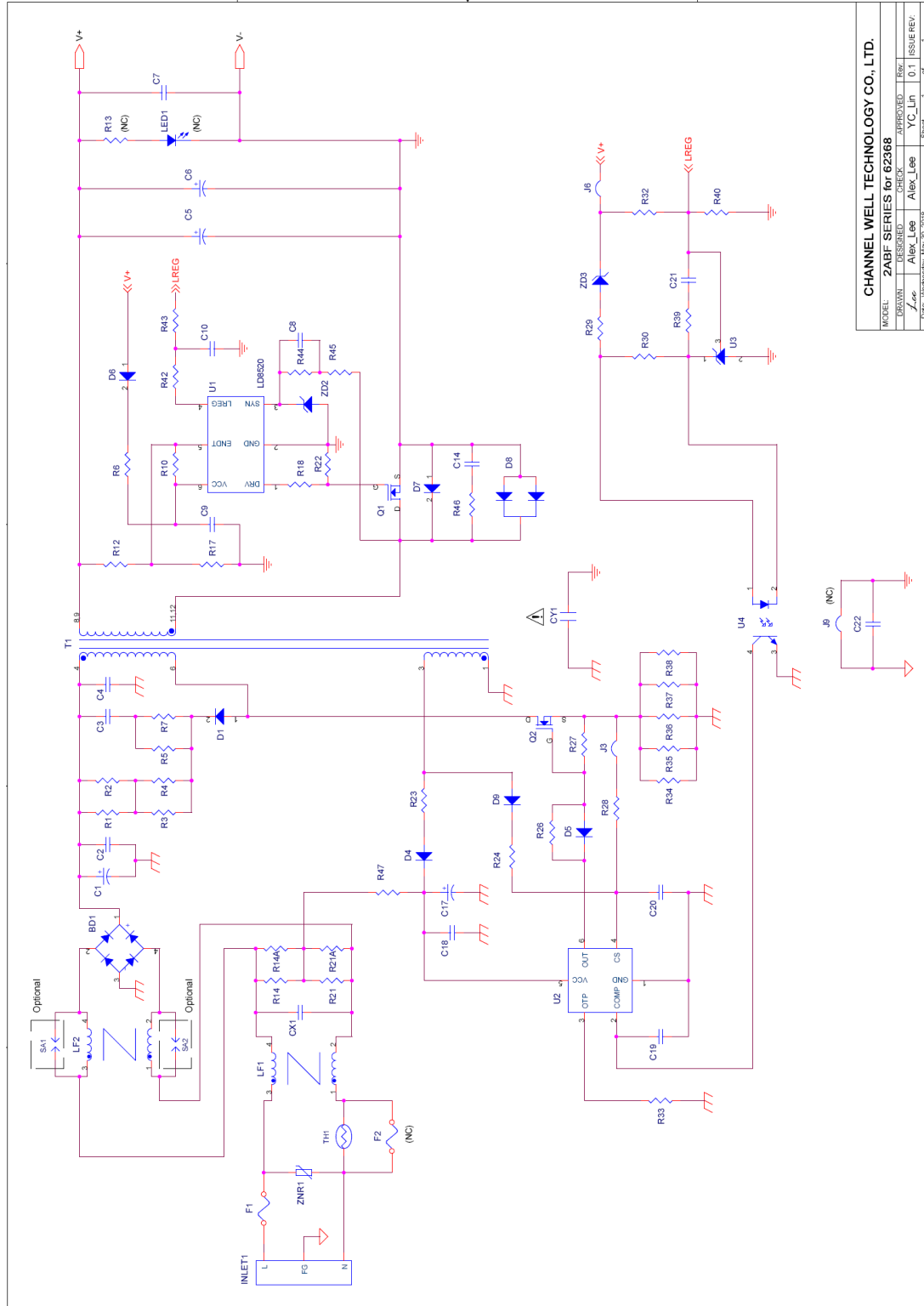
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



KPL(PCB with F1,F2)

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

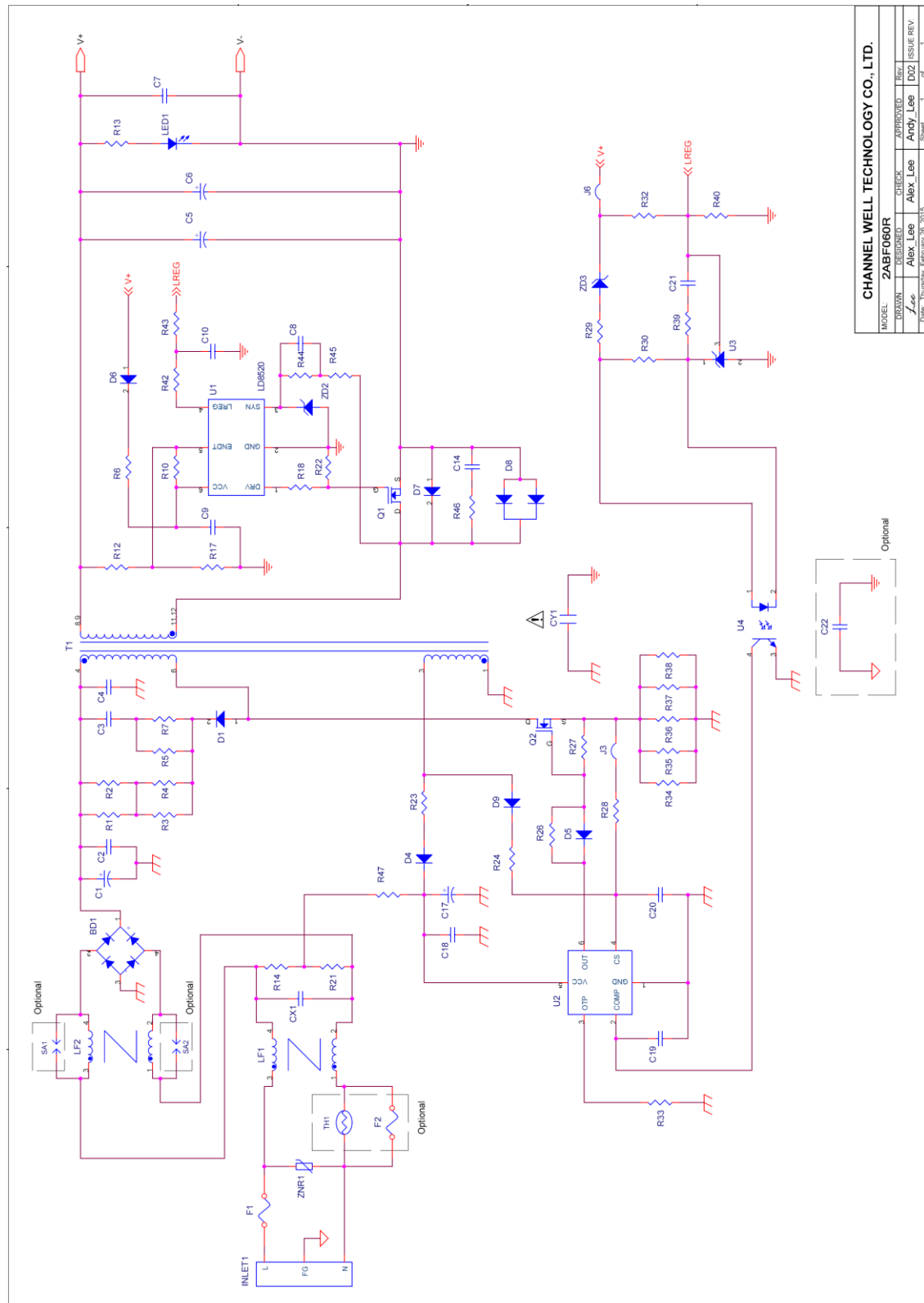


2ABF with R14A, R21A

CHANNEL WELL TECHNOLOGY CO., LTD.				
MODEL 2ABF SERIES for 62368				
DESIGN	CHECK	APPROVED	Rev	Issue
Lee	Alex_Lee	YC_Lin	0.1	ISSUE REV.
Date: Wednesday, May 30, 2018	Sheet	1	of	1

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxYwzzzzz

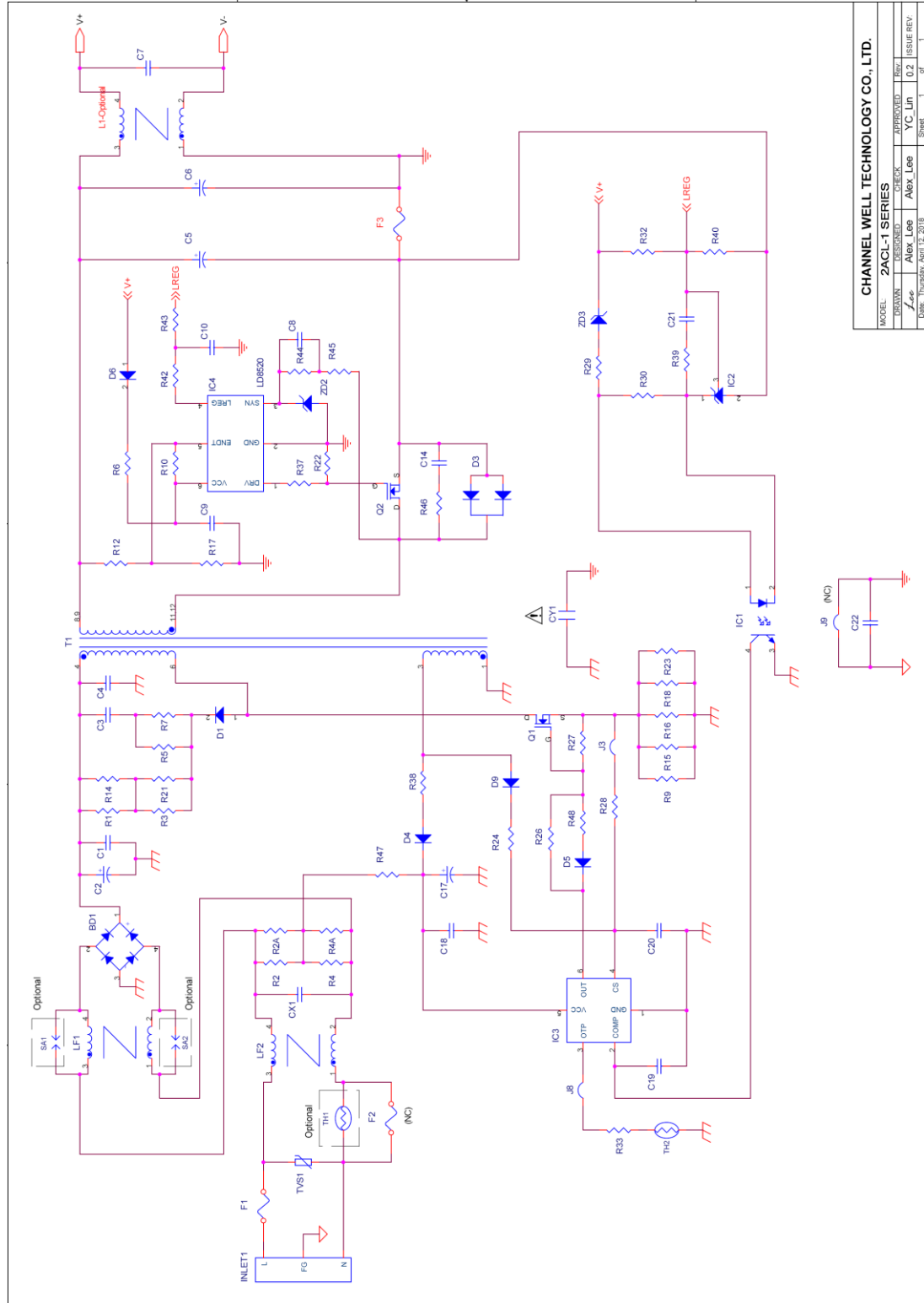


CHANNEL WELL TECHNOLOGY CO., LTD.				
MODEL	2ABF060R	CHECK	APPROVED	Rev
DESIGN	ISSUED	DESIGNED	DESIGNED	ISSUE REV
Jee	Alex Lee	Alex Lee	Andy Lee	002
Date	Thursday, February 20, 2015	Sheet	1	of 1

2ABF without R14A, R21A

Product: AC Adapter

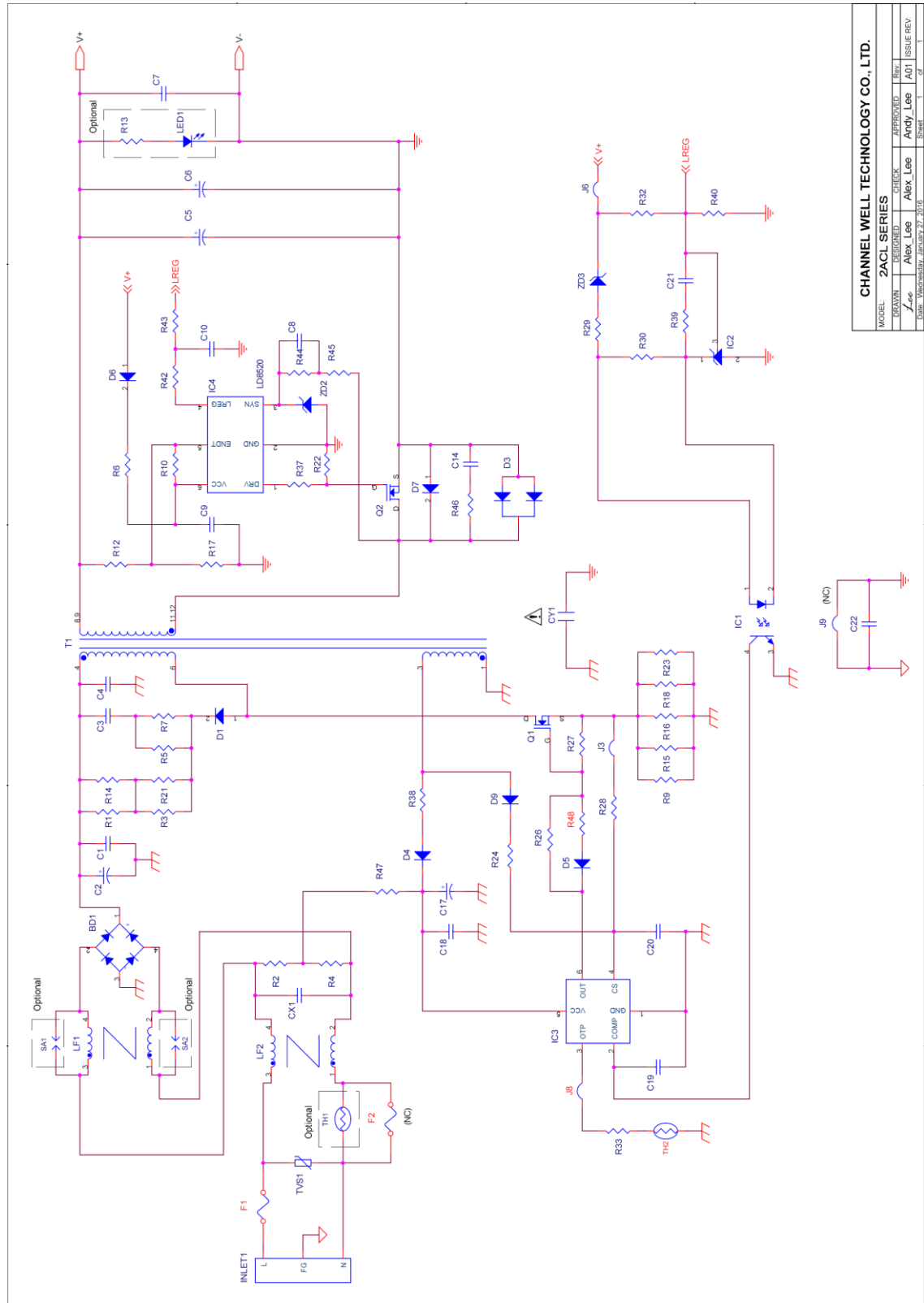
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



CHANNEL WELL TECHNOLOGY CO., LTD.					
MODEL	2ACL-1 SERIES	DESIGN	DESIGNED	CHECK	APPROVED
DATE	2013.04.12	DATE	2013.04.12	DATE	2013.04.12
DESIGNER	Alex Lee	DESIGNED	Alex Lee	CHECK	YC Lin
DATE	2013.04.12	DATE	2013.04.12	DATE	2013.04.12
ISSUE REV	0.2	ISSUE REV	0.2	ISSUE REV	0.2
SHEET	1	SHEET	1	SHEET	1

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxYwzzzzz

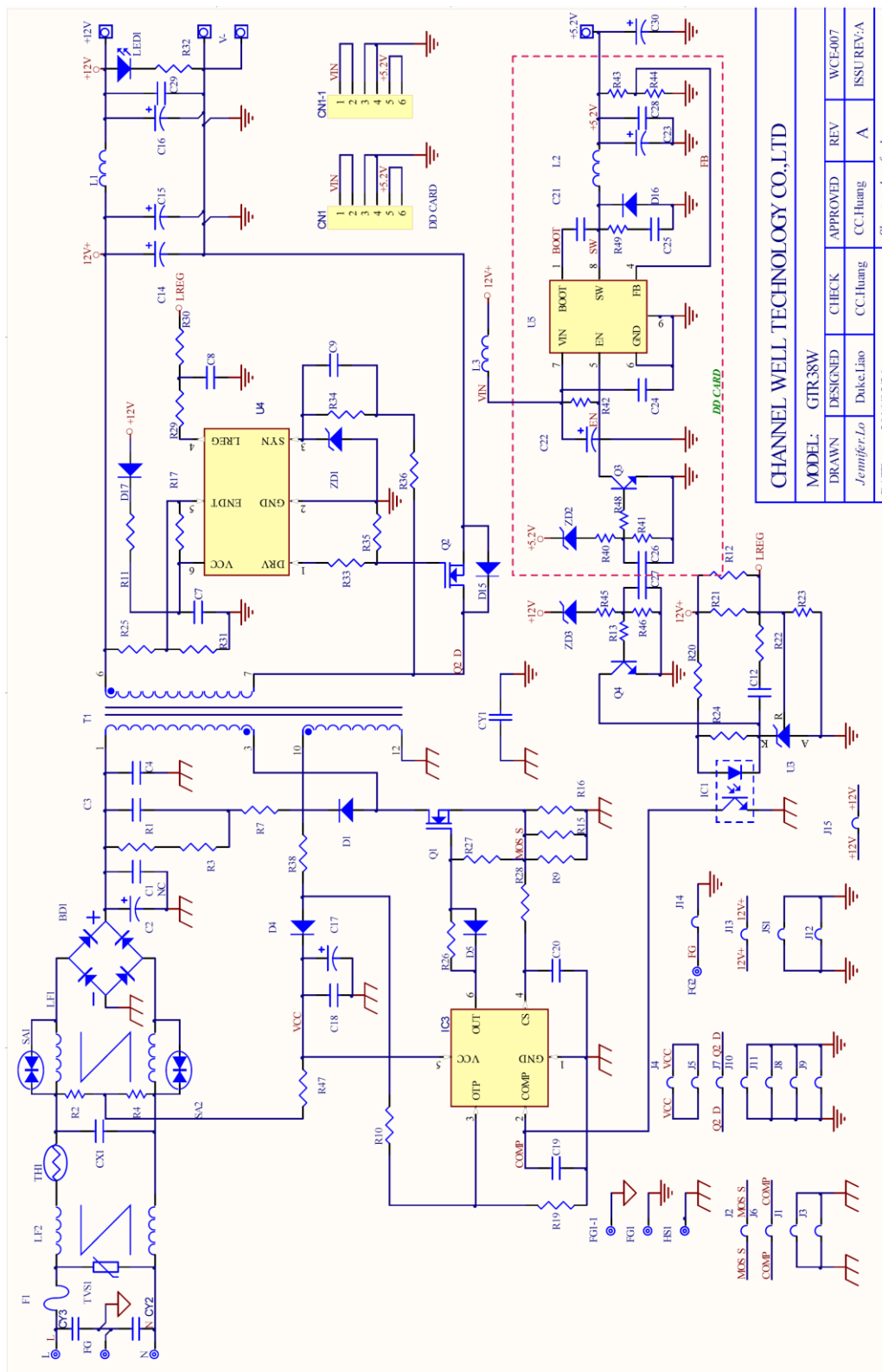


CHANNEL WELL TECHNOLOGY CO., LTD.				
MODEL	2ACL SERIES	DESIGNER	APPROVED	REV
DATE	2016/07/27	DESIGNER	2016/07/27	1.0
DATE	2016/07/27	DESIGNER	2016/07/27	1.0
DATE	2016/07/27	DESIGNER	2016/07/27	1.0

2ACL (except Y=B) without R2A, R4A

Product: AC Adapter

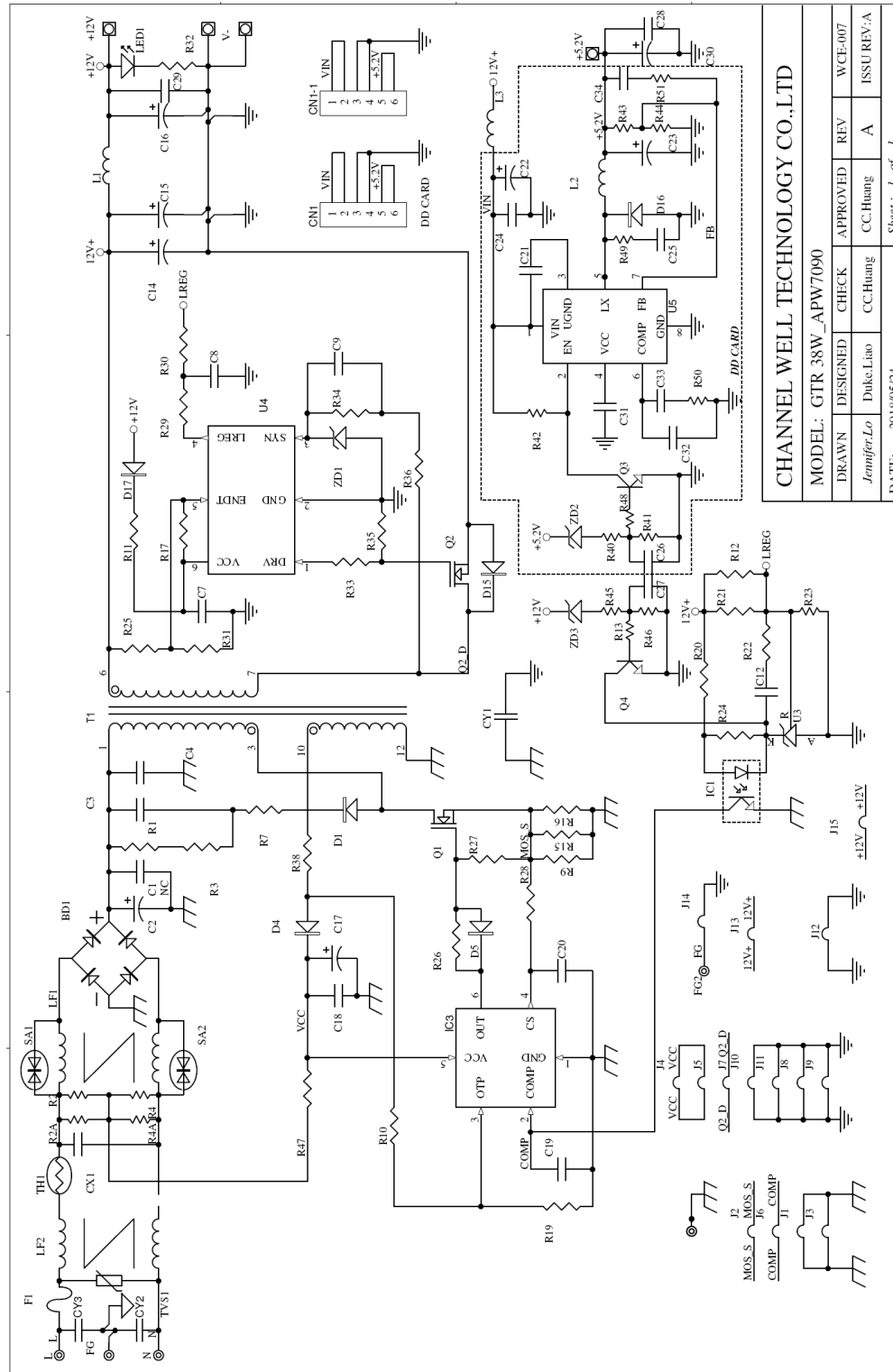
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



GTRxxxYzzzzz (without R2A,R4A)

Product: AC Adapter

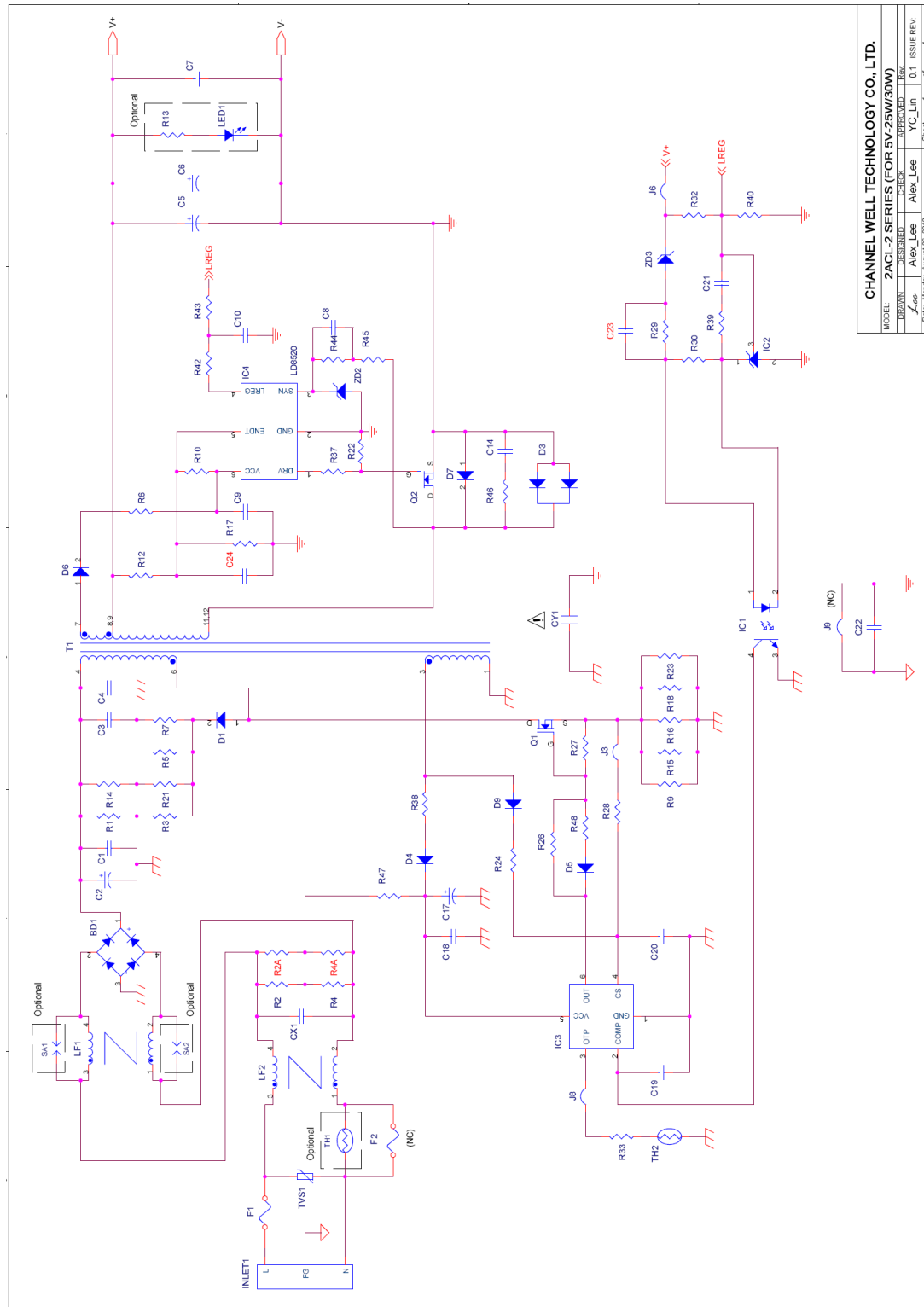
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



GTRxxxYzzzzz (with R2A,R4A)

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

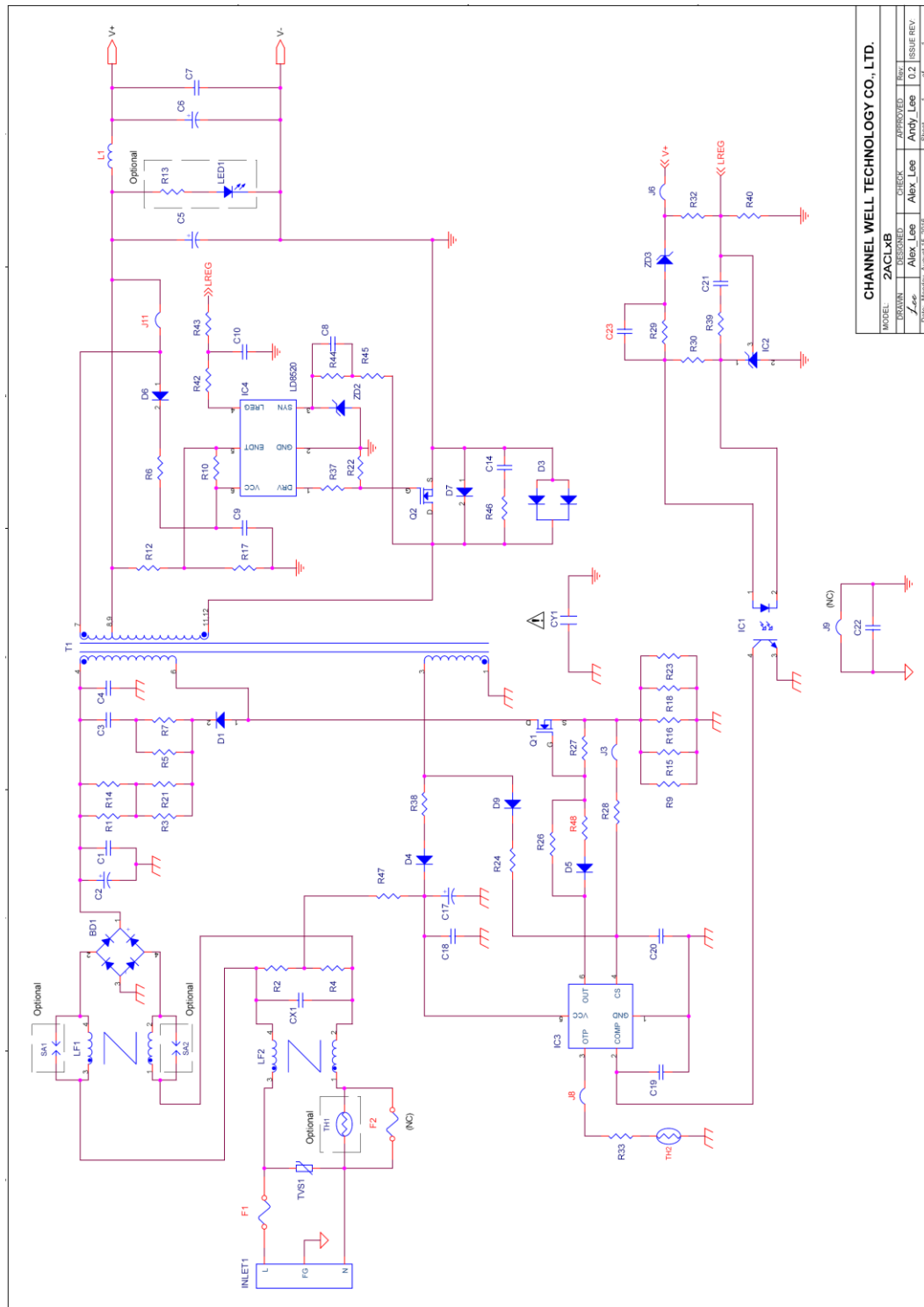


2ACL, Y=B with R2A, R4A

CHANNEL WELL TECHNOLOGY CO., LTD.					
2ACL-2 SERIES (FOR 5V-25W/30W)					
MODEL	DRAWN	DESIGNED	CHECK	APPROVED	REV
	Jae	Alex_Lee	Alex_Lee	YC_Lin	0.1
Date	Month	Year	Day	Sheet	1 of 1

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxYwzzzzz



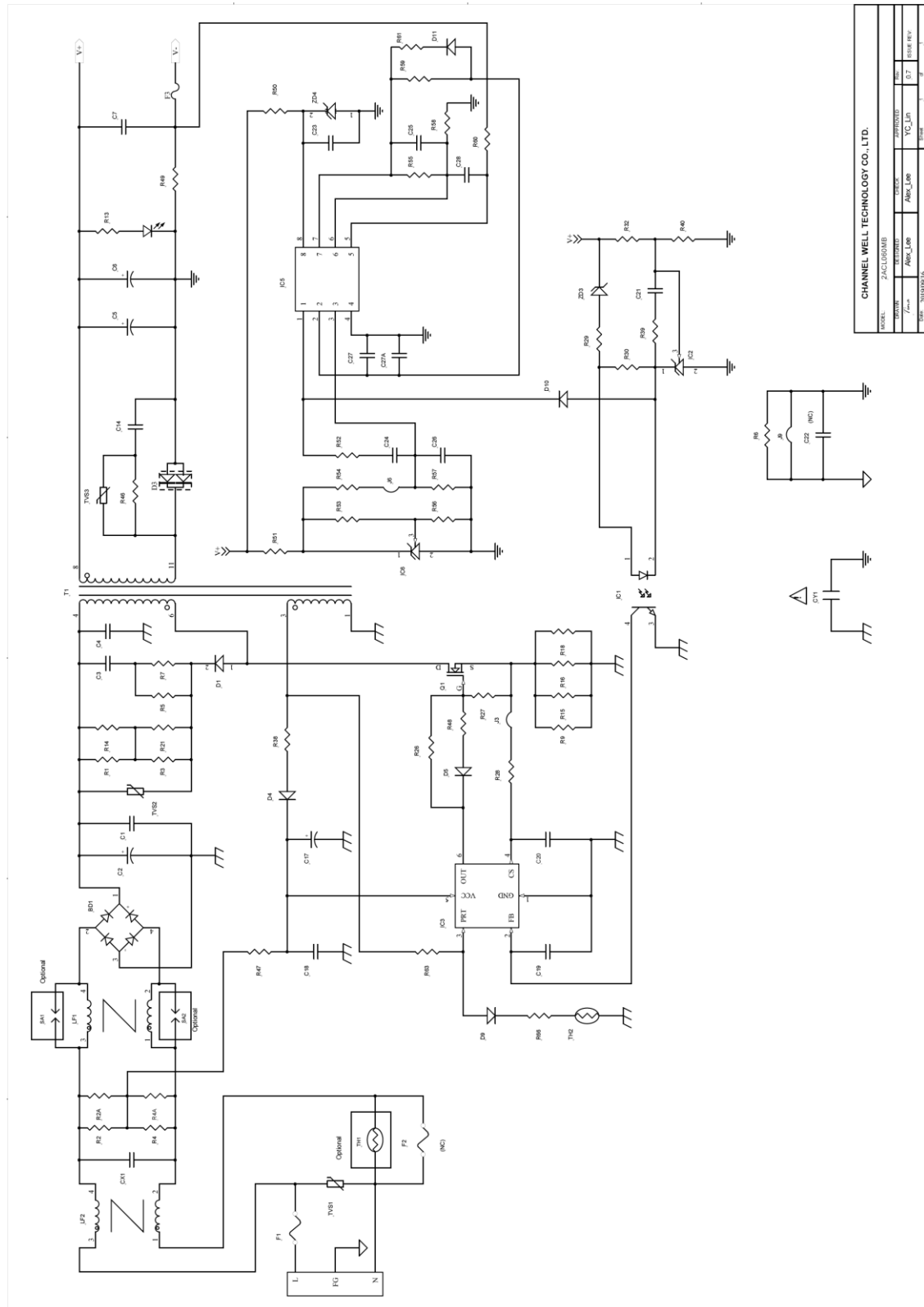
2ACL, Y=B without R2A, R4A

CHANNEL WELL TECHNOLOGY CO., LTD.

MODEL	2ACLxB	DESIGNED	CHECK	APPROVED	REV
DESIGN	Lee	Alex Lee	Alex Lee	Alex Lee	0.2
DATE	Monday, August 13, 2018	Sheet	1	1	1

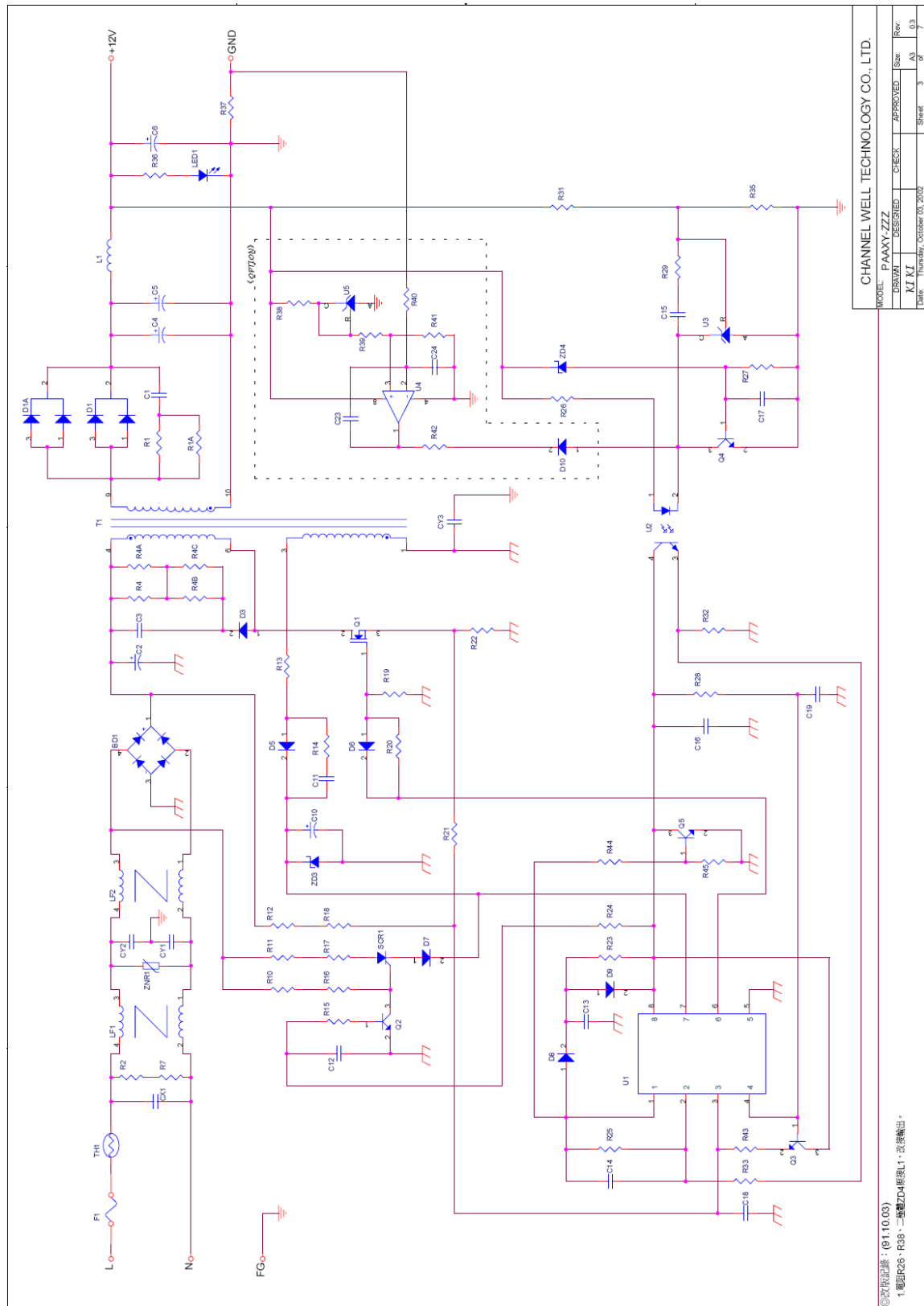
Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



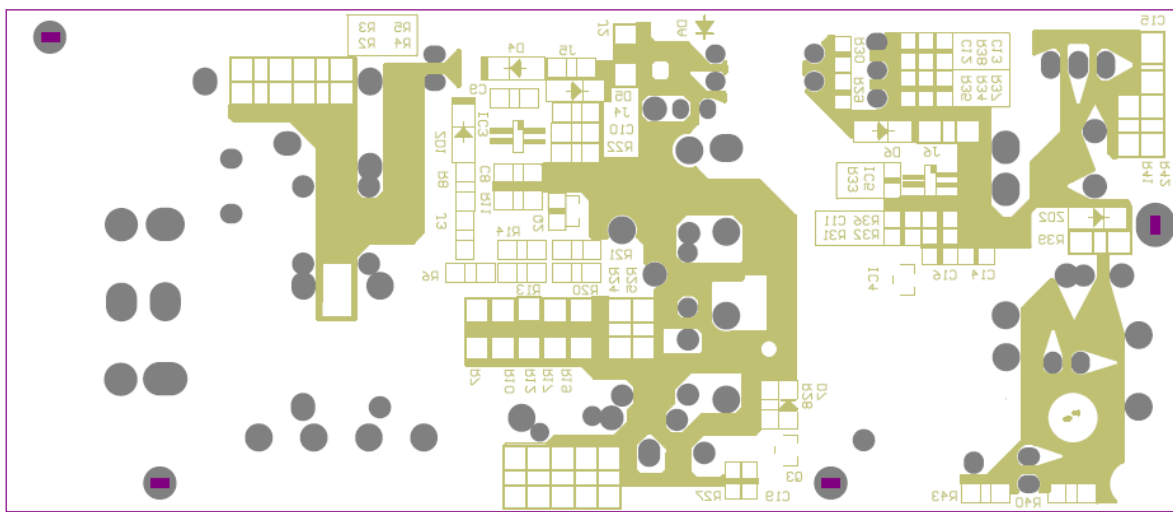
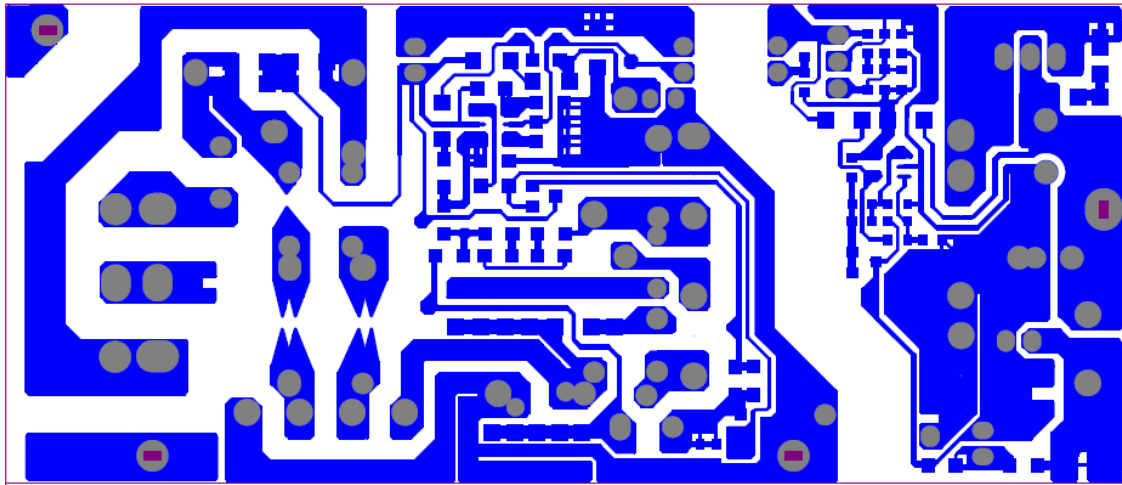
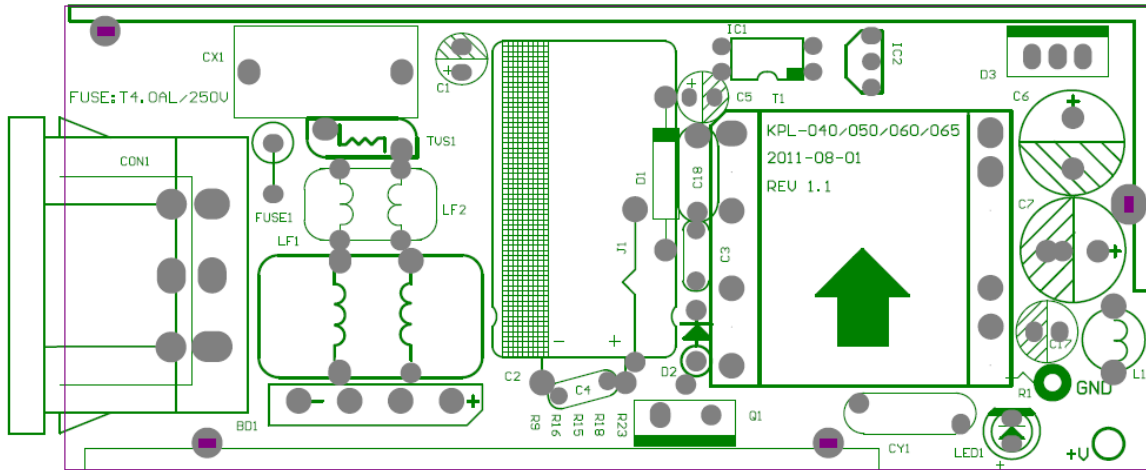
2ACL060MB

Product: AC Adapter

Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

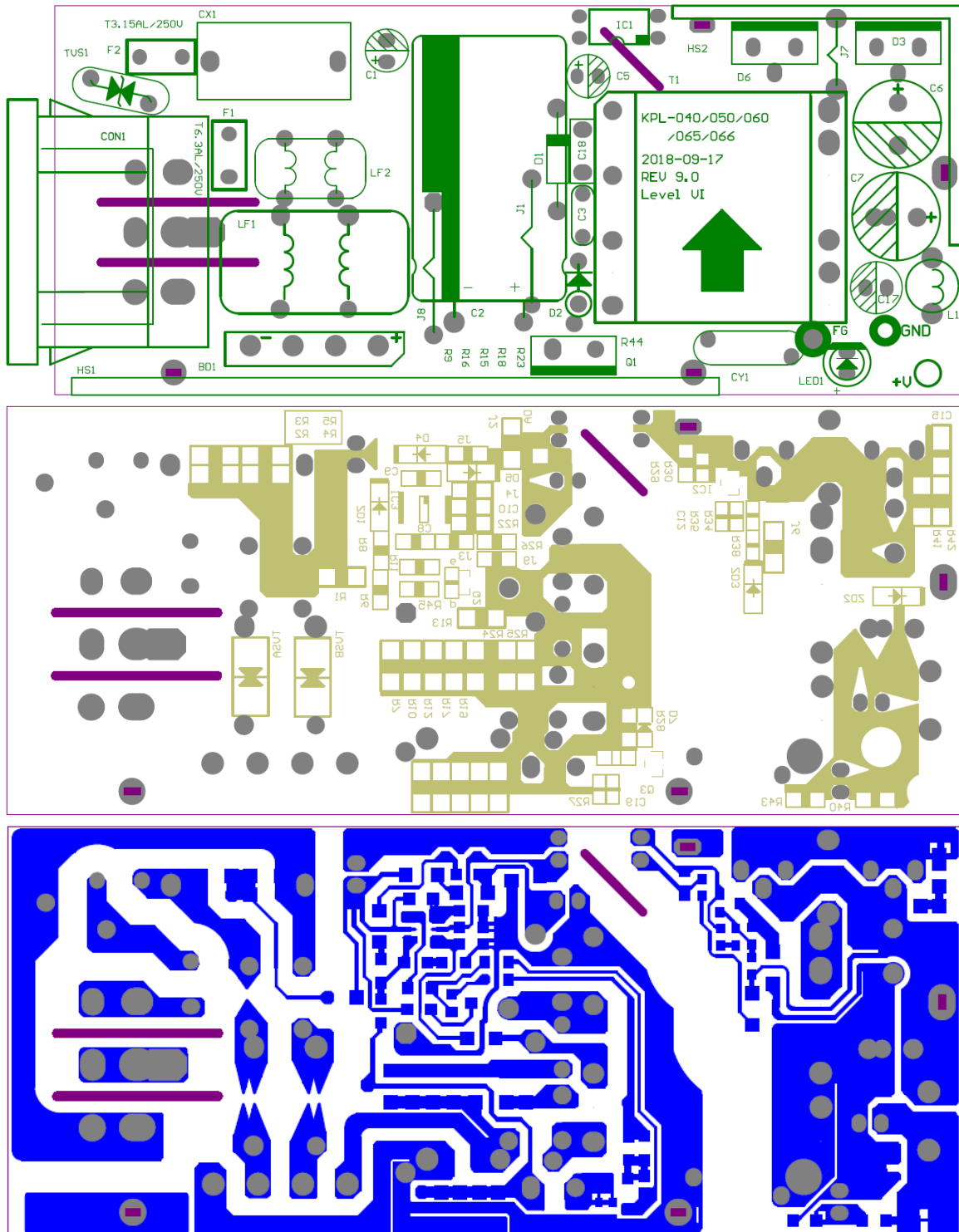
PAA060M

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



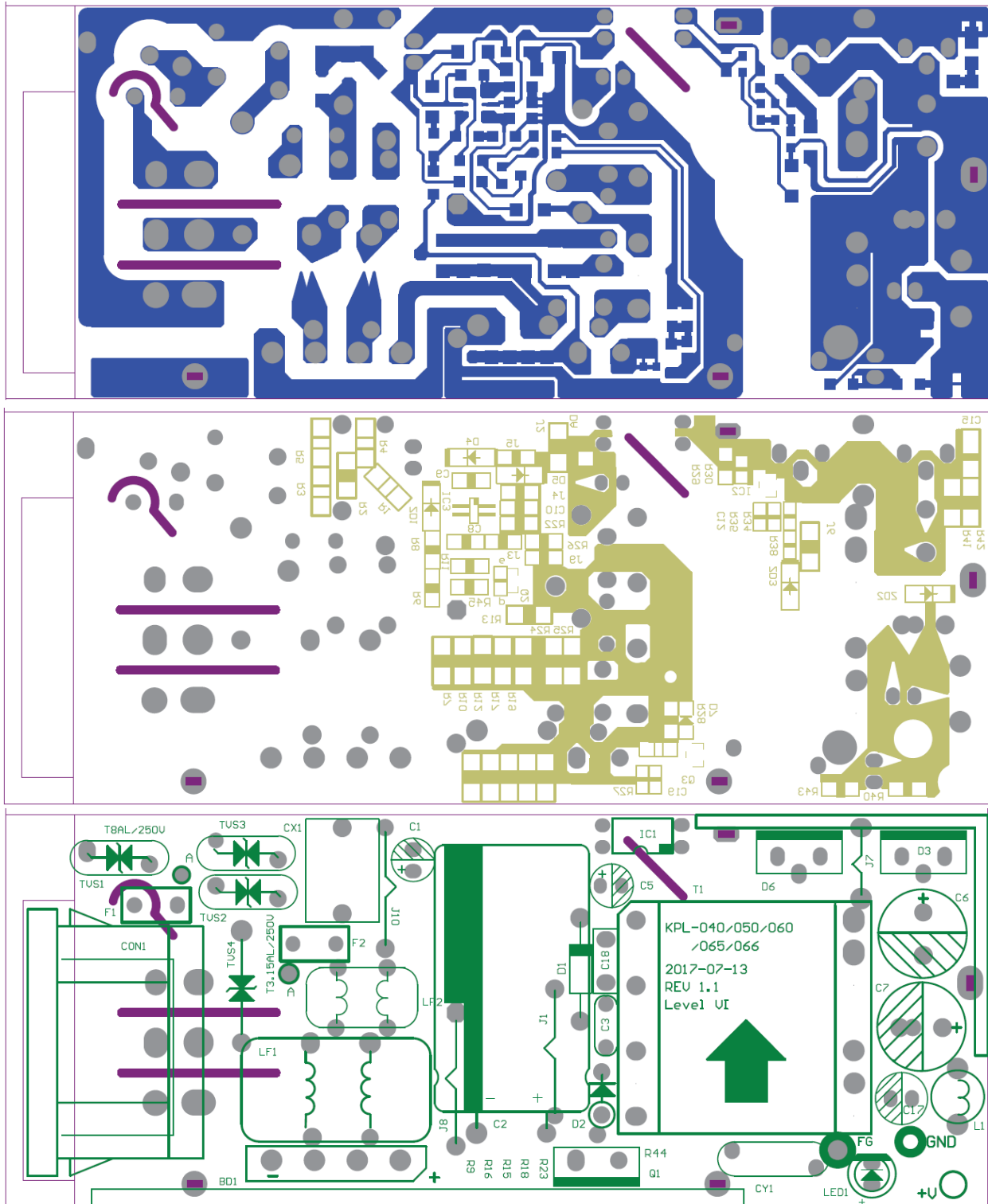
PCB with fuse: FUSE1

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



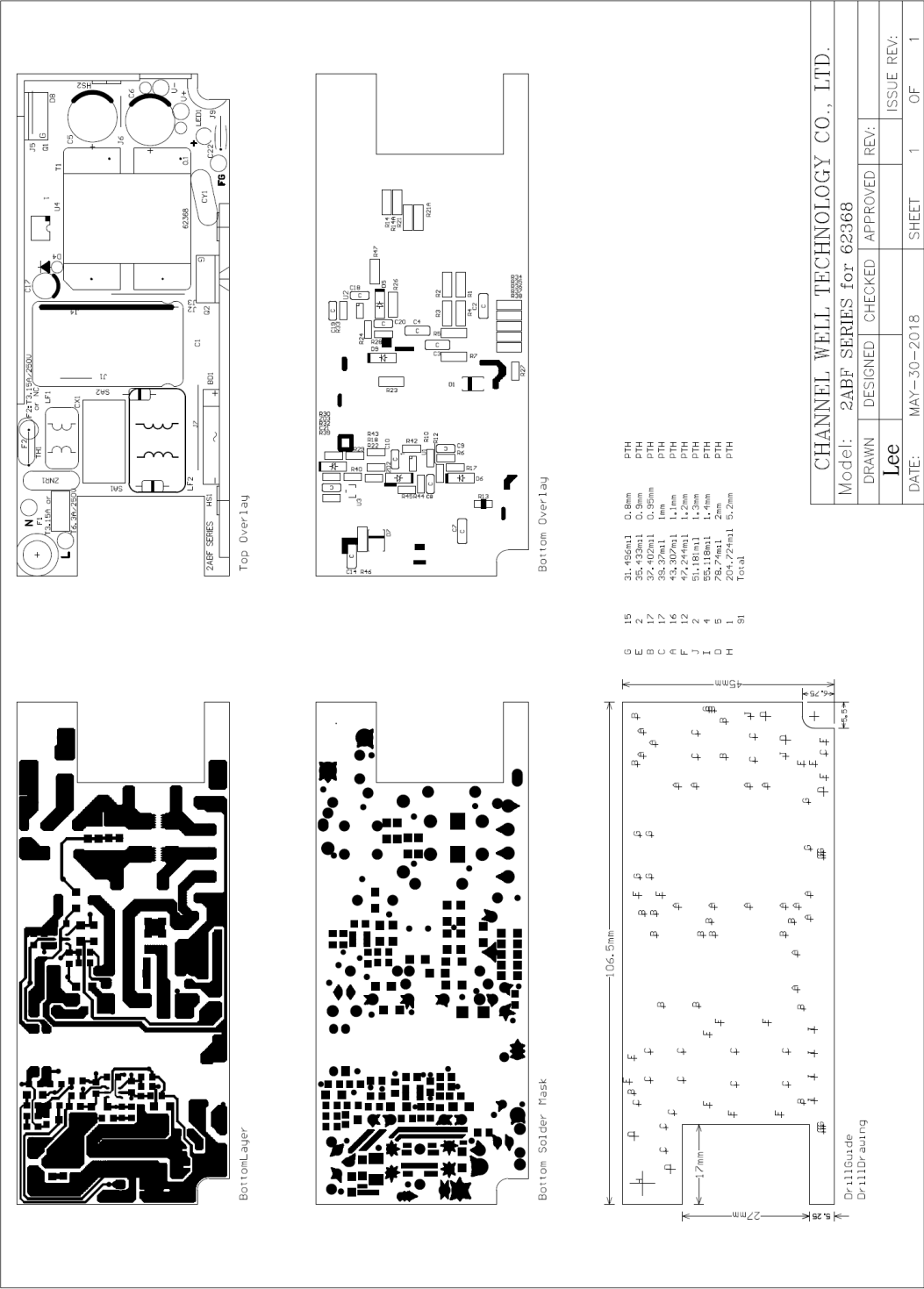
PCB with fuses: F1, F2 (Without TVS2, TVS3, TVS4)

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



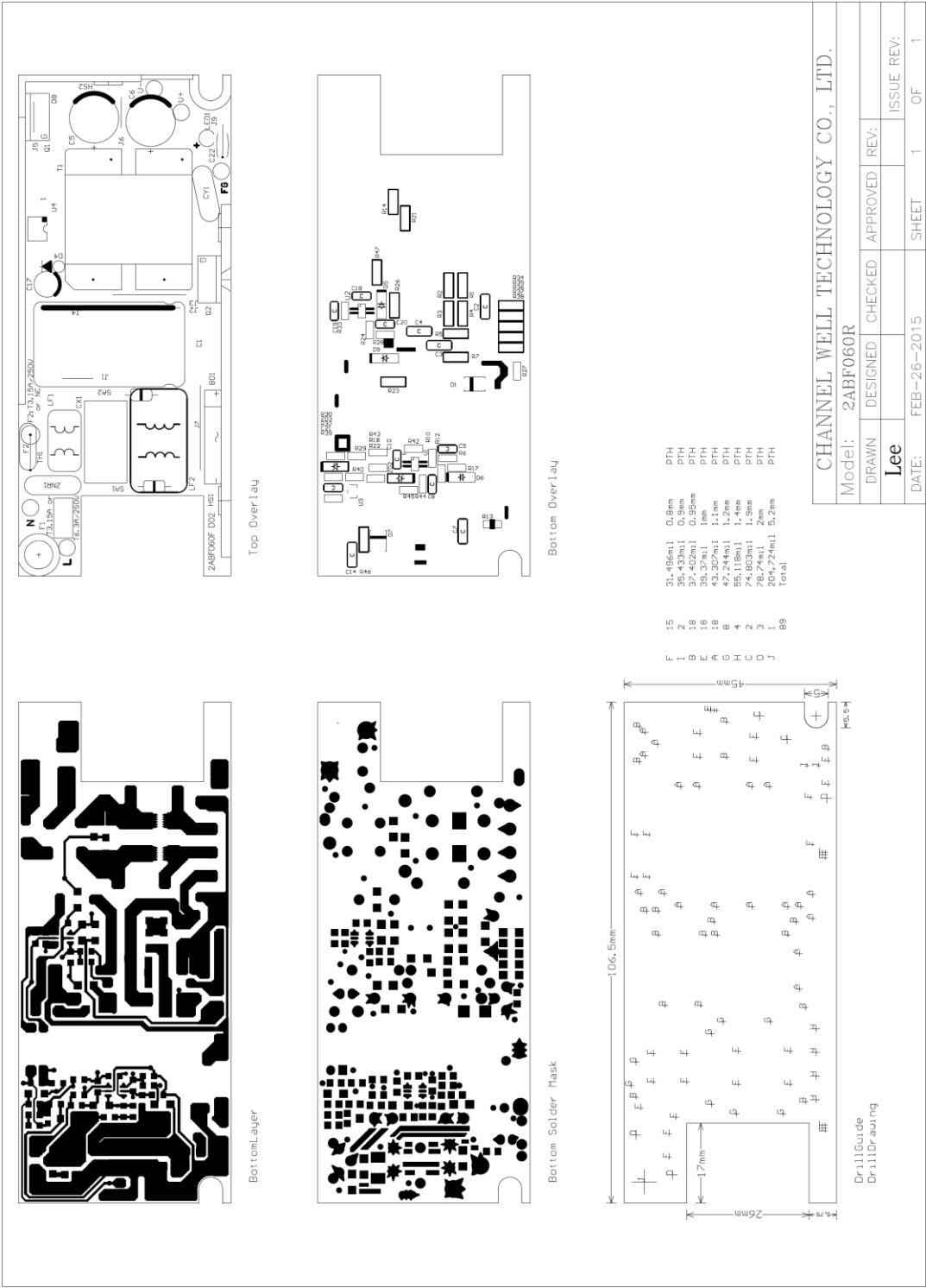
PCB with fuses: F1, F2 (With TVS2, TVS3, TVS4)

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



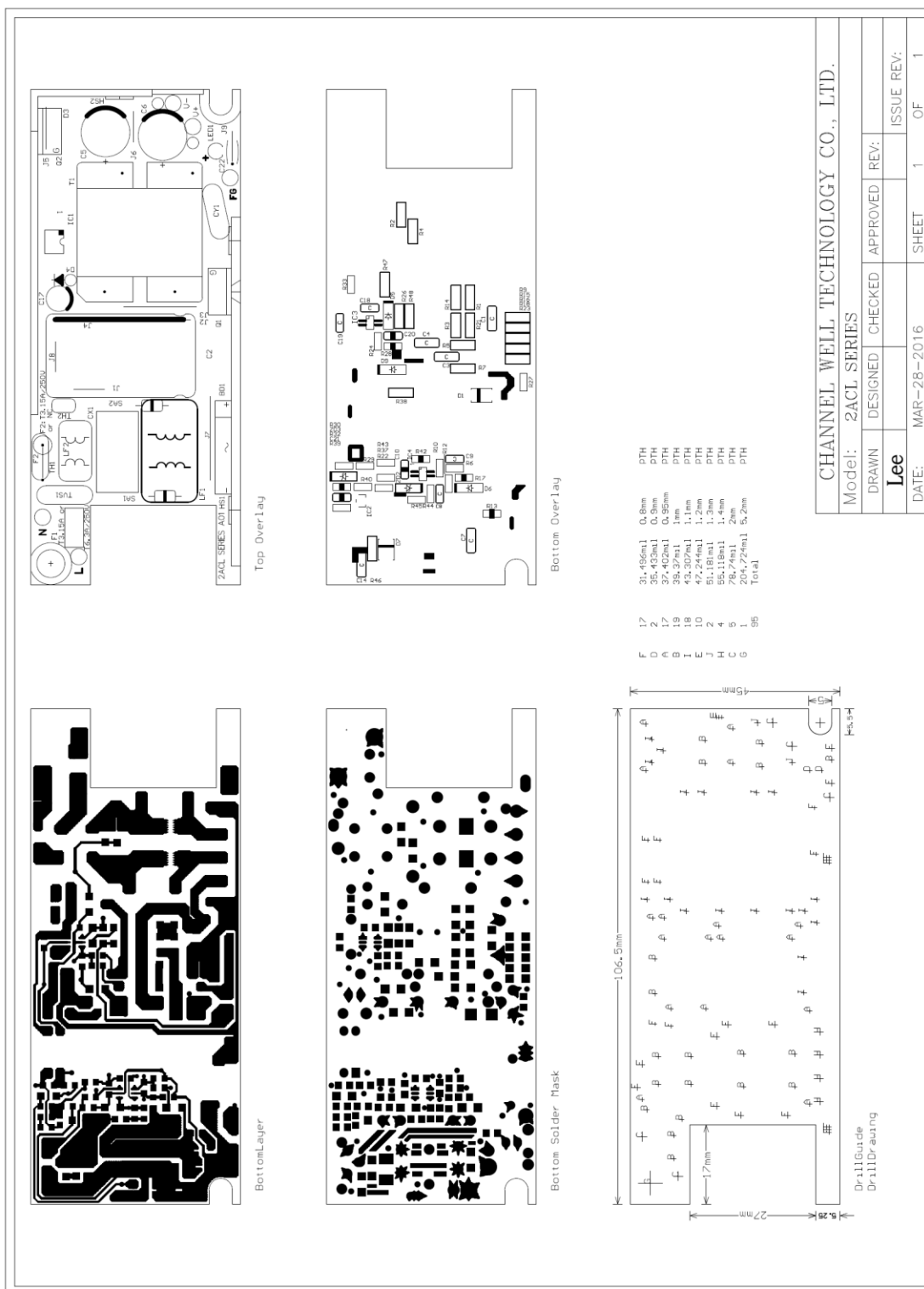
2ABF with R14A, R21A

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-~~ZZZ~~, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

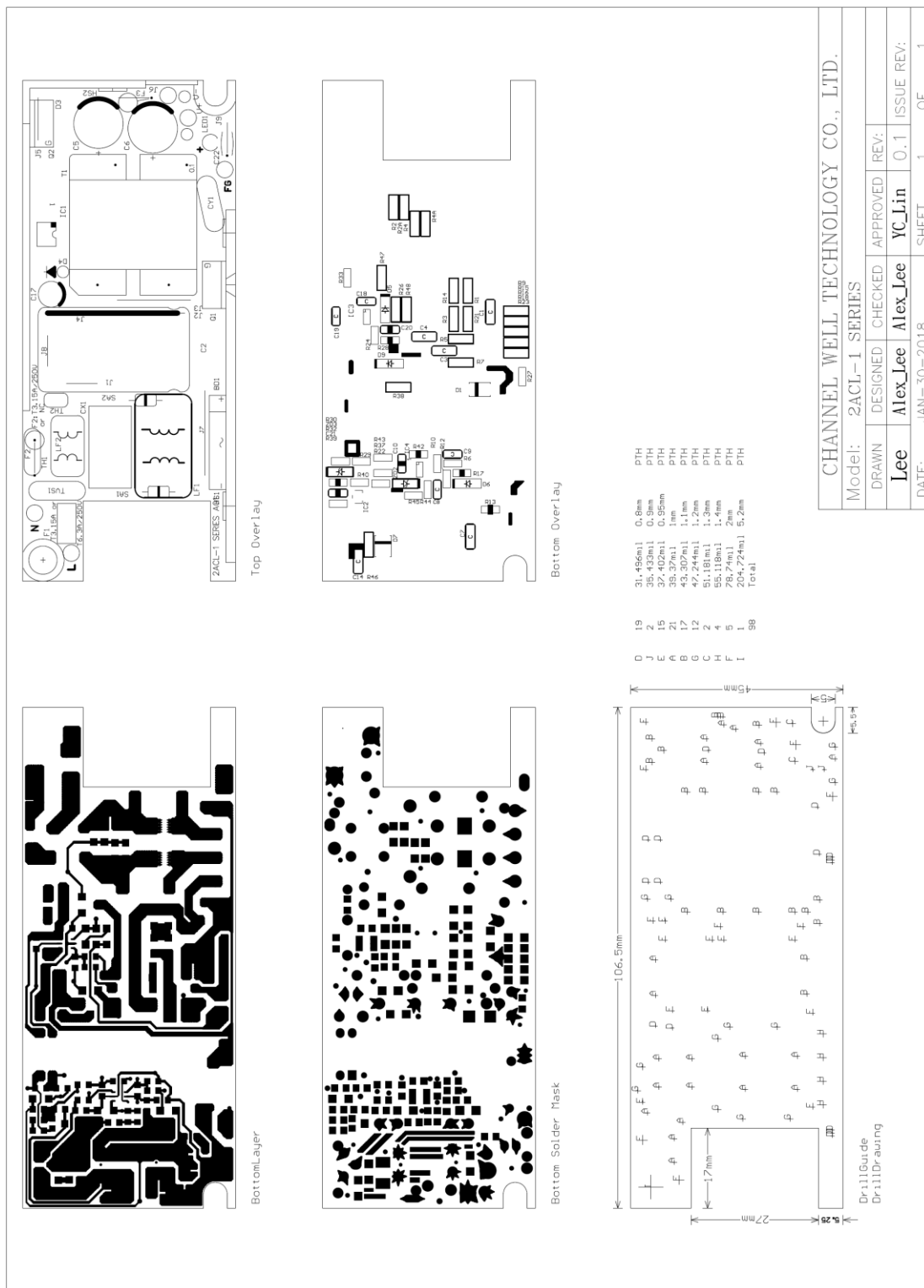


2ABF without R14A, R21A

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

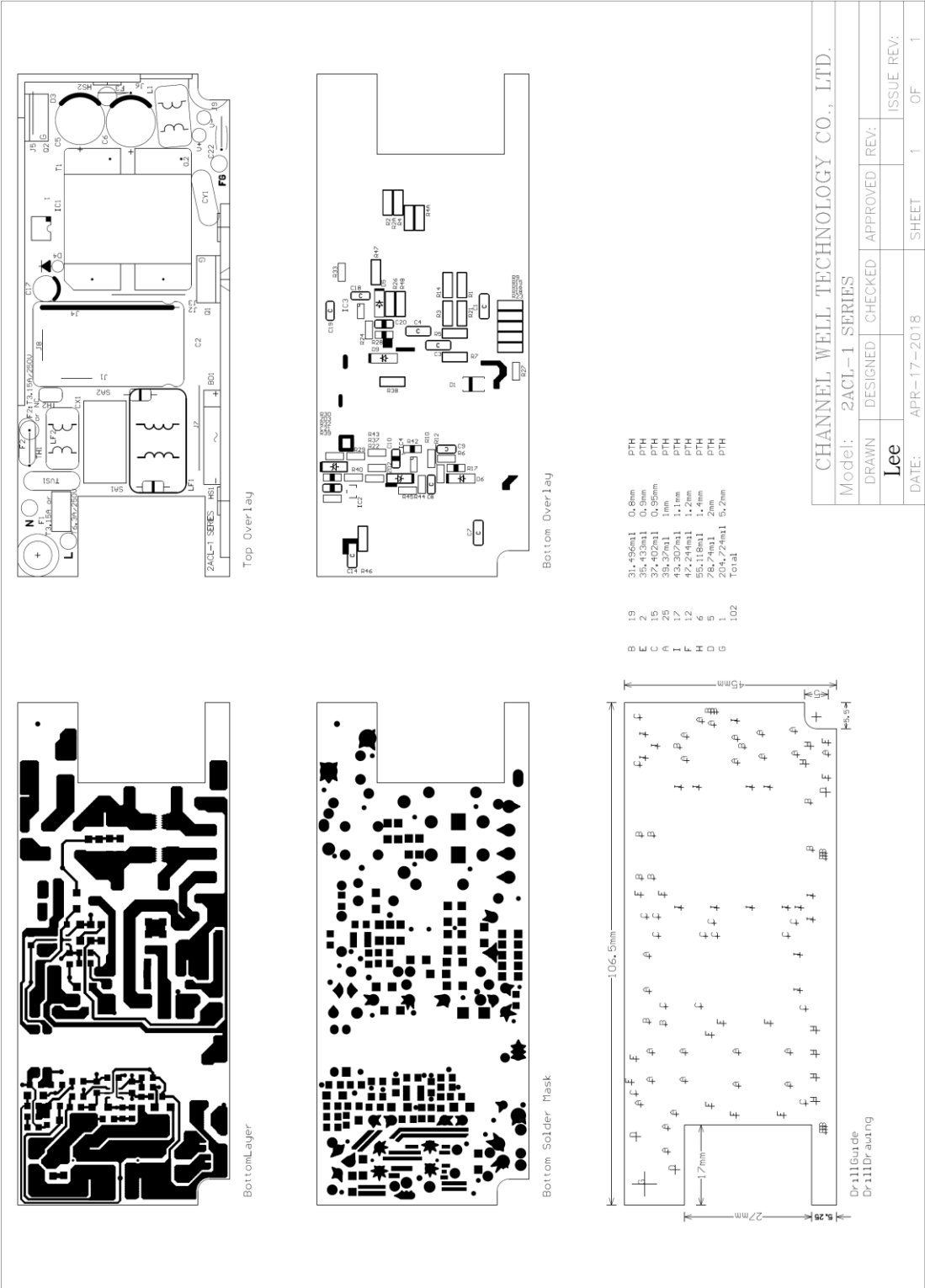
2ACL (except $Y=B$) without R2A, R4A

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



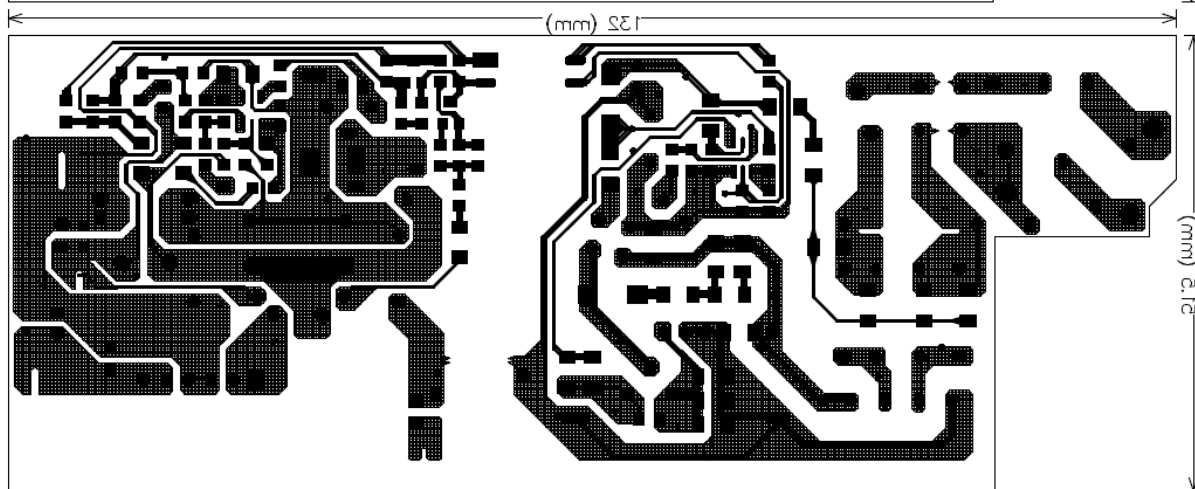
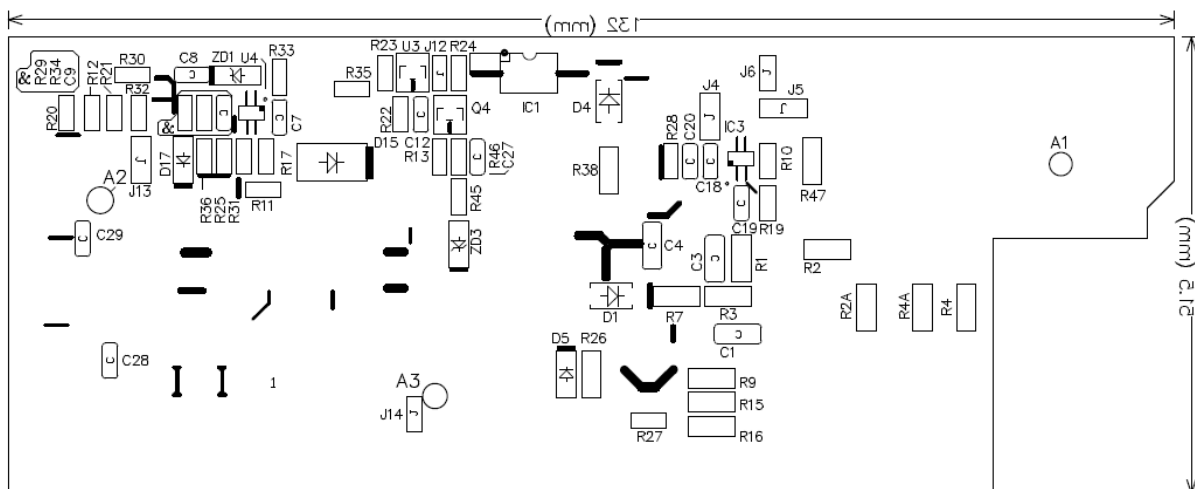
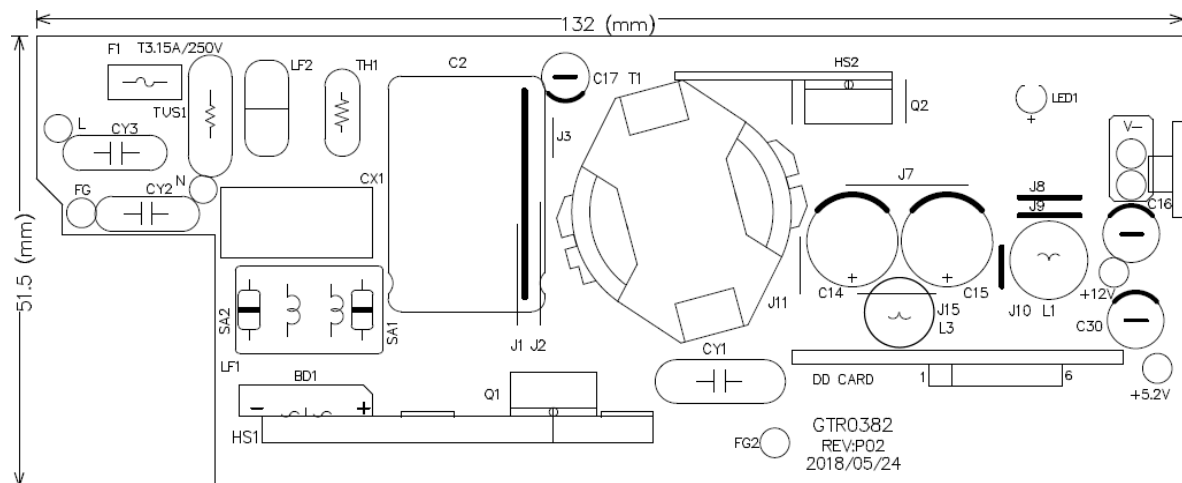
2ACL (except Y=B) (add R2A, R4A, F3) (Alternative)

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



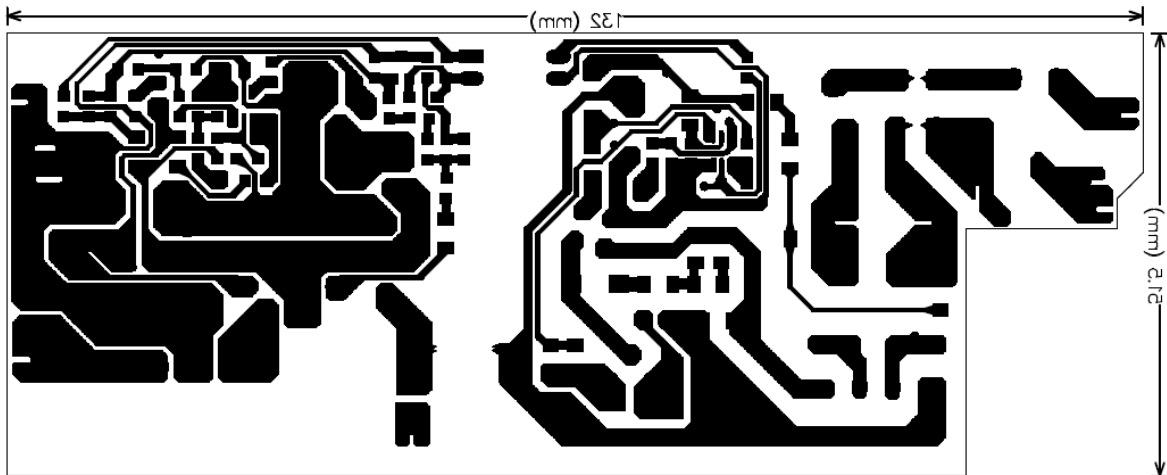
2ACL (except Y=B) (add R2A, R4A, F3, L1) (Alternative)

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

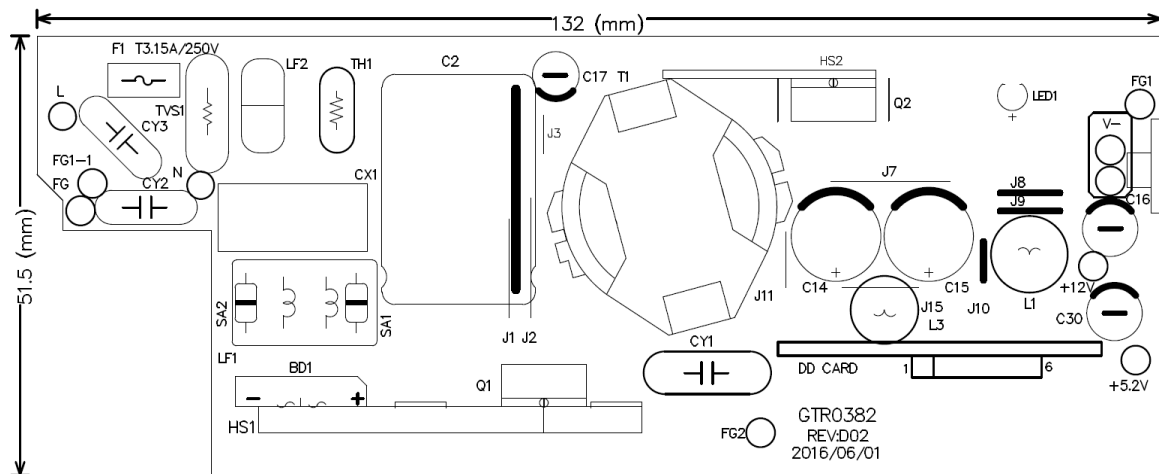


GTRxxxYzzzzz with R2A, R4A

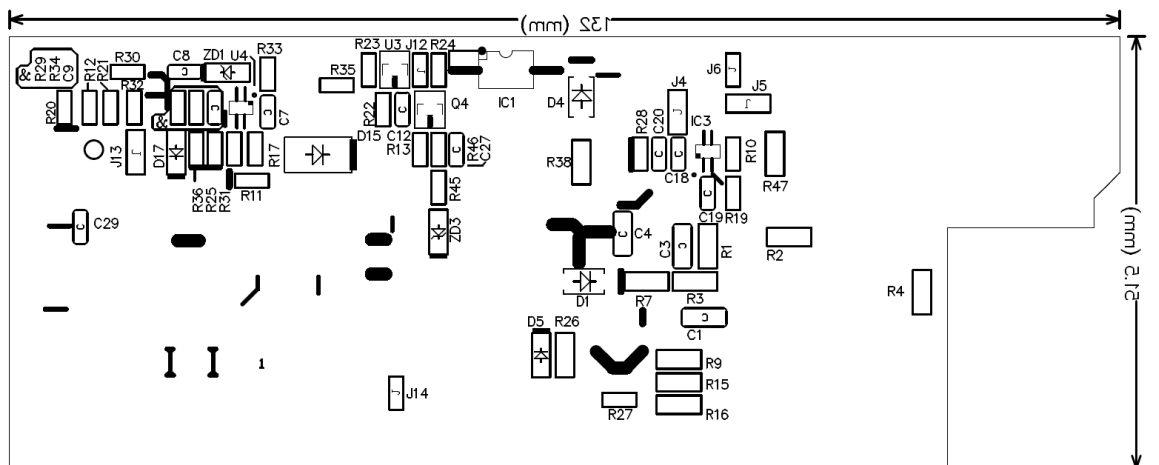
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



Bottom Layer



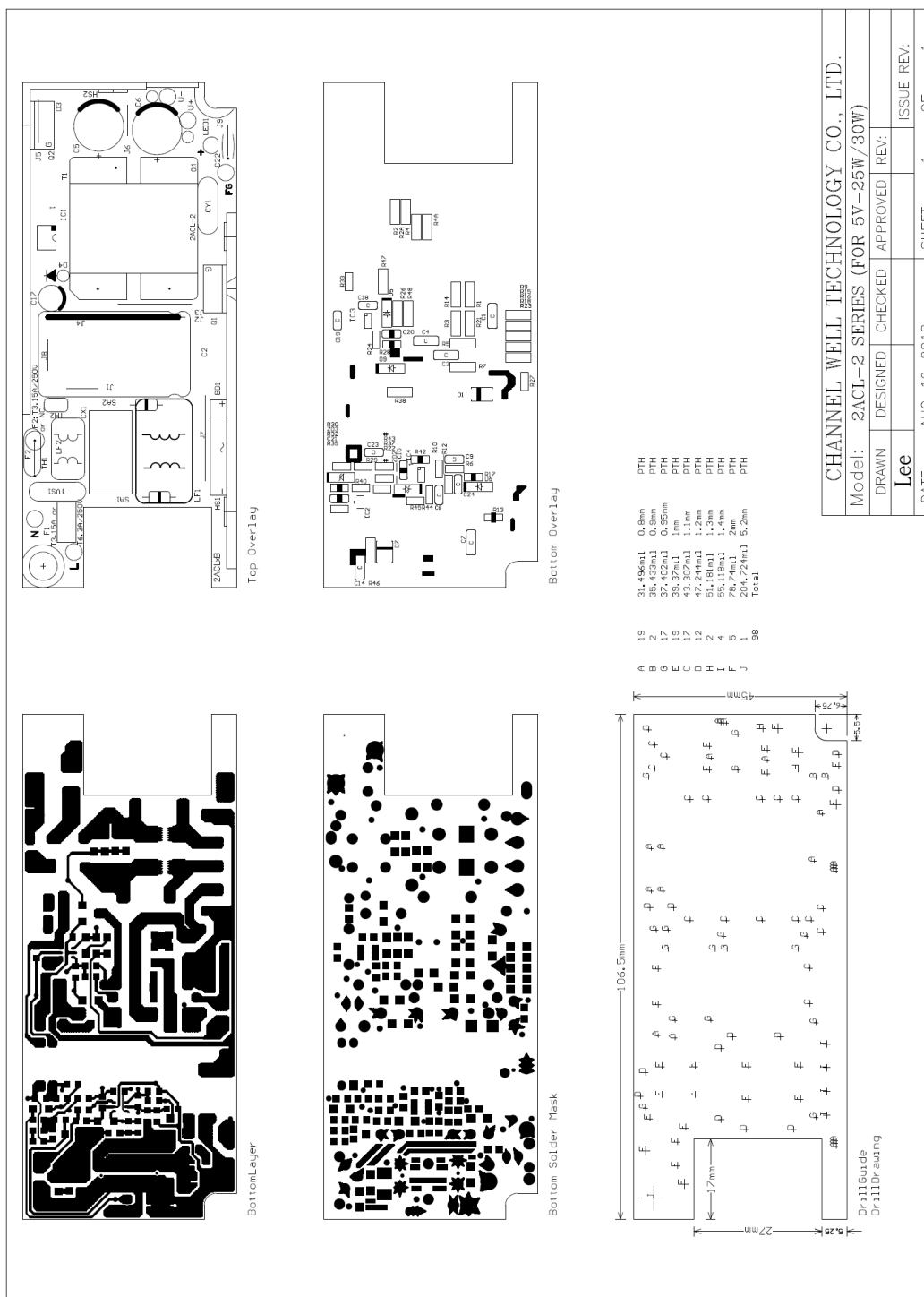
Top Overlay



Bottom Overlay

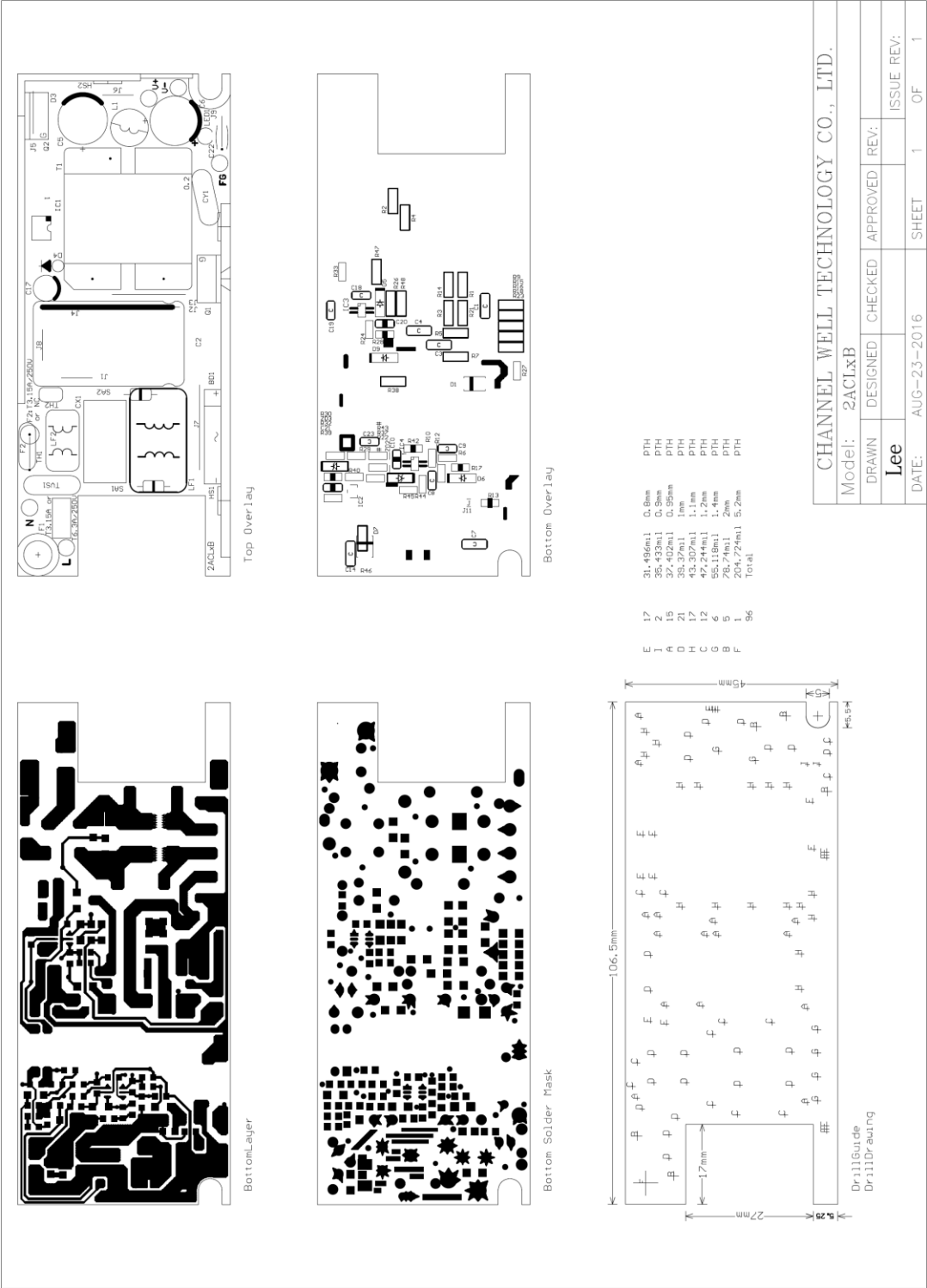
GTRxxxYzzzzz without R2A, R4A

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



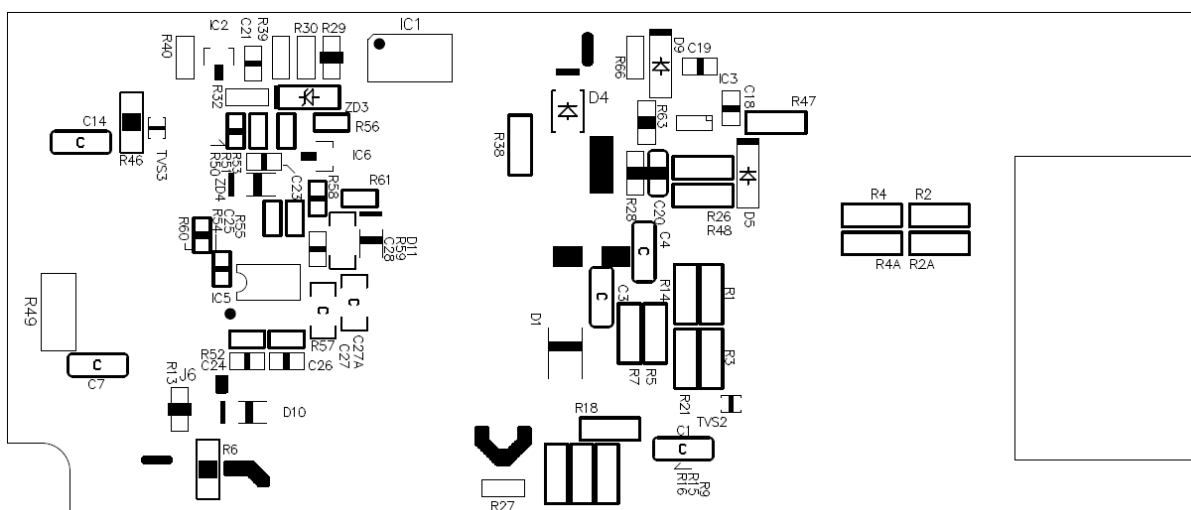
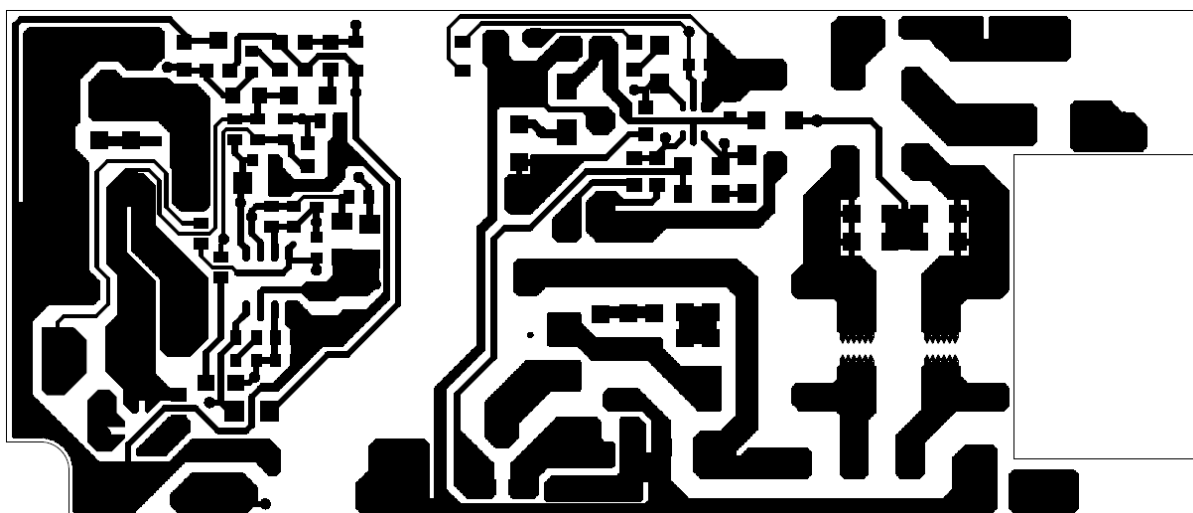
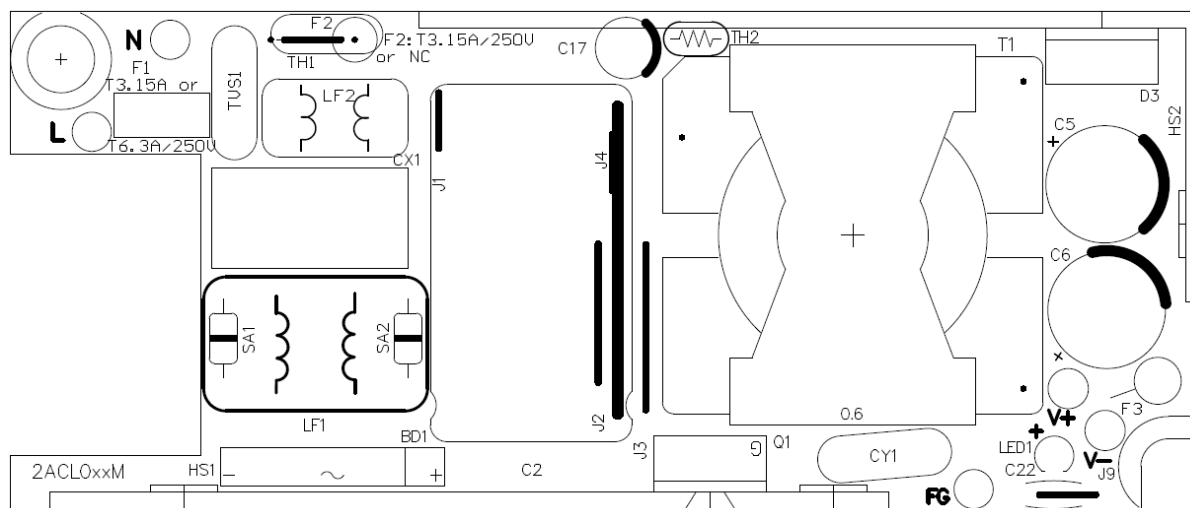
2ACL, Y=B with R2A, R4A

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



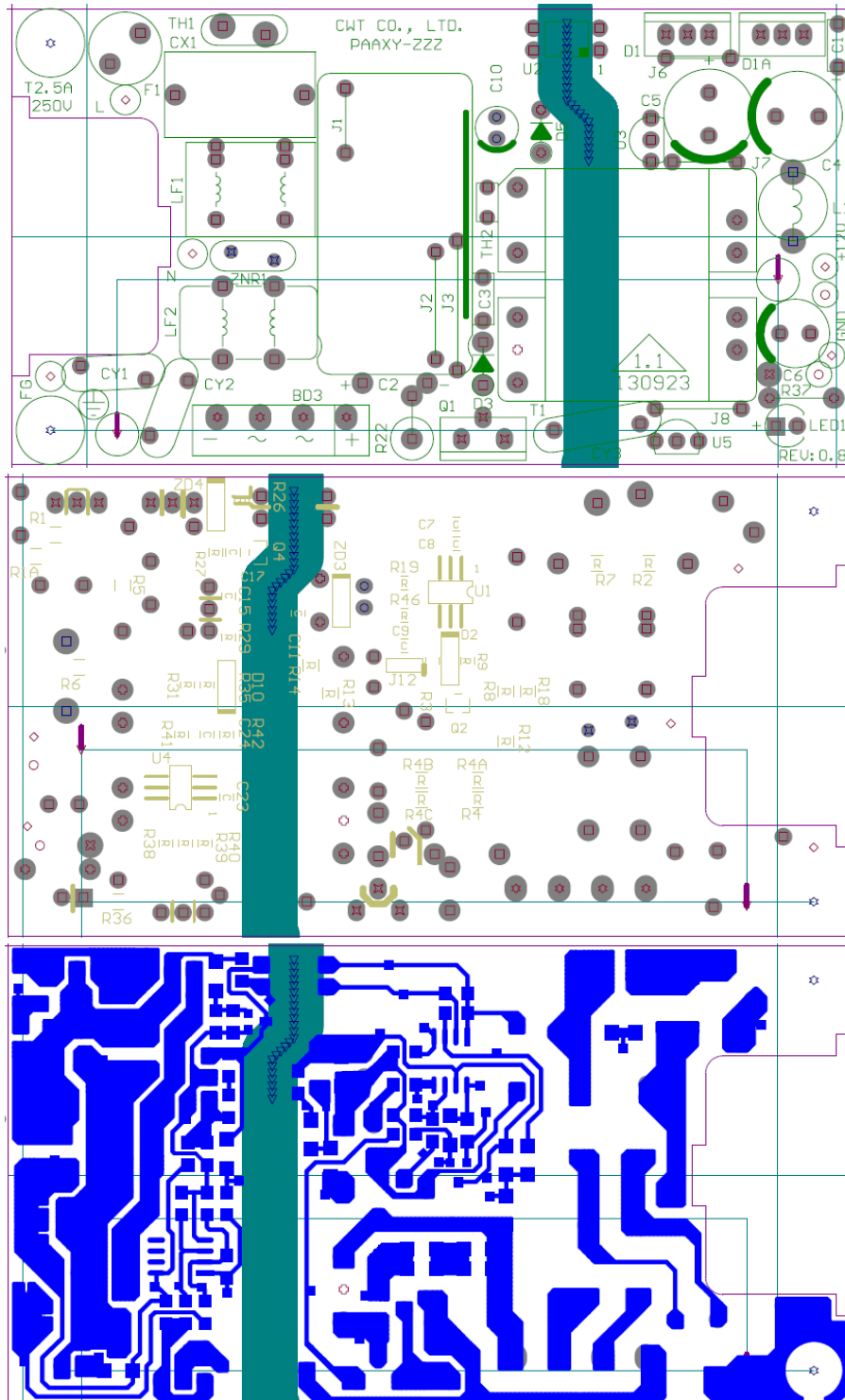
2ACL, Y=B without R2A, R4A

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



2ACL060MB

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



PAA060M

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 1 OF 4

CUSTOMER: 冠碩

MODEL: PQ-2620-12

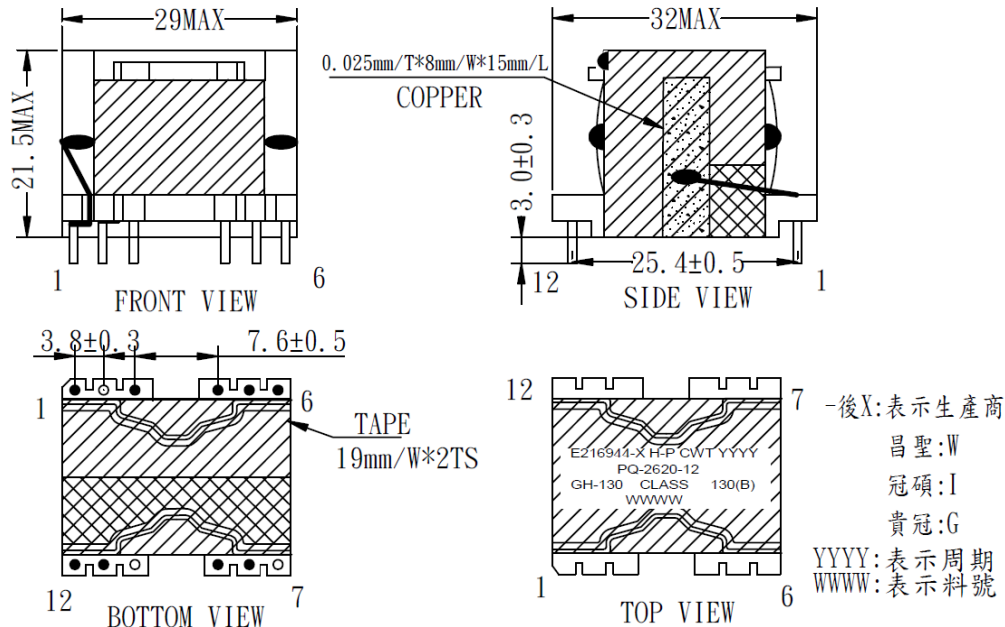
PART NO: G09-PQ26203-M100

OUR P/N: _____

REVISION: A

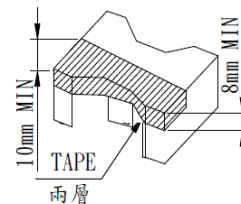
ISSUE DATE: 2011-02-14

1. MECHANICAL DIMENSIONS: (UNIT :mm)



NOTE:

- PIN2, 7, 10 NO, PIN5 CUT OFF 1/2.
- 底部磁芯加工PIN7-12(如圖所示).
- 所有出入線需加TFL套管.
- 側面貼自粘銅箔0.025mm/T*8mm/W*15mm/L, 引線為Φ0.3, 加TFL接於PIN1.
- 研磨磁芯置於變壓器頂部, CORE TAPE: 19mm/W*2TS(切口在側面).
- 磁芯與磁芯結合處及磁芯與BOBBIN結合處, 共點膠五點固定(如圖所示).
- 標籤貼於頂部, 字腳朝向PIN1-6側(如圖所示).



APPROVED BY	CHECKED BY	DRAWING BY
林宗財	丁俊德	張娟溪

(O/P 12-16V) (KPL PCB with FUSE1)

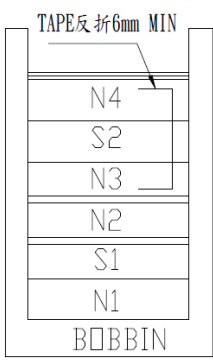
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 2 OF 4

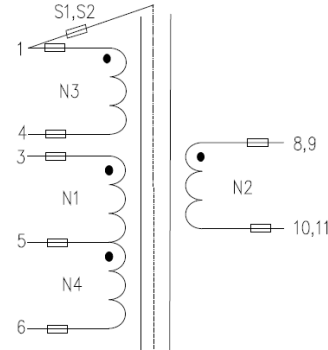
CUSTOMER: 冠 碩		MODEL: PQ-2620-12	
PART NO: G09-PQ26203-M100		OUR P/N: _____	
REVISION: A		ISSUE DATE: 2011-02-14	

2. CONSTRUCTIONS:



_____ 3TS TAPE
 _____ 1TS TAPE
 _____ 1TS TAPE
 _____ 2TS TAPE
 _____ 2TS TAPE
 _____ 1TS TAPE

3. SCHEMATIC:



□ : TEFLON TUBE
 ● : START

4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		NOTE
						ST	FI	
N1	2UEW Φ0.4mm*2P	3	5	18TS	1TS	V	V	
S1	0.025mm/T*8mm/W	1	-	1TS	2TS	V		
N2	TRW(B) Φ0.8mm*2P	8,9	11,12	4TS	2TS	V	V	
N3	2UEW Φ0.16mm*2P	1	4	5TS	1TS	V	V	疏繞
S2	0.025mm/T*8mm/W	1	-	1TS	1TS	V		
N4	2UEW Φ0.4mm*2P	5	6	18TS	3TS	V	V	

NOTE :

1. S1, S2銅箔須背膠, 引線為Φ0.3mm.
2. 靠底部繞N3是需貼一塊膠帶, 待N4繞完後反折6mm MIN.

APPROVED BY	CHECKED BY	DRAWING BY
林宗財	丁俊德	張娟溪

(O/P 12-16V) (KPL PCB with FUSE1)

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: 冠 碩		MODEL: PQ-2620-12		
PART NO: G09-PQ26203-M100		OUR P/N:		
REVISION: A		ISSUE DATE: 2011-02-14		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0 150°C	CHANG CHUN PLASTICS CO.,LTD	E59481(S)
2	CORE	M2.3K	HAO BO ELECTRONICSSCIENE&TECHNILOGY CO.,LTD	-
		SSP-44	SHANGPENG	-
		PF-2L	CWGC	-
		3F3	FEROCXCUBE	-
		JF2	SPINEL	-
3	MAGNET WIRE	DD-NYU Polyurethane MW75 130°C	PACIFC-THAI ELECTRILWIRE&CADLE CO.,LTD	E84081
		TRW(B)	GREAT LEOFON INDUSTRIAL CO LTD	E211989
4	TAPE	CAT NO 1350-1 130°C	3M COMPANY ELECTRICAL MARKETS DIV (EMI)	E17385
		#PZ-280 130°C	HUIZHOU YAHUA STICKING TAPE CO.,LTD	E165111
		CAT NO 35660	SYMBIO INC	E50292(S)
5	COPPER	0.025mm/T	DONGGUAN ZHONGCHI METAL PRODUCT CO.,LTD	-
6	SLEEVING	TFL 200°C	GREAT HOLDING INDUSTRIAL CO.,LTD	E156256
7	VARNISH	V1380FC /1360FS	P D GEORGE	E75225
8	EPOXY	3300A/B	SUZHOU EATTO ELECTRONIC MATERIAL CO.LTD	E218090
APPROVED BY		CHECKED BY		DRAWING BY
林宗財		丁俊德		張娟溪

(O/P 12-16V) (KPL PCB with FUSE1)

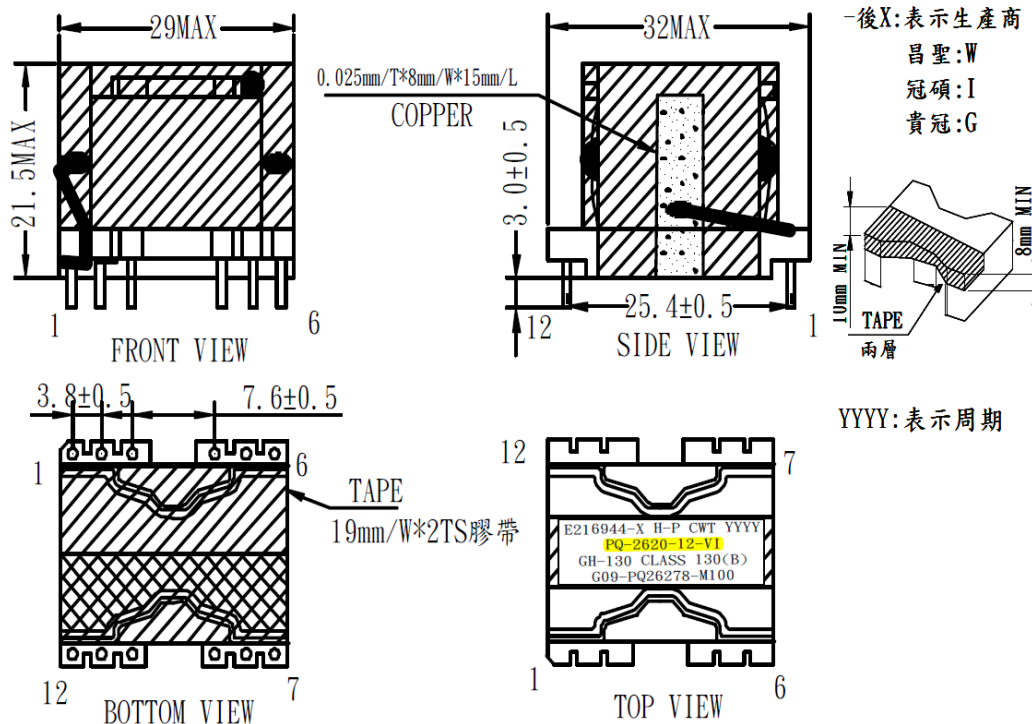
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 3 OF 6

CUSTOMER: 貴冠 TYPE: PQ-2620
 PART NO: G09-PQ26278-M100 OUR P/N: _____
 REVISION: A ISSUE DATE: 2015.5.12

1. MECHANICAL DIMENSIONS: (UNIT : mm)



NOTE:

- PIN2, 7, 10 NO, PIN5 CUT OFF 1/2.
- 底部磁芯加工PIN7-12(如圖所示).
- 所有出入線需加TFL套管.
- 側面貼自粘銅箔0.025mm/T*8mm/W*15mm/L, 引線為Φ0.3, 加TFL接於PIN1.
- 研磨磁芯置於變壓器頂部, CORE TAPE: 19mm/W*2TS(切口在側面), 成品用15mm膠帶沿線包方向包2TS.
- 磁芯與磁芯結合處及磁芯與BOBBIN結合處, 共點膠五點固定(如圖所示).
- 標籤貼於頂部, 字腳朝向PIN1-6側(如圖所示).

APPROVED BY	CHECKED BY	DRAWING BY
李俊良	彭小平	彭小平

(O/P 12-16V) (KPL PCB with F1, F2)

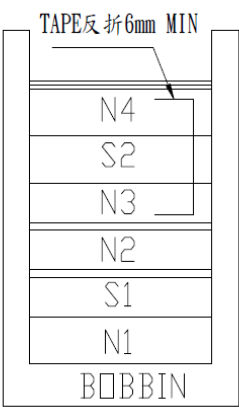
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 6

CUSTOMER: 貴冠	TYPE: PQ-2620
PART NO: G09-PQ26278-M100	OUR P/N:
REVISION: A	ISSUE DATE: 2015.5.12

2. CONSTRUCTIONS:

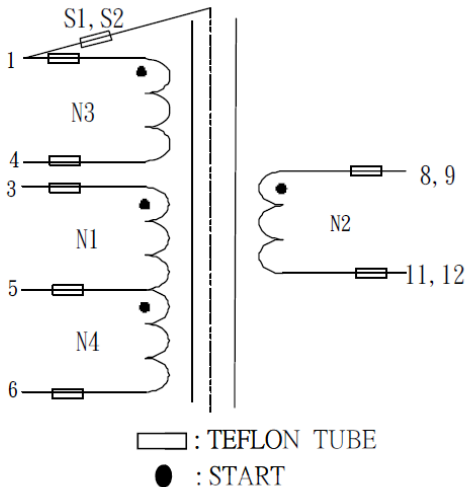


PIN

- _____ 3Ts TAPE
- _____ 1Ts TAPE
- _____ 1Ts TAPE
- _____ 2Ts TAPE
- _____ 2Ts TAPE
- _____ 1Ts TAPE

BOBBIN

3. SCHEMATIC:



: TEFLON TUBE
 : START

4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		NOTE
						ST	FI	
N1	丝包线 Φ0.1mm*25P	3	5	24TS	1TS	V	V	
S1	0.025mm/T*8mm/W	1	-	1TS	2TS	V		
N2	TRW(B) Φ0.8mm*2P	8,9	11,12	4TS	2TS	V	V	
N3	2UEW Φ0.16mm*2P	1	4	5TS	1TS	V	V	疏繞
S2	0.025mm/T*8mm/W	1	-	1TS	1TS	V		
N4	丝包线 Φ0.1mm*25P	5	6	11TS	3TS	V	V	

NOTE :

1. S1, S2銅箔須背膠, 引線為Φ0.3mm.
2. 靠底部繞N3是需貼一塊膠帶, 待N4繞完後反折6mm MIN.

APPROVED BY	CHECKED BY	DRAWING BY
李俊良	彭小平	彭小平

(O/P 12-16V) (KPL PCB with F1, F2)

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 6 OF 6

CUSTOMER: 貴冠		TYPE: PQ-2620		
PART NO: G09-PQ26278-M100		OUR P/N: _____		
REVISION: A		ISSUE DATE: 2015.5.12		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0 150°C	CHANG CHUN PLASTICS CO.,LTD	E59481(S)
2	CORE	M2.3K	HAO BO ELECTRONICSSCIENE&TECHNILOGY CO.,LTD	-
		SSP-44	SHANGPENG	-
		PF-2L	CWGC	-
		3F3	FEROCXCUBE	-
		JF2	SPINEL	-
3	MAGNET WIRE	DD-NYU Polyurethane MW75 130°C	PACIFC-THAI ELECTRILWIRE&CADLE CO.,LTD	E84081
		2UEW 130°C	SHENZHEN CHENGWEI INDUSTRY CO LTD	E227475
		TRW(B)	GREAT LEOFON INDUSTRIAL CO LTD	E211989
4	TAPE	CAT NO 1350-1 130°C	3M COMPANY ELECTRICAL MARKETS DIV (EMI)	E17385
		#PZ-280 130°C	HUIZHOU YAHUA STICKING TAPE CO.,LTD	E165111
		CAT NO 35660	SYMBIO INC	E50292(S)
5	COPPER	0.025mm/T	DONGGUAN ZHONGCHI METAL PRODUCT CO.,LTD	-
6	SLEEVEING	TFL 200°C	GREAT HOLDING INDUSTRIAL CO.,LTD	E156256
7	VARNISH	V1380FC /1360FS	P D GEORGE	E75225
8	EPOXY	3300A/B	SUZHOU EATTO ELECTRONIC MATERIAL CO.LTD	E218090
APPROVED BY		CHECKED BY		DRAWING BY
李俊良		彭小平		彭小平

(O/P 12-16V) (KPL PCB with F1, F2)

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 1 OF 4

CUSTOMER: 冠碩

MODEL: PQ-2620-17

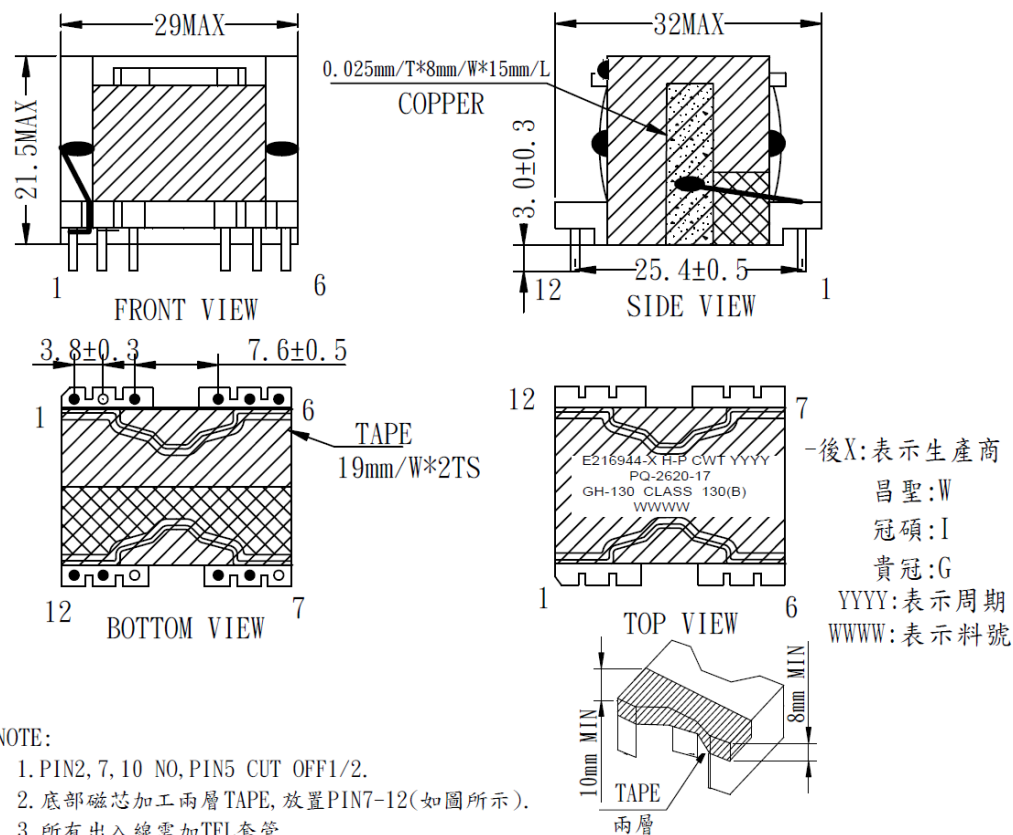
PART NO: G09-PQ26205-M100

OUR P/N: _____

REVISION: A

ISSUE DATE: 2011-02-14

1. MECHANICAL DIMENSIONS: (UNIT :mm)



NOTE:

- PIN2, 7, 10 NO, PIN5 CUT OFF1/2.
- 底部磁芯加工兩層TAPE, 放置PIN7-12(如圖所示).
- 所有出入線需加TFL套管.
- 側面貼自粘銅箔0.025mm/T*8mm/W*15mm/L, 引線為Φ0.3, 加TFL接於PIN1.
- 研磨磁芯置於變壓器頂部, CORE TAPE:19mm/W*2TS(切口在側面).
- 磁芯與磁芯結合處及磁芯與BOBBIN結合處, 共點膠五點固定(如圖所示).
- 標籤貼於頂部, 字腳朝向PIN1-6側(如圖所示).

APPROVED BY	CHECKED BY	DRAWING BY
林宗財	丁俊德	張娟溪

(O/P 17-24V) (KPL)

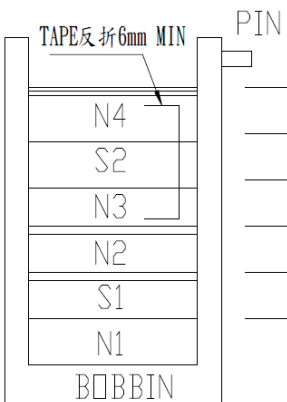
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 2 OF 4

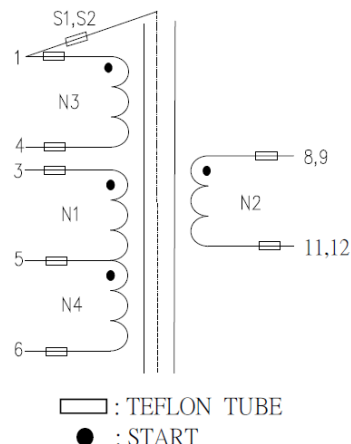
CUSTOMER: 冠 碩		MODEL: PQ-2620-17	
PART NO: G09-PQ26205-M100		OUR P/N: _____	
REVISION: A		ISSUE DATE: 2011-02-14	

2. CONSTRUCTIONS:



_____ 3TS TAPE
 _____ 1TS TAPE
 _____ 1TS TAPE
 _____ 2TS TAPE
 _____ 2TS TAPE
 _____ 1TS TAPE

3. SCHEMATIC:



□ : TEFLON TUBE
 ● : START

4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		NOTE
						ST	FI	
N1	2UEW Φ0.4mm*2P	3	5	20TS	1TS	V	V	
S1	0.025mm/T*8mm/W	1	-	1TS	2TS	V		
N2	TRW(B) Φ1.0mm	8,9	11,12	7TS	2TS	V	V	
N3	2UEW Φ0.16mm*2P	1	4	5TS	1TS	V	V	疏繞
S2	0.025mm/T*8mm/W	1	-	1TS	1TS	V		
N4	2UEW Φ0.4mm*2P	5	6	20TS	3TS	V	V	

NOTE :

1. S1, S2銅箔須背膠, 引線為Φ0.3mm.
2. 靠底部繞N3是需貼一塊膠帶, 待N4繞完後反折6mm MIN.

APPROVED BY	CHECKED BY	DRAWING BY
林宗財	丁俊德	張娟溪

(O/P 17-24V) (KPL)

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: 冠碩		MODEL: PQ-2620-17		
PART NO: G09-PQ26205-M100		OUR P/N: _____		
REVISION: A		ISSUE DATE: 2011-02-14		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0 150°C	CHANG CHUN PLASTICS CO.,LTD	E59481(S)
2	CORE	M2.3K	HAO BO	-
		SSP-44	SHANGPENG	-
		PF-2L	CWGC	-
		3F3	FEROCXCUBE	
		JF2	SPINEL	-
3	MAGNET WIRE	DD-NYU Polyurethane MW75 130°C	PACIFC-THAI ELECTRILWIRE&CADLE CO.,LTD	E84081
		TRW(B)	GREAT LEOFON INDUSTRIAL CO LTD	E211989
4	TAPE	CAT NO 1350-1 130°C	3M COMPANY ELECTRICAL MARKETS DIV (EMI)	E17385
		#PZ-280 130°C	HUIZHOU YAHUA STICKING TAPE CO.,LTD	E165111
		CAT NO 35660	SYMBIO INC	E50292(S)
5	COPPER	0.025mm/T	DONGGUAN ZHONGCHI METAL PRODUCT CO.,LTD	-
6	SLEEVEING	TFL 200°C	GREAT HOLDING INDUSTRIAL CO.,LTD	E156256
7	VARNISH	V1380FC /1360FS	P D GEORGE	E75225
8	EPOXY	3300A/B	SUZHOU EATTO ELECTRONIC MATERIAL CO.LTD	E218090
APPROVED BY		CHECKED BY		DRAWING BY
林宗財		丁俊德		張娟溪

(O/P 17-24V) (KPL)

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

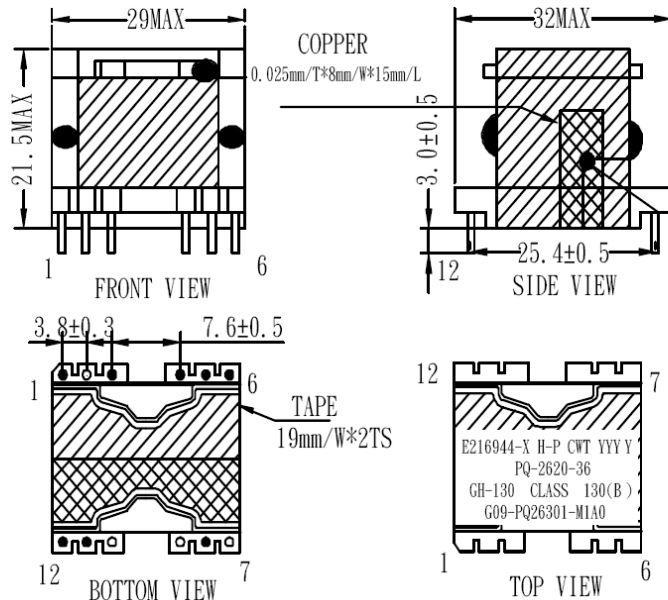
SPECIFICATION FOR APPROVAL

SHEET: 1 OF 4

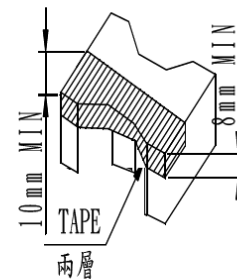
CUSTOMER: _____ TYPE: PQ-2620
 PART NO: G09-PQ26301-M1A0 OUR P/N: _____
 REVISION: A ISSUE DATE: 2017.06.03

1. MECHANICAL DIMENSIONS: (UNIT :mm)

成品單重:41.8g

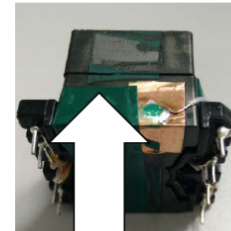


-後X:表示生產商
 昌聖:W
 央霖:I
 貴冠:G
 YYY:標示週期



NOTE:

- PIN2, 7, 10 NO, PIN5 CUT OFF 1/2.
- 底部磁芯加工兩層TAPE, 放置PIN7-12(如圖所示).
- 磁芯與磁芯結合處及磁芯與BOBBIN結合處點膠共5點。
- 所有出入線需加TFL套管。
- 沿PIN1側貼自粘銅箔0.025mm/T*8mm/W*15mm/L, 焊引線Φ0.252鍍錫線, 加TFL接於PIN1. 自粘銅箔距離次級磁芯7mmMIN. (如圖所示)
- 研磨磁芯置於變壓器頂部, CORE TAPE:19mm/W*2TS(切口在側面).
- 標籤材質為25#透明龍, 標籤貼於頂部, 字腳朝向PIN1-6側(如圖所示)



距離次級磁芯7mmMIN

APPROVED BY	CHECKED BY	DRAWING BY
楊景龍	張麗雲	龍建華

(O/P 36V) (KPL)

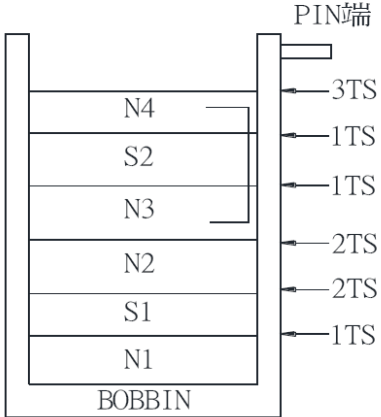
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

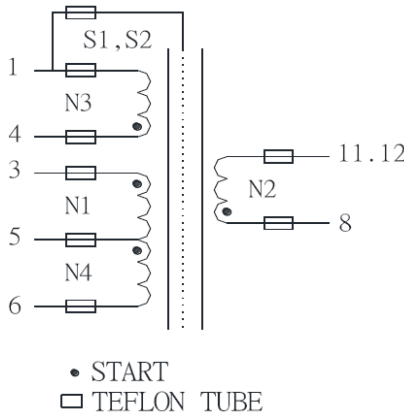
SHEET: 2 OF 4

CUSTOMER: _____		TYPE: PQ-2620	
PART NO: G09-PQ26301-M1A0		OUR P/N: _____	
REVISION: A		ISSUE DATE: 2017.06.03	

2. CONSTRUCTIONS:



3. SCHEMATIC:



• START
 □ TEFLON TUBE

4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		NOTE
						ST	FI	
N1	2UEW Φ0.4mm*2P	3	5	20TS	1TS	V	V	密繞
S1	0.025mm/T*8mm/W	1	--	1TS	2TS	V		
N2	TRW(B) Φ0.5mm*2P	8	11.12	11TS	2TS	V	V	密繞
N3	2UEW Φ0.16mm*2P	1	4	5TS	1TS	V	V	疏繞
S2	0.025mm/T*8mm/W	1	--	1TS	1TS	V		
N4	2UEW Φ0.4mm*2P	5	6	20TS	3TS	V	V	密繞

NOTE :

1. S1, S2銅箔四端包膠, 引線為Φ0.3mm.
2. 靠底部繞N3時需貼反折膠帶, 待N4繞完后反折6mm MIN.

APPROVED BY	CHECKED BY	DRAWING BY
楊景龍	張麗雲	龍建華

(O/P 36V) (KPL)

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: _____		TYPE: PQ-2620 _____		
PART NO: G09-PQ26301-M1A0 _____		OUR P/N: _____		
REVISION: A _____		ISSUE DATE: 2017.06.03 _____		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0	CHANG CHUN	E59481
2	CORE	SSP-4	SHANGPENG	-
		JP4	JIULONGWANG	-
3	MYLAR TAPE	CT* 130 °C	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	E165111
4	MAGNET WIRE	UEW-U	SIAM PACIFIC ELECTRIC WIRE & CABLE CO LTD	E142108
5	Triple insulated wire	TRW(B)	GREAT LEOFLON INDUSTRIAL CO LTD	E211989
6	SLEEVING	TFL	GREAT HOLDING INDUSTRIAL CO LTD	E156256
7	COPPER	0.025mm/T	DONGGUAN ZHONGCHI METAL PRODUCT CO.LTD	-
8	VARNISH	V1380FC	ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC	E75225
9	EPOXY	3300A-1/3300B-1	DONGGUAN EATTO	E218090
APPROVED BY		CHECKED BY		DRAWING BY
楊景龍		張麗莢		龍建華

(O/P 36V) (KPL)

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 3 OF 6

CUSTOMER: 貴冠

TYPE: PQ-2620

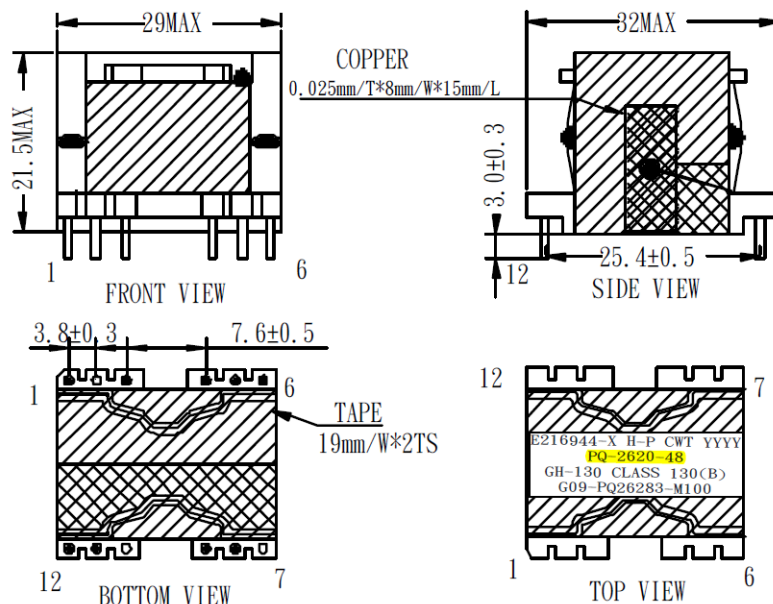
PART NO: G09-PQ26283-M100

OUR P/N: _____

REVISION: A

ISSUE DATE: 2015.05.12

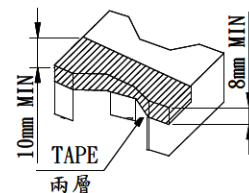
1. MECHANICAL DIMENSIONS: (UNIT :mm)



後X:表示生產商
 昌聖:W
 冠碩:I
 貴冠:G
 YYYY:表示周期
 WWW:表示料號

NOTE:

- PIN2, 7, 10 NO, PIN5 CUT OFF1/2.
- 底部磁芯加工兩層TAPE, 放置PIN7-12(如圖所示).
- 所有出入線需加TFL套管.
- 側面貼自粘銅箔0.025mm/T*8mm/W*15mm/L, 引線為Φ0.3, 加TFL接於PIN1.
- 研磨磁芯置於變壓器頂部, CORE TAPE:19mm/W*2TS(切口在側面).
- 磁芯與磁芯結合處及磁芯與BOBBIN結合處, 共點膠五點固定(如圖所示).
- 標籤貼於頂部, 字腳朝向PIN1-6側(如圖所示).



APPROVED BY	CHECKED BY	DRAWING BY
李俊良	楊景龍	張麗云

(O/P 48-56V) (KPL)

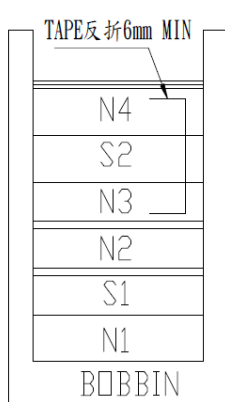
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 6

CUSTOMER: 貴冠		TYPE: PQ-2620	
PART NO: G09-PQ26283-M100		OUR P/N:	
REVISION: A		ISSUE DATE: 2015.5.12	

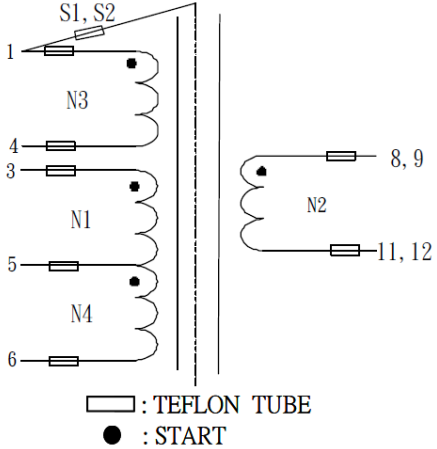
2. CONSTRUCTIONS:



3TS TAPE
 1TS TAPE
 1TS TAPE
 2TS TAPE
 2TS TAPE
 1TS TAPE

BOBBIN

3. SCHEMATIC:



□ : TEFLON TUBE
 ● : START

4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		NOTE
						ST	FI	
N1	2UEW Φ0.4mm*2P	3	5	20TS	1TS	V	V	
S1	0.025mm/T*8mm/W	1	-	1TS	2TS	V		
N2	TRW(B) Φ0.4mm*2P	8,9	11,12	14TS	2TS	V	V	
N3	2UEW Φ0.16mm*2P	1	4	5TS	1TS	V	V	疏繞
S2	0.025mm/T*8mm/W	1	-	1TS	1TS	V		
N4	2UEW Φ0.4mm*2P	5	6	20TS	3TS	V	V	

NOTE :

1. S1, S2銅箔須背膠, 引線為Φ0.3mm.
2. 靠底部繞N3是需貼一塊膠帶, 待N4繞完後反折6mm MIN.

APPROVED BY	CHECKED BY	DRAWING BY
李俊良	楊景龍	張麗云

(O/P 48-56V) (KPL)

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 6 OF 6

CUSTOMER: 貴冠		TYPE: PQ-2620		
PART NO: G09-PQ26283-M100		OUR P/N: _____		
REVISION: A		ISSUE DATE: 2015.5.12		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0 150°C	CHANG CHUN PLASTICS CO.,LTD	E59481(S)
2	CORE	M2.3K	HAO BO	-
		SSP-44	SHANGPENG	-
		PF-2L	CWGC	-
		3F3	FEROCXCUBE	
		JF2	SPINEL	-
3	MAGNET WIRE	DD-NYU Polyurethane MW75 130°C	PACIFC-THAI ELECTRILWIRE&CADLE CO.,LTD	E84081
		2UEW 130°C	SHENZHEN CHENGWEI INDUSTRY CO LTD	E227475
		TRW(B)	GREAT LEOFON INDUSTRIAL CO LTD	E211989
4	TAPE	CAT NO 1350-1 130°C	3M COMPANY ELECTRICAL MARKETS DIV (EMI)	E17385
		#PZ-280 130°C	HUIZHOU YAHUA STICKING TAPE CO.,LTD	E165111
		CAT NO 35660	SYMBIO INC	E50292(S)
5	COPPER	0.025mm/T	DONGGUAN ZHONGCHI METAL PRODUCT CO.,LTD	-
6	SLEEVING	TFL 200°C	GREAT HOLDING INDUSTRIAL CO.,LTD	E156256
7	VARNISH	V1380FC /1360FS	P D GEORGE	E75225
8	EPOXY	3300A/B	SUZHOU EATTO ELECTRONIC MATERIAL CO.LTD	E218090
APPROVED BY		CHECKED BY		DRAWING BY
李俊良		楊景龍		張麗云

(O/P 48-56V) (KPL)

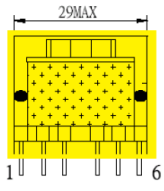
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

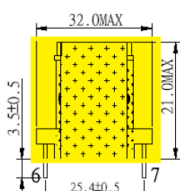
SHEET: 1 OF 4

CUSTOMER: _____	TYPE: _____ PQ2620-12
PART NO: _____	OUR P/N: _____
REVISION: _____ D01	ISSUE DATE: _____ 2014/12/16

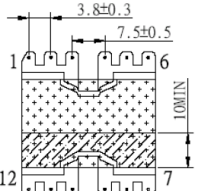
1. MECHANICAL DIMENSIONS: (UNIT: mm)



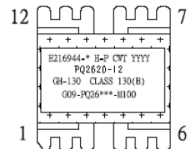
FRONT VIEW



SIDE VIEW



12 7






12 7

*: 表示生產廠商
 W: 表示昌圣
 I: 表示冠碩
 G: 表示貴冠
 YYYY: 表示生產週期

NOTE:

1. PIN 2, 7, 10 CUT OFF, PIN 5 CUT OFF 1/2.
2. 所有出線需加 TFL 套管.
3. 研磨磁芯置於變壓器頂部, CORE TAPE: 14mm/W*2TS(切口於側面)
4. 必要時, 線包外層包覆銅箔
5. 各繞組圈數依實際運作結果調整.
6. 變壓器底部(次級側鐵心)需要加膠帶絕緣. 同下圖示
7. 變壓器外圍包覆20mm*2TS

圖一

圖二

圖三(靠近次級側絕緣)

APPROVED BY	CHECKED BY	DRAWING BY

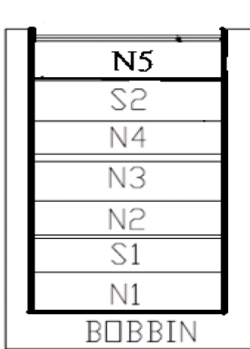
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 2 OF 4

CUSTOMER: _____	TYPE: <u>PQ2620-12</u>
PART NO: _____	OUR P/N: _____
REVISION: <u>D01</u>	ISSUE DATE: <u>2014/11/20</u>

2. CONSTRUCTIONS :



_____	1T _s	TAPE
_____	1T _s	TAPE
_____	1T _s	TAPE
_____	2T _s	TAPE
_____	1T _s	TAPE
_____	2T _s	TAPE
_____	1T _s	TAPE

BOBBIN

3. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	MARGIN TAPE		SLEEVING	NOTE
						PIN	TOP		
N1	Φ0.3mm*2 2UEW	6	5	26TS	1TS	X	X	TFL	/
S1	0.025mm/T*8mm/W	1	/	1TS	2TS	X	X	TFL	引線為φ0.25
N2	TRW(B) φ0.6mm*2	8.9	11.12	5TS	1TS	X	X	TFL	待 N5 繞完後, 反折至 PIN 11.12
N3	TRW(B) φ0.6mm*2	8.9	11.12	5TS	2TS	X	X	TFL	腳, 線包再包覆兩圈 TYPE
N4	Φ0.25mm*2 2UEW	3	1	7TS	1TS	X	X	TFL	靠近 Pin 1 密繞
S2	0.025mmT*8mm/W	1	/	1TS	1TS	X	X	TFL	引線為 Ø0.25
N5	Φ0.3mm*2 2UEW	5	4	12TS	1TS	X	X	TFL	/

*必要時,線包外層包覆銅箔
 *各繞組圈數依實際運作結果調整.

APPROVED BY	CHECKED BY	DRAWING BY

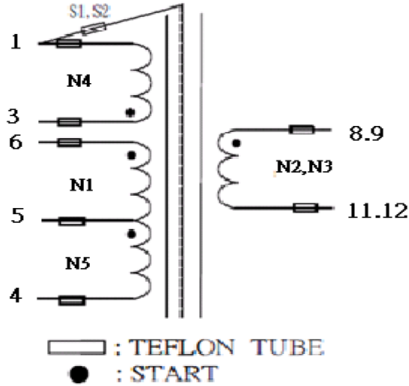
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 3 OF 4

CUSTOMER: _____	TYPE: <u>PQ2620-12</u>
PART NO: _____	OUR P/N: _____
REVISION: <u>D01</u>	ISSUE DATE: <u>2014/12/16</u>

4. SCHEMATIC:



5. ELECTRICAL CHARACTERISTICS : (AT 25°C 65±5%RH).

- (1). INDUCTANCE: AT 1KHz 1V.
L(3-6): 820uH±5%
- (2). LEAKAGE INDUCTANCE: AT 1KHz 1V.
LK(3-6): uH MAX
- (3). DC RESISTANCE:
DCR(-): MAX
- (4). HI-POT TEST: AC 50Hz OR 60Hz. 10mA 60SEC.
PRI-SEC : 3750V
SEC-CORE: 1500V
- (5). INSULATION RESISTANCE: DC 500V.
PRI-SEC: 100M OHMS MIN
SEC-CORE: 100M OHMS MIN

APPROVED BY	CHECKED BY	DRAWING BY

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: _____		TYPE: PQ2620-12		
PART NO: _____		OUR P/N: _____		
REVISION: D01		ISSUE DATE: 2014/12/16		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	CORE PQ2620	PC44	TDK	/
		JF2	斯貝爾	
		3C94	PHILIPS	
		M44	浩博	/
		NH2B	聯豐	
		2P4	賽茂	/
2	BOBBIN	PHENOLICS T375J 94V-0 150°C	CHANG CHUN PLASTICS CO., LTD.	E59481(S)
3	MAGNET WIRE	UEW-U	PACIFIC	E84081
		TRW(B)	GREATLEOFLO	E211989
4	MARGIN TAPE	CAT NO 35660	SYMBIO INC	E50292
		NO. #1350-1	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	E17385
5	COPPER	0.025mmT	ZHENGZEIXIANG	/
6	SLEEVING	TFL 200°C	GREAT HOLDING INDUSTRIAL CO., LTD	E156256(S)
7	VARNISH	V-1630FS	VIKING	E73071
APPROVED BY		CHECKED BY	DRAWING BY	

PQ2620-12 for 2ABFxxxYzzzzz, Y=F T1 used

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

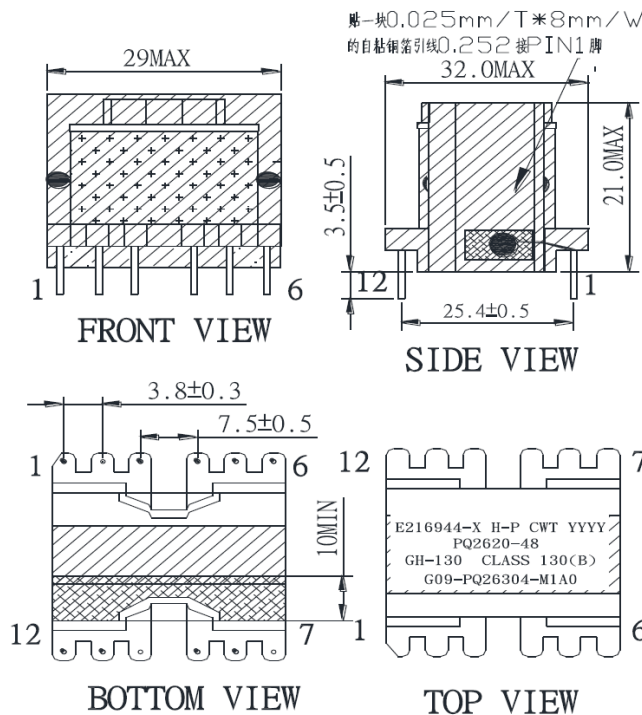
SPECIFICATION FOR APPROVAL

SHEET: 1 OF 4

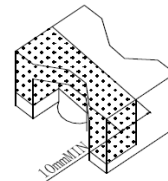
CUSTOMER: _____ TYPE: PQ2620-48
 PART NO: G09-PQ26304-M1A0 OUR P/N: _____
 REVISION: A ISSUE DATE: _____

1. MECHANICAL DIMENSIONS: (UNIT :mm)

產品單重: 38.3g



-後*:表示生產商
 昌聖:W
 央霖:I
 貴冠:G
 YYYY:標示週期



磁芯背膠示意圖

NOTE:

- PIN2, 7, 10. NO. PIN5 CUT OFF 1/2.
- 所有出入都需加套管,
- 研磨磁芯置於變壓器頂部,
- 變壓器底部磁芯PIN7-12側需背膠兩層, 如圖所示
- 中柱需點軟膠, 磁芯結合處點膠4點加以固定.
- 沿PIN1側磁芯橫貼一塊0.025mm/T*8mm/W約12mmL的自粘銅箔焊引線0.252接於PIN1脚.
再包CORE TAPE:10mm/W*3TS.
- 變壓器外圍以20mm寬度包覆2TS絕緣膠帶.
- 標籤材質為25#透明龍, 標籤貼於頂部, 字朝向PIN1-6側(如圖所示).

APPROVED BY	CHECKED BY	DRAWING BY
楊景龍	張麗雲	龍建華

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 2 OF 4

CUSTOMER: _____

TYPE: PQ2620-48

PART NO: G09-PQ26304-M1A0

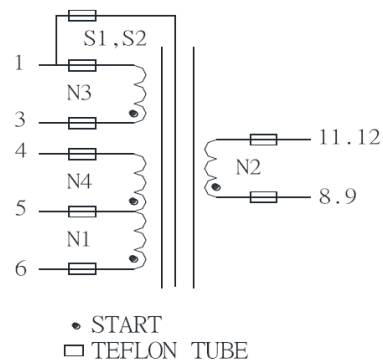
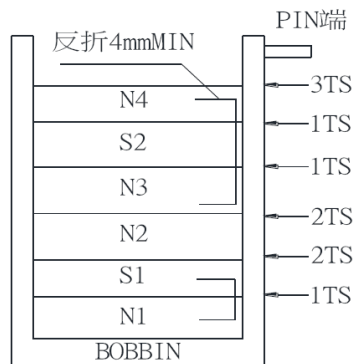
OUR P/N: _____

REVISION: A

ISSUE DATE: _____

2. CONSTRUCTIONS:

3. SCHEMATIC:



初級圈數N1, S1與N3, S2, N4絕緣膠帶須反折

4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		NOTE
						ST	FI	
N1	2UEW Φ 0.3mm*2P	6	5	26TS	1TS	V	V	密繞
S1	0.025mm/T*8mm/W	1	--	0.9TS	2TS	V		
N2	TRW(B) Φ 0.5mm	8.9	11.12	12TS	2TS	V	V	密繞
N3	2UEW Φ 0.25mm*2P	3	1	5TS	1TS	V	V	靠PIN端密繞
S2	0.025mm/T*8mm/W	1	--	0.9TS	1TS	V		
N4	2UEW Φ 0.3mm*2P	5	4	12TS	3TS	V	V	密繞

NOTE :

1. S1, S2銅箔四端包膠, 引線為 Φ 0.3mm.
2. N3靠PIN端密繞.

APPROVED BY

楊景龍

CHECKED BY

張麗雲

DRAWING BY

龍建華

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: _____		TYPE: PQ2620-48		
PART NO: G09-PQ26304-M1A0		OUR P/N: _____		
REVISION: A		ISSUE DATE: _____		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0	CHANG CHUN	E59481
2	CORE	JP44	JIULONGWANG	-
3	MYLAR TAPE	CT* 130 °C	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	E165111
4	MAGNET WIRE	UEW-U	SIAM PACIFIC ELECTRIC WIRE & CABLE CO LTD	E142108
5	Triple insulated wire	TRW(B)	GREAT LEOFロン INDUSTRIAL CO LTD	E211989
6	SLEEVEING	TFL	GREAT HOLDING INDUSTRIAL CO LTD	E156256
7	COPPER	0.025mm/T	DONGGUAN ZHONGCHI METAL PRODUCT CO.LTD	-
8	VARNISH	V1380FC	ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC	E75225
9	EPOXY	3300A-1/3300B-1	DONGGUAN EATTO	E218090
APPROVED BY		CHECKED BY		DRAWING BY
楊景龍		張麗雲		龍建華

PQ2620-48 for 2ACLxxxYzzzzz, Y= R, S, U T1 used and 2ABFxxxYzzzzz, Y=R T1 used.

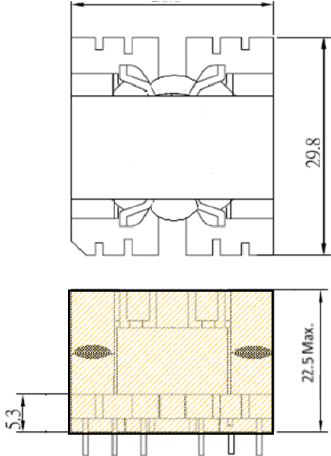
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

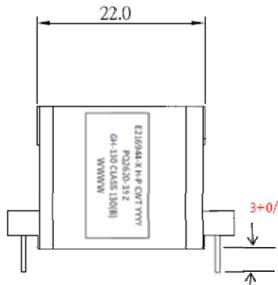
SPECIFICATION FOR APPROVAL

SHEET: 1 OF 4

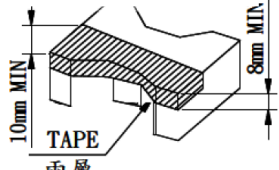
CUSTOMER: _____	TYPE: PQ2620-19
PART NO: _____	OUR P/N: _____
REVISION: A02	ISSUE DATE: 2015/08/18

1. MECHANICAL DIMENSIONS: (UNIT:mm)






E216944-X H-P CWT YYYYY
 PQ2620-19 Z
 GH-130 CLASS 130(B)
 WWWW



X=生產地(W/D/I)
 YYYYY=生產週期
 Z=A-Z or BLANK
 WWWW=PART NO.

NOTE:

1. PIN 2, 7, 10 CUT OFF, PIN 5 CUT OFF 1/2.
2. 初級圍繞線組需包覆反折膠帶(如 2. CONSTRUCTIONS 圖示), 所有出線需加 TFL 套管.
3. 研磨磁芯置於變壓器頂部, CORE TAPE: 14mm/W*2TS(切口於側面)
4. 變壓器底部(次級側鐵心)需要加膠帶絕緣. 同下圖示
5. 本體外需包覆膠帶 2 層 (TAPE 20mm)
6. 磁芯接合處需點 EPOXY 固定, 共四點.
7. PIN 腳長度 3 +0/-0.5mm.
8. 變壓器需二次含浸作業.



(靠近次級側絕緣)

APPROVED BY	CHECKED BY	DRAWING BY

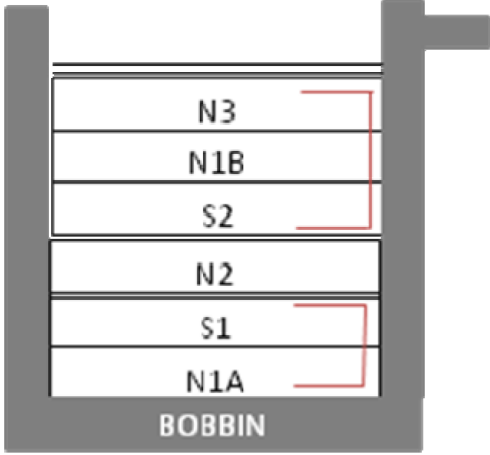
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 2 OF 4

CUSTOMER: _____	TYPE: _____	PQ2620-19
PART NO: _____	OUR P/N: _____	
REVISION: _____	A02	ISSUE DATE: 2015/08/18

2. CONSTRUCTIONS :



TAPE 3TS

TAPE 1TS

TAPE 1TS

TAPE 2TS

TAPE 2TS

TAPE 1TS

3. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	MARGIN TAPE		SLEEVING	NOTE
						PIN	TOP		
N1A	Φ0.32mm*2 2UEW	6	5	23TS	1TS	X	X	TFL	/
S1	Φ0.14mm*2 2UEW	1	/	23TS	2TS	X	X	TFL	圈數為參考值, 以鋪平為主
N2	TRW(B) φ0.85mm*1	8	11	7TS	2TS	X	X	TFL	頂部出線,待N3 繞完後再折回
S2	Φ0.14mm*2 2UEW	1	/	21TS	1TS	X	X	TFL	圈數為參考值, 以鋪平為主
N1B	Φ0.32mm*2 2UEW	5	4	22TS	1TS	X	X	TFL	/
N3	Φ0.25mm*2 2UEW	3	1	6TS	3TS	X	X	TFL	靠近 Pin 1 密繞

APPROVED BY	CHECKED BY	DRAWING BY

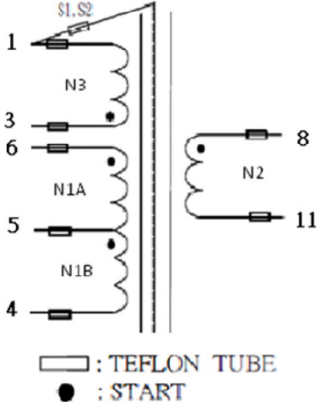
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 3 OF 4

CUSTOMER: _____	TYPE: <u>PQ2620-19</u>
PART NO: _____	OUR P/N: _____
REVISION: <u>A02</u>	ISSUE DATE: <u>2015/08/18</u>

4. SCHEMATIC:



: TEFLON TUBE
 : START

5. ELECTRICAL CHARACTERISTICS : (AT 25°C 65±5%RH).

- (1). INDUCTANCE: AT 1KHz 1V.
 L(3-6): 1000uH±5%
- (2). LEAKAGE INDUCTANCE: AT 1KHz 1V.
 LK(3-6): uH MAX
- (3). DC RESISTANCE:
 DCR(-): MAX
- (4). HI-POT TEST: AC 50Hz OR 60Hz, 10mA 60SEC.
 PRI-SEC : 3750V
 SEC-CORE: 1500V
- (5). INSULATION RESISTANCE: DC 500V.
 PRI-SEC: 100M OHMS MIN
 SEC-CORE: 100M OHMS MIN

APPROVED BY	CHECKED BY	DRAWING BY

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: _____	TYPE: PQ2620-19			
PART NO: _____	OUR P/N: _____			
REVISION: A02	ISSUE DATE: 2015/08/18			
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	CORE PQ2620 (禁用精研 FP2A 與未列入用料表之鐵心)	PC44	TDK	/
		3C94/3C96	飛磁	
		M44	浩博	/
		MB4	川鐵	
		2P4	賽茂	/
2	BOBBIN	PHENOLICS T375J 94V-0 150°C	CHANG CHUN PLASTICS CO., LTD.	E59481(S)
3	MAGNET WIRE	UEW-U	PACIFIC	E84081
		TRW(B)	GREATLEOFLO	E211989
4	MARGIN TAPE	CAT NO 35660	SYMBIO INC	E50292
		NO. #1350-1	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	E17385
5	COPPER	0.025mmT	ZHENGZEIXIANG	/
6	SLEEVING	TFL 200°C	GREAT HOLDING INDUSTRIAL CO., LTD	E156256(S)
7	VARNISH	V-1630FS	VIKING	E73071
8	EPOXY	3300A/B	SUZHOU EATTO ELECTRONIC MATERIAL CO. LTD	E218090
APPROVED BY		CHECKED BY	DRAWING BY	

PQ2620-19 for 2ACLxxxYzzzzz, y=K, M T1 used.

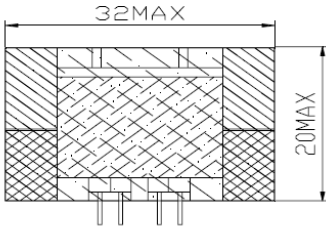
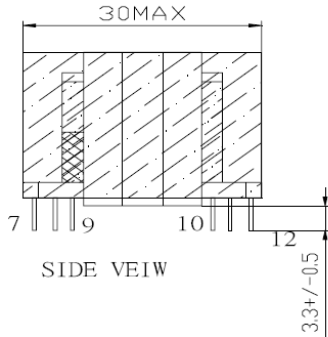
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

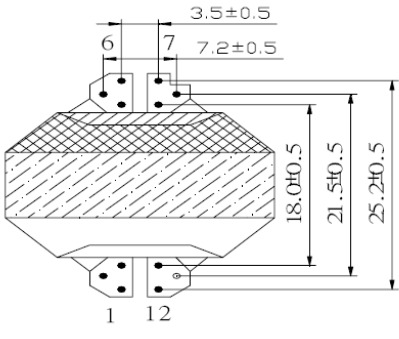
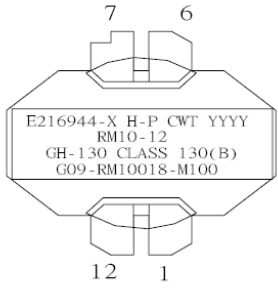
SPECIFICATION FOR APPROVAL

SHEET: 1 OF 4

CUSTOMER: 貴冠	TYPE: RM10-12
PART NO: G09-RM10018 -M100	OUR P/N: _____
REVISION: A	ISSUE DATE: 2015.06.18

1.MECHANICAL DIMENSIONS:(UNIT :mm)

成品單重:30.8g

"-X":表示生產廠商
 W:表示昌圣
 I:表示央霖
 G:表示貴冠

"YYYY"表示生產週期

NOTE:

- PIN4,5,8,9,11,NO,PIN 2CUT OFF 1/2.
- 所有出入線均須加TFL套管.底部磁芯PIN6-7側背膠一層.
- 磁芯包15.0mm膠帶2TS膠帶.
- 標籤材質為25#透明龍.標籤貼於頂部,字腳朝向PIN1-12側(如圖所示).
- 產品外圍,平齊BOBBIN支點包18mm膠帶2TS.
- 產品磁芯結合處點膠帶4點.

APPROVED BY	CHECKED BY	DRAWING BY
李俊良	張麗云	張麗云

RM10-12 for GTR T1 used

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

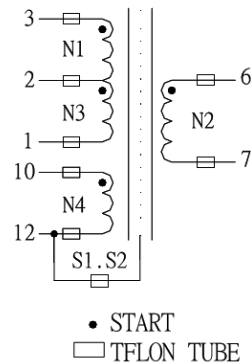
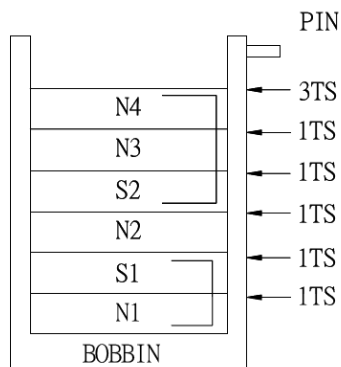
SPECIFICATION FOR APPROVAL

SHEET: 2 OF 4

CUSTOMER: 貴冠 TYPE: RM10-12
 PART NO: G09-RM10018 -M100 OUR P/N: _____
 REVISION: A ISSUE DATE: 2015.06.18

2. CONSTRUCTIONS:

3. SCHEMATIC:



4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		NOTE
						ST	FI	
N1	Φ0.3mm*2P 2UEW	3	2	30Ts	1TS	V	V	密繞
S1	0.025mmT*8mmW	12	/	0.9TS	1TS	V		
N2	Φ0.85mm TRW(B)	6	7	9Ts	1TS	V	V	密繞
S2	0.025mmT*8mmW	12	/	0.9TS	1TS	V		
N3	Φ0.3mm*2P 2UEW	2	1	28Ts	1TS	V	V	密繞
N4	Φ0.2mm 2UEW	10	12	14Ts	3TS	V	V	疏繞

NOTE:

1. S1.S2銅箔需四端背膠,引線Φ0.3.
2. N2.PIN7.待N4完成后再掛PIN.
3. N1.S1在PIN6-7側底部加7mm反折膠帶1層.需反折4.0mm MIN.
4. S2.N3.N4在PIN6-7側底部加10mm反折膠帶一層.需反折4.0mm MIN.

APPROVED BY	CHECKED BY	DRAWING BY
李俊良	張麗云	張麗云

RM10-12 for GTR T1 used

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: 貴冠		TYPE: RM10-12		
PART NO: G09-RM10018-M100		OUR P/N: _____		
REVISION: A		ISSUE DATE: 2015.06.18		
6.MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0 150°C	CHANG CHUN	E59481(S)
2	CORE	SSP-44	SHANGPENG	-
		M44K	HAOBO	
		FP2A	FINEMAG	
		JF2	SPINEL	-
3	MYLAR TAPE	PZ 130°C	YA HUA	E165111
4	MARGIN TAPE	GL27 130°C	SYMBIO INC	E50292(S)
5	MAGNET WIRE	UEW-U 130°C	SIAM PACIFIC ELECTRIC WIRE & CABLE CO LTD	E142108
6	Triple insulated wire	TRW(B) 130°C	GREAT LEOFON INDUSTRIAL CO.,LTD	E211989
7	SLEEVING	TFL 200°C	CHANGYUAN ELECTRONICS	E156256
8	COPPER	0.025mm/T	DONGGUAN ZHONGCHI METAL PRODUCT CO.LTD	-
9	VARNISH	V1380FC 130°C	ELANTAS ELECTRICAL INSULATION	E75225
APPROVED BY		CHECKED BY		DRAWING BY
李俊良		張麗云		張麗云

RM10-12 for GTR T1 used

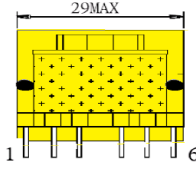
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

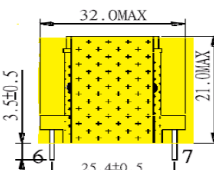
SHEET: 1 OF 4

CUSTOMER: _____	TYPE: PQ2620-05
PART NO: _____	OUR P/N: _____
REVISION: 0.1	ISSUE DATE: 2016/08/22

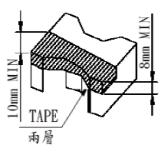
1. MECHANICAL DIMENSIONS: (UNIT:mm)



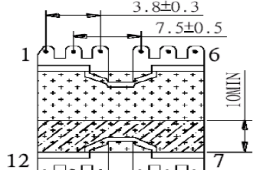
FRONT VIEW




SIDE VIEW



TAPE
兩層



BOTTOM VIEW







TOP VIEW

*:表示生產廠商
 YYYY:表示生產週期

NOTE:

1. PIN 2, 10 CUT OFF, PIN 5 CUT OFF 1/2.
2. 所有出線需加 TFL 套管.
3. 研磨磁芯置於變壓器頂部, CORE TAPE: 14mm/W*2TS(切口於側面)
4. 變壓器底部(次級側鐵心)需要加膠帶絕緣, 同下圖示
5. 變壓器本體外圍以 20mm 寬度包覆兩圈絕緣膠帶

圖一 圖二 圖三(靠近次級側絕緣)

6. 必要時於線包或鐵心包覆銅箔.
7. 依實際搭配狀況調整銅線線徑與圈數

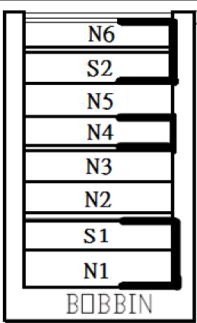
APPROVED BY	CHECKED BY	DRAWING BY

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 2 OF 4

CUSTOMER: _____	TYPE: <u>PQ2620-05</u>
PART NO: _____	OUR P/N: _____
REVISION: <u>0.1</u>	ISSUE DATE: <u>2016/08/22</u>



PIN 3Ts TAPE

2Ts TAPE

1Ts TAPE

1Ts TAPE

2Ts TAPE

1Ts TAPE

2Ts TAPE

1Ts TAPE

BOBBIN

*初級圈數 N1/S1 與 N4/S2/N6 絕緣膠帶需要反折, 如附圖

3. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	MARGIN TAPE		SLEEVEING	NOTE
						PIN	TOP		
N1	Φ0.25mm*2 2UEW	6	5	32TS	1TS	X	X	TFL	/
S1	Φ0.14mm*2 2UEW	1	/	26TS	2TS	X	X	TFL	引線為 Φ0.14
N2	TRW(B) Φ0.6mm*2	8.9	11.12	5TS	1TS	X	X	TFL	待 N6 繞完後, 反折至 PIN 11.12 腳, 線包再包覆兩圈 TYPE
N3	TRW(B) Φ0.6mm*2	8.9	11.12	5TS	2TS	X	X	TFL	
N4	Φ0.22mm*2 2UEW	3	1	16TS	1TS	X	X	TFL	靠近 Pin 1 密繞
N5	TRW(B) Φ0.3mm	7	8.9	9TS	1TS	X	X	TFL	由上而下繞製, 待 N6 繞完後, 反折至 PIN 7 腳, 線包再包覆兩圈 TYPE
S2	Φ0.14mm*2 2UEW	1	/	23TS	2TS	X	X	TFL	引線為 Φ0.14
N6	Φ0.25mm*2 2UEW	5	4	16TS	3TS	X	X	TFL	/

*N2/N3 與 N5 上飛線, 待 N6 繞完後再一起下折, 定位後再包 N6 外圍膠帶

APPROVED BY	CHECKED BY	DRAWING BY

PQ2620-05 for 2ACL Y=B T1 used

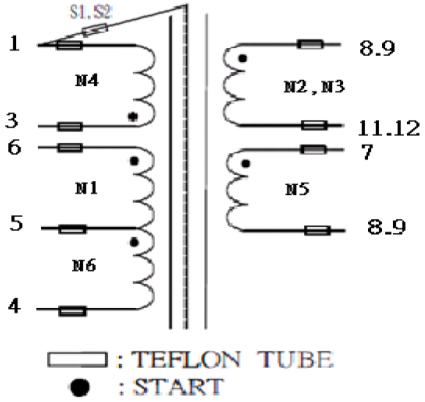
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 3 OF 4

CUSTOMER: _____	TYPE: <u>PQ2620-05</u>
PART NO: _____	OUR P/N: _____
REVISION: <u>0.1</u>	ISSUE DATE: <u>2016/08/22</u>

4. SCHEMATIC:



5. ELECTRICAL CHARACTERISTICS : (AT 25°C 65±5%RH).

- (1). INDUCTANCE: AT 1KHz 1V.
 L(3-6): 1600uH±5%
- (2). LEAKAGE INDUCTANCE: AT 1KHz 1V.
 LK(3-6): uH MAX
- (3). DC RESISTANCE:
 DCR(-): MAX
- (4). HI-POT TEST: AC 50Hz OR 60Hz. 10mA 60SEC.
 PRI-SEC : 3750V
 SEC-CORE: 1500V
- (5). INSULATION RESISTANCE: DC 500V.
 PRI-SEC: 100M OHMS MIN
 SEC-CORE: 100M OHMS MIN

APPROVED BY	CHECKED BY	DRAWING BY

PQ2620-05 for 2ACL Y=B T1 used

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: _____	TYPE: <u>PQ2620-05</u>			
PART NO: _____	OUR P/N: _____			
REVISION: <u>0.1</u>	ISSUE DATE: <u>2016/08/22</u>			
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	CORE PQ2620	PC44	TDK	/
		3C94	PHILIPS	
		2P4	赛茂	/
2	BOBBIN	PHENOLICS T375J 94V-0 150℃	CHANG CHUN PLASTICS CO., LTD.	E59481(S)
3	MAGNET WIRE	UEW-U	PACIFIC	E84081
		TRW(B)	GREATLEOFLON	E211989
4	MARGIN TAPE	CAT NO 35660	SYMBIO INC	E50292
		NO. #1350-1	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	E17385
5	COPPER	0.025mmT	ZHENGZEIXIANG	/
6	SLEEVING	TFL 200℃	GREAT HOLDING INDUSTRIAL CO., LTD	E156256(S)
7	VARNISH	V-1630FS	VIKING	E73071
APPROVED BY		CHECKED BY	DRAWING BY	

PQ2620-05 for 2ACL Y=B T1 used

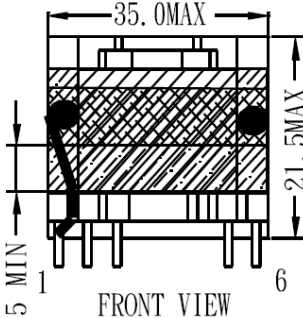
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

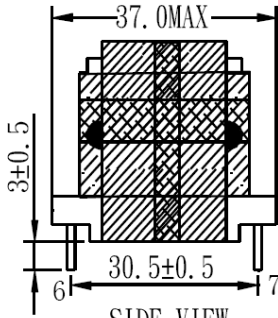
SHEET: 1 OF 4

CUSTOMER: _____	TYPE: PQ-3220-24V
PART NO: G09-PQ32133-M1A0	OUR P/N: _____
REVISION: B	ISSUE DATE: 2019.9.18

1. MECHANICAL DIMENSIONS: (UNIT :mm) 成品單重: 55.2g

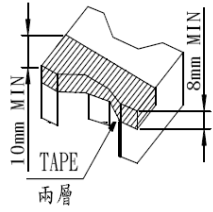


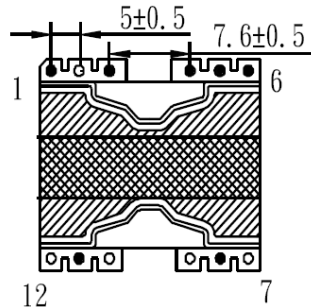
FRONT VIEW

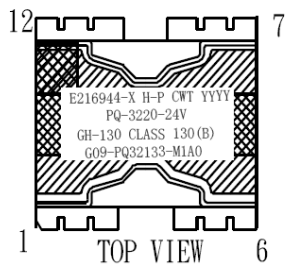


SIDE VIEW

-後X: 表示生產商
 昌聖: W
 央霖: I
 YYYY: 標示週期







TOP VIEW

NOTE:

- PIN2, 7, 9, 10, 12NO . PIN5 CUT OFF 1/2
- 底部磁芯PIN7-12側背膠加工2層(如圖示).
- CORE與CORE結合處需點膠共四點.(如圖所示)
- 成品沿磁芯方向包T0.025*4MM自粘銅箔1TS. 再沿線包方向包T0.025*4MM自粘銅箔1TS, 線包方向銅箔與骨架擋板至少5mm Min, 如上方圖示. 兩銅箔形成“十”字. 相接處需焊錫. 并接引線Φ0.252鍍錫線于PIN1腳, 再沿磁芯方向包膠帶22MM*2TS. 然後在PIN12腳頂部磁芯角包18W*20mmL兩層膠帶, 多餘部份反折到磁芯側面(如圖所示), 最後包線包膠帶14MM*2TS.
- 標籤材質為25#透明龍, 標籤貼於頂部, 字腳朝PIN1-6側.(如圖所示)

APPROVED BY	CHECKED BY	DRAWING BY
楊景龍	張麗雲	龍建華

PQ-3220-24V for 2ACL060MB T1 used.

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 2 OF 4

CUSTOMER: _____

TYPE: PQ-3220-24V

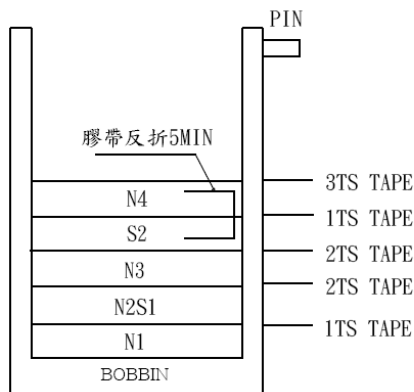
PART NO: G09-PQ32133-M1A0

OUR P/N: _____

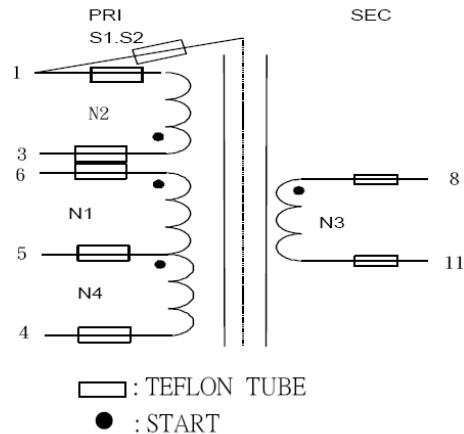
REVISION: B

ISSUE DATE: 2019.9.18

2. CONSTRUCTIONS:



3. SCHEMATIC:



4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		NOTE
						ST	FI	
N1	2UEW Φ 0.45mm*2P	6	5	18TS	1TS	V	V	密繞
N2	2UEW Φ 0.2mm*2P	3	1	8TS	2TS	V	V	同層并繞
S1	2UEW Φ 0.2mm*2P	1	NC	8TS		V	-	
N3	TRW(B) Φ 0.6mm*2P	8	11	10TS	2TS	V	V	密繞
S2	0.025mm/T*8mm/W	1	NC	0.95TS	1TS	V	-	居中
N4	2UEW Φ 0.45mm*2P	5	4	17TS	3TS	V	V	密繞

NOTE:

1. N2, S1為同層并繞, 銅線需使用顏色區分.
2. S2銅箔四端包膠, 引線 Φ 0.3mm.
3. S2繞前在次級PIN端貼一塊16mmW反折膠帶, 待N4完成后折回線包, 膠帶反折5mmMIN.

APPROVED BY	CHECKED BY	DRAWING BY
楊景龍	張麗蕓	龍建華

PQ-3220-24V for 2ACL060MB T1 used.

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: _____		TYPE: PQ-3220-24V _____		
PART NO: G09-PQ32133-M1A0 _____		OUR P/N: _____		
REVISION: B _____		ISSUE DATE: 2019.9.18 _____		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0	CHANG CHUN PLASTICS CO.,LTD	E59481
2	CORE	SSP-95	SHANGPENG	-
		JP95	JIULONGWANG	-
3	COPPER	0.025mm/T	ZHENG ZE XIANG	-
4	MAGNET WIRE	UEW-U& 130℃	SIAM PACIFIC ELECTRIC WIRE&CABLE CO LTD	E142108
5	TAPE	CT* 130℃	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	E165111
6	EPOXY	3300A-1/B-1 130℃	SUZHOU EATTO ELECTRONIC MATERIAL CO.LTD	E218090
7	SLEEVING	TFL 200℃	GREAT HOLDING INDUSTRIAL CO LTD	E156256
8	VARNISH	V1380FC 130℃	ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC	E75225
9	Triple insulated wire	TRW(B) 130℃	GREAT LEOFON INDUSTRIAL CO.,LTD	E211989
APPROVED BY		CHECKED BY		DRAWING BY
楊景龍		張麗瑩		龍建華

PQ-3220-24V for 2ACL060MB T1 used.

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 1 OF 4

CUSTOMER: 贵冠

TYPE: PQ-2620

PART NO: G09-PQ26048-M100

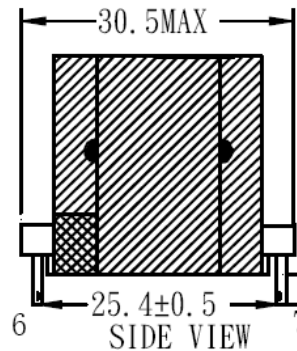
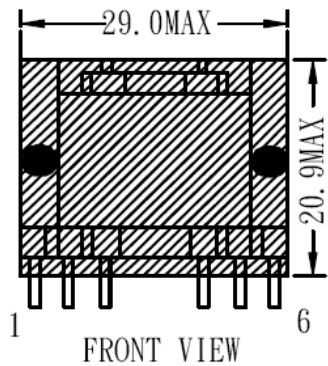
OUR P/N: _____

REVISION: C

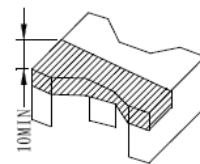
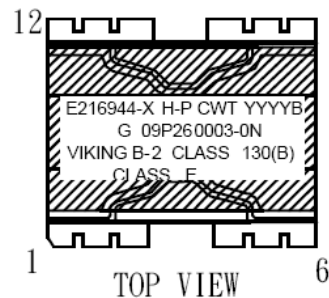
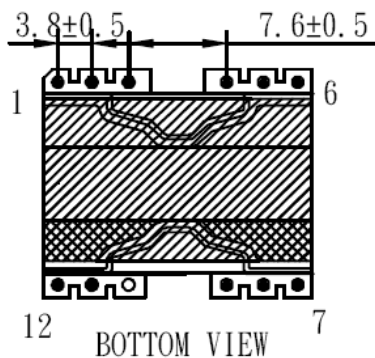
ISSUE DATE: 2013-7-31

1. MECHANICAL DIMENSIONS: (UNIT :mm)

产品单重 : 42.88G



-後X:表示生產商
 昌聖:W
 冠碩:I
 貴冠:G
 YYY:表示周期



NOTE:

- PIN2, 7, 12. NO, 产品沿磁芯方向包1TS, 22mm/W胶带. 成品本体方向包2TS, 19.5mm/W胶带
- 磁芯須加工PIN7-12側(如圖所示).
- 所有出入線需加TFL套管.
- 鐵芯與磁芯接合處, 點膠共四點固定(如圖所示).
- 標籤貼於頂部, 字腳朝向PIN1-6側(如圖所示).

6

APPROVED BY	CHECKED BY	DRAWING BY
李俊良	彭小平	郭基永

G09P260003-0N for PAA060M T1 used.

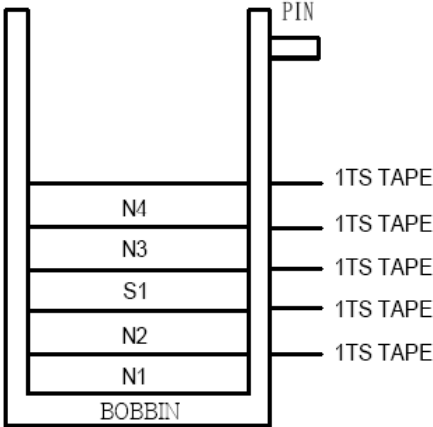
Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

SPECIFICATION FOR APPROVAL

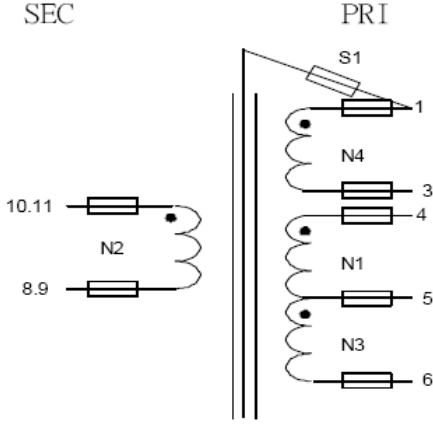
SHEET: 2 OF 4

CUSTOMER: 贵冠	TYPE: PQ-2620
PART NO: G09-PQ26048-M100	OUR P/N:
REVISION: C	ISSUE DATE: 2013-7-31

2. CONSTRUCTIONS:



3. SCHEMATIC:



: TEFLON TUBE
 : START

4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		NOTE
						ST	FI	
N1	2UEW Φ0.4mm*2P	4	5	20TS	1TS	V	V	密繞
N2	TRW(B) Φ0.5mm*2P	10.11	8.9	12TS	1TS	V	V	密繞
S1	0.025mm/T*8mm/W	1	-	1TS	1TS	V	-	居中
N3	2UEW Φ0.4mm*2P	5	6	20TS	1TS	V	V	密繞
N4	2UEW Φ0.2mm*2P	1	3	9TS	2TS	V	V	密繞

NOTE :

1. S1銅箔須四端包膠, 引線為Φ0.2mm.
 2. N2.PIN8,9理线可只理PIN8.

APPROVED BY	CHECKED BY	DRAWING BY
李俊良	彭小平	郭基永

G09P260003-0N for PAA060M T1 used.

Product: AC Adapter
 Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

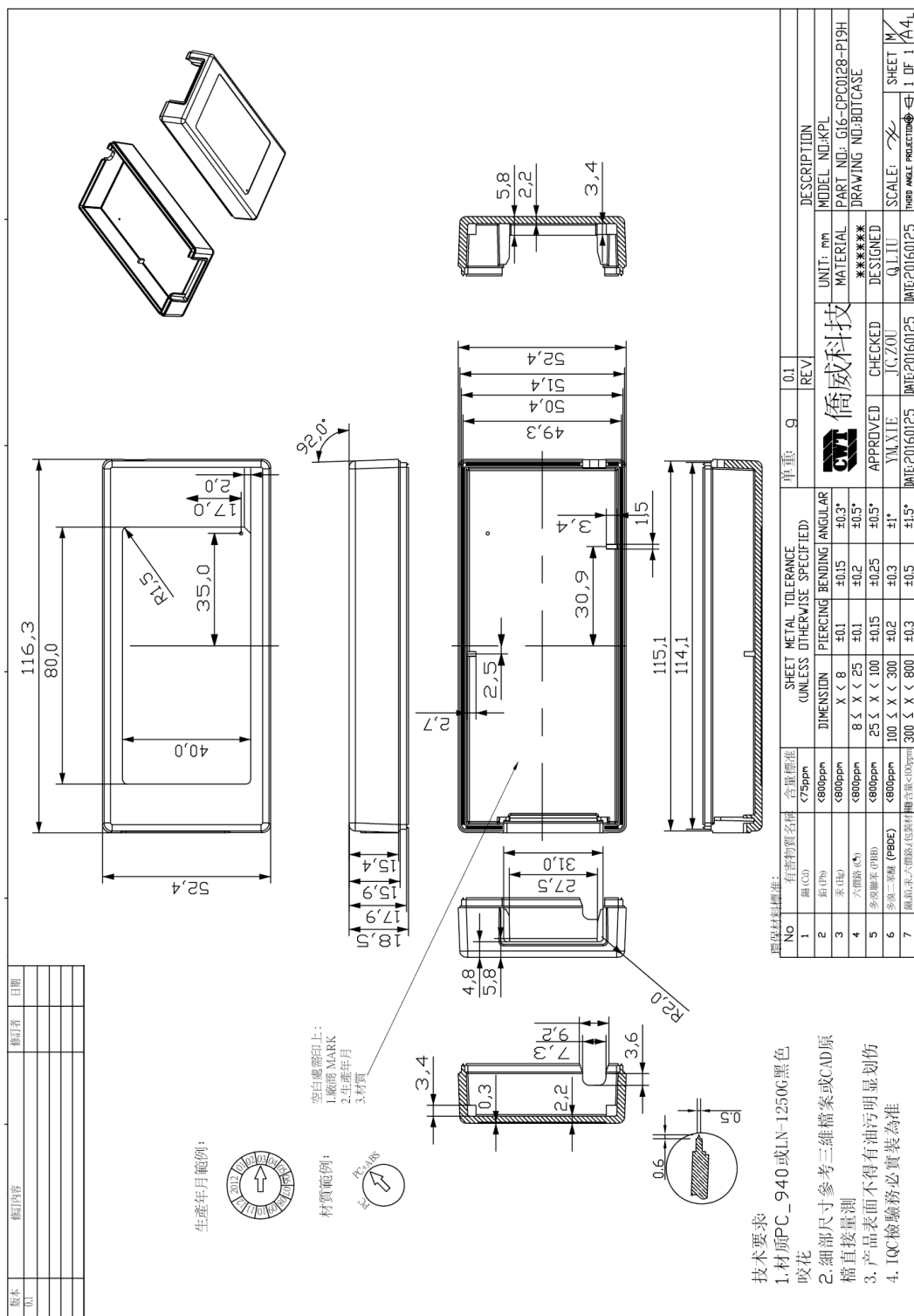
SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: 贵冠		TYPE: PQ-2620		
PART NO: G09-PQ26048-M100		OUR P/N: _____		
REVISION: C		ISSUE DATE: 2013.7.31		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0 150°C	CHANG CHUN PLASTICS CO.,LTD	E59481(S)
2	CORE	M2.3K	HAOBO	-
		SSP-44	SHANGPENG	-
		FP2A	FINEMAG	-
		JF2	SPINEL	-
3	MAGNET WIRE	UEW-U	SIAM PACIFIC ELECTRIC WIRE & CABLE CO LTD	E142108
4	TAPE	PZ 130°C	HUIZHOU YAHUA STICKING TAPE CO.,LTD	E165111
5	COPPER	0.025mm/T	DONGGUAN ZHONGCHI METAL PRODUCT CO.,LTD	-
6	SLEEVING	TFL 200°C	GREAT HOLDING INDUSTRIAL CO.,LTD	E156256
7	VARNISH	V1380FC	ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC	E75225
8	EPOXY	3300A/B	SUZHOU EATTO ELECTRONIC MATERIAL CO.LTD	E218090
9	Triple insulated wire	TRW(B)	GREAT LEFON INDUSTRIAL CO.,LTD	E211989
APPROVED BY		CHECKED BY		DRAWING BY
李俊良		彭小平		郭基永

G09P260003-0N for PAA060M T1 used.

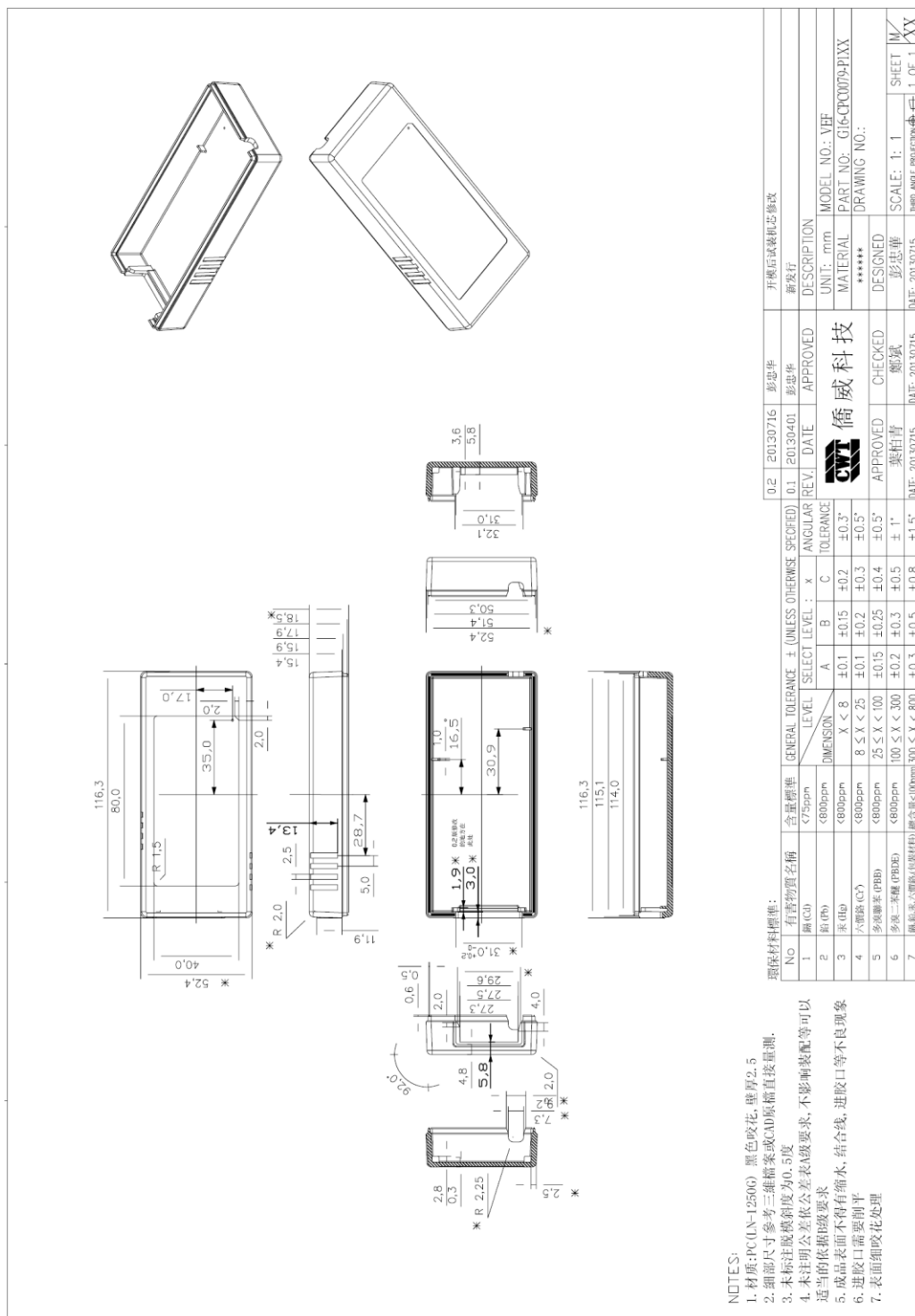
Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



KPL Bottom Case (mode 1)

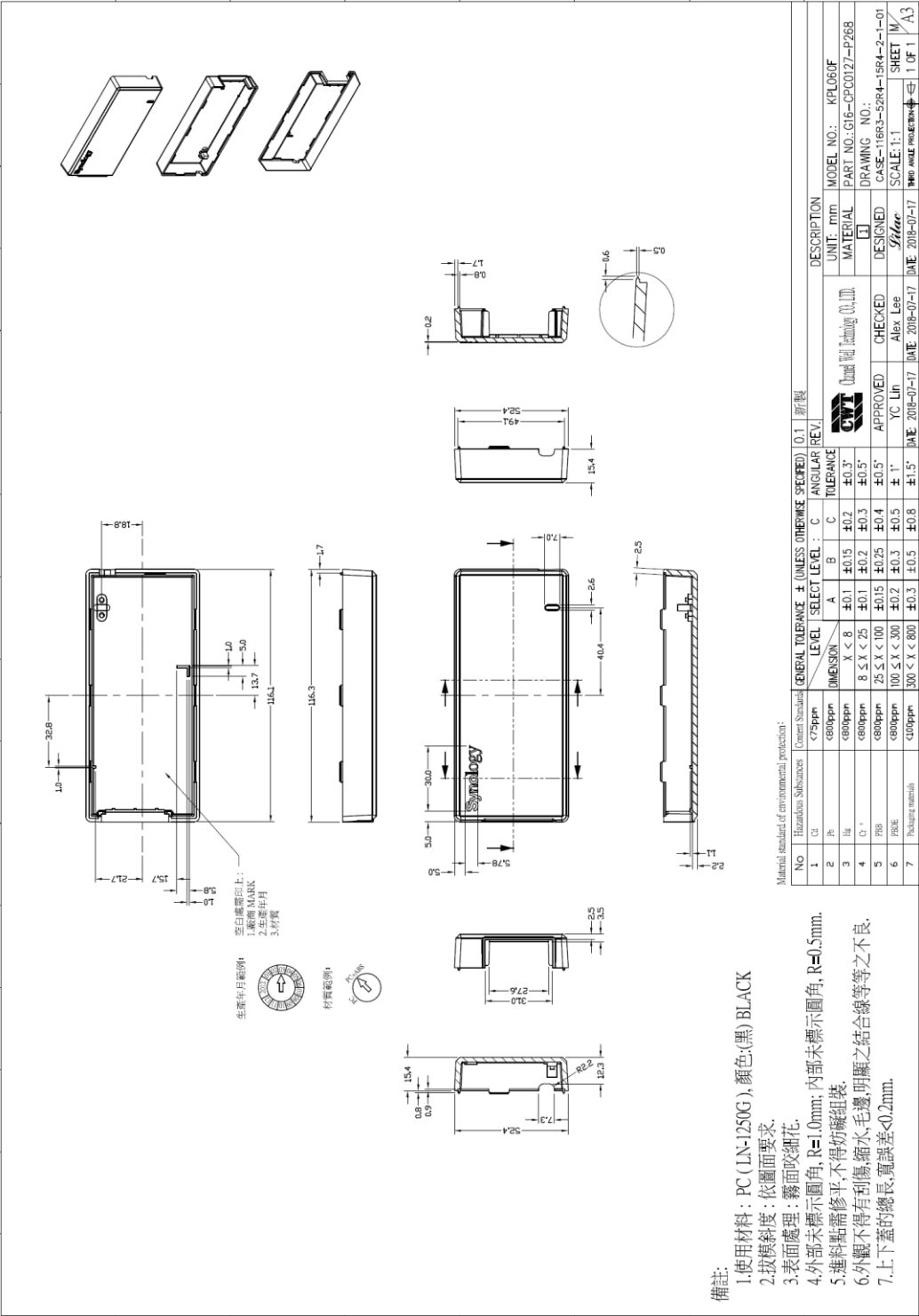
KPL Top Case (mode 2)

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



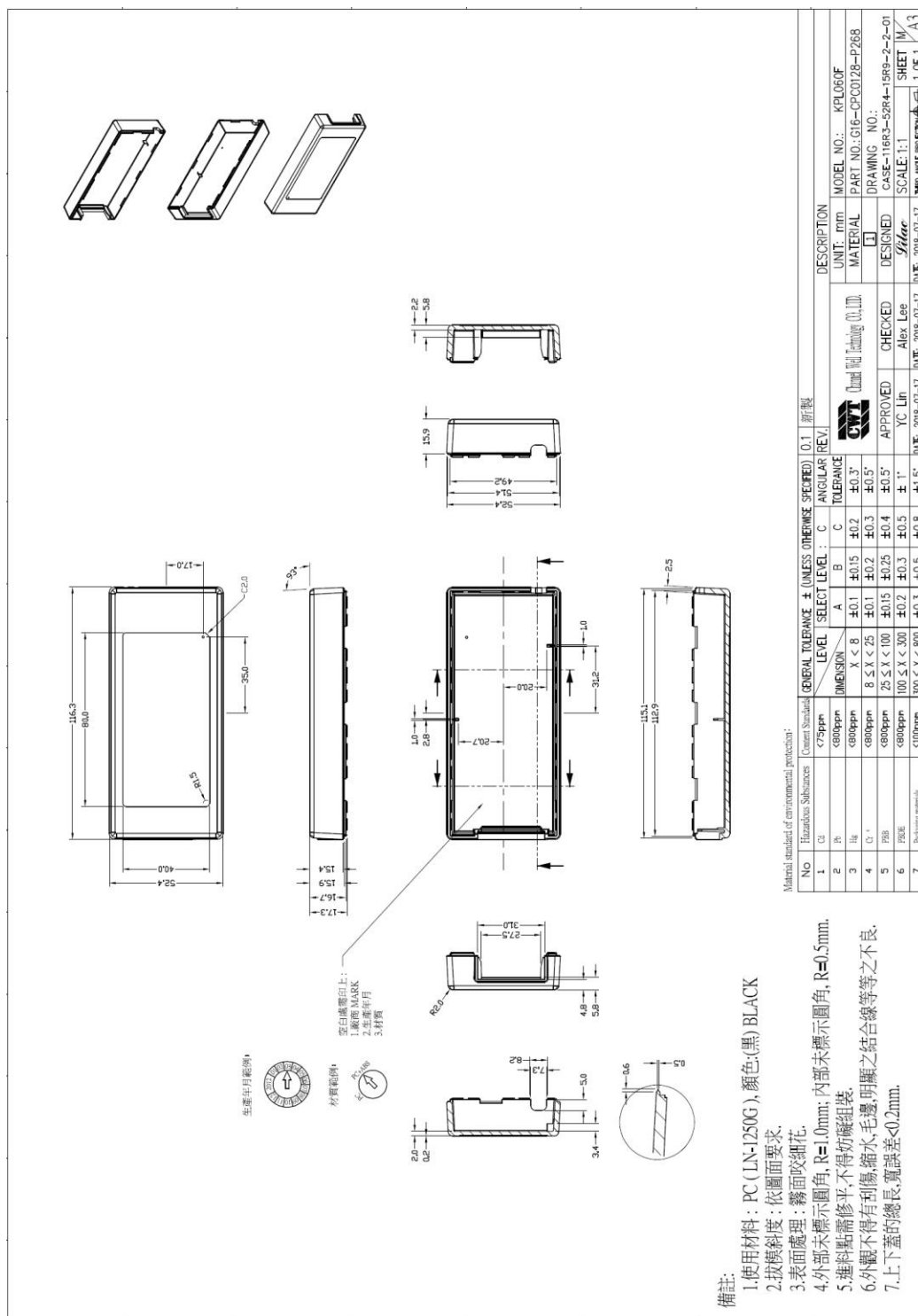
KPL Bottom Case (mode 2)

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

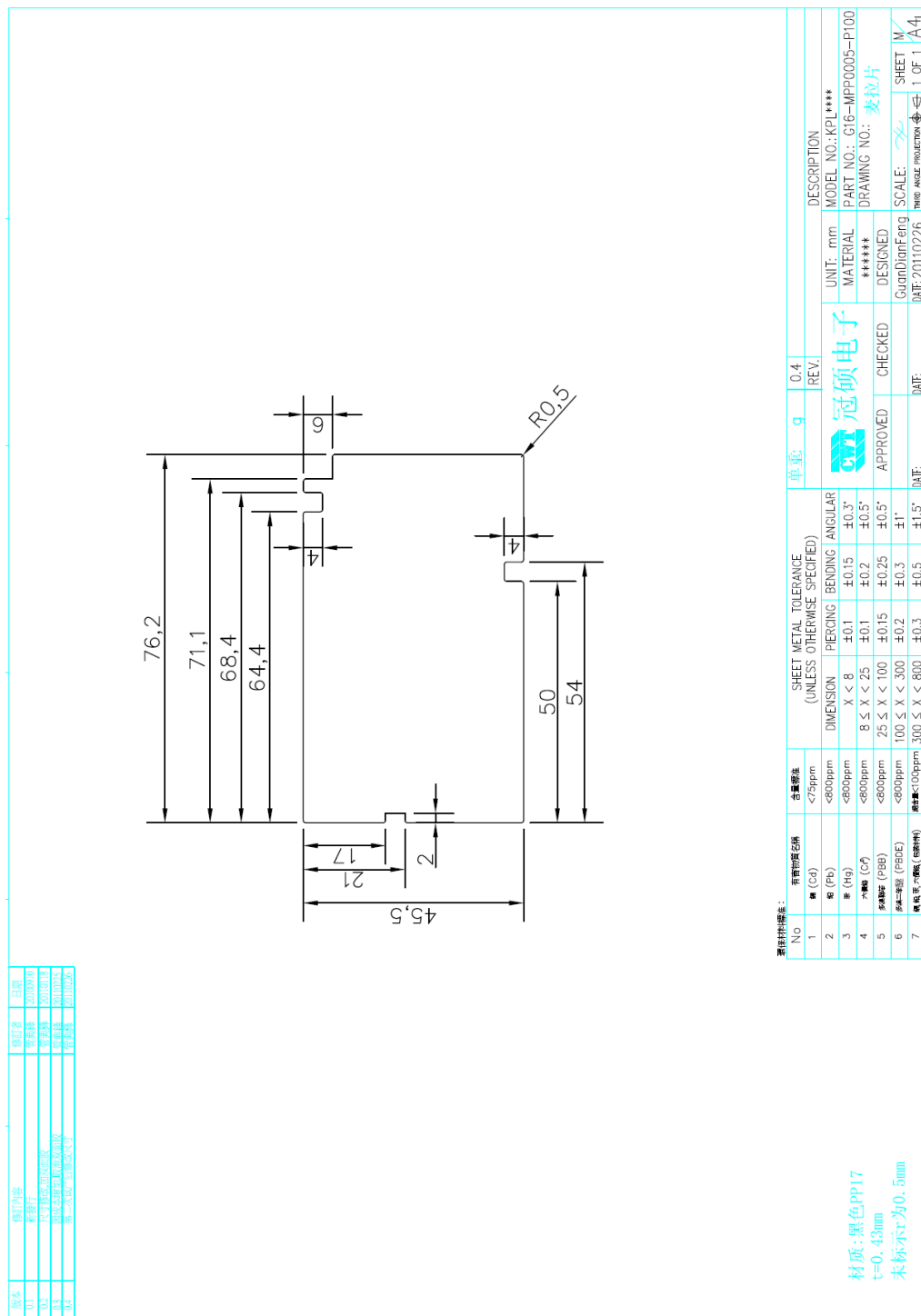


KPL Top Case (mode 3)

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

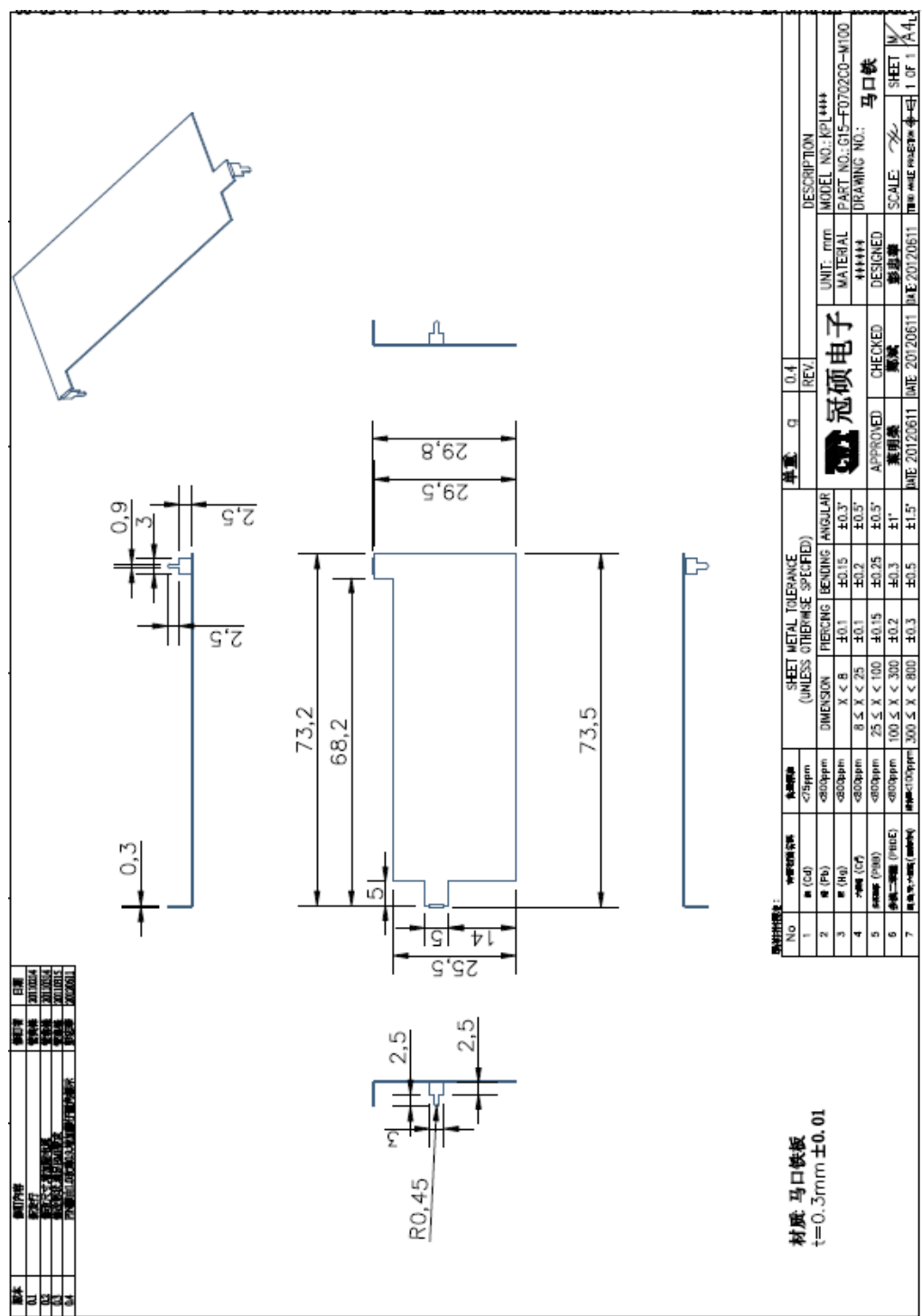


Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



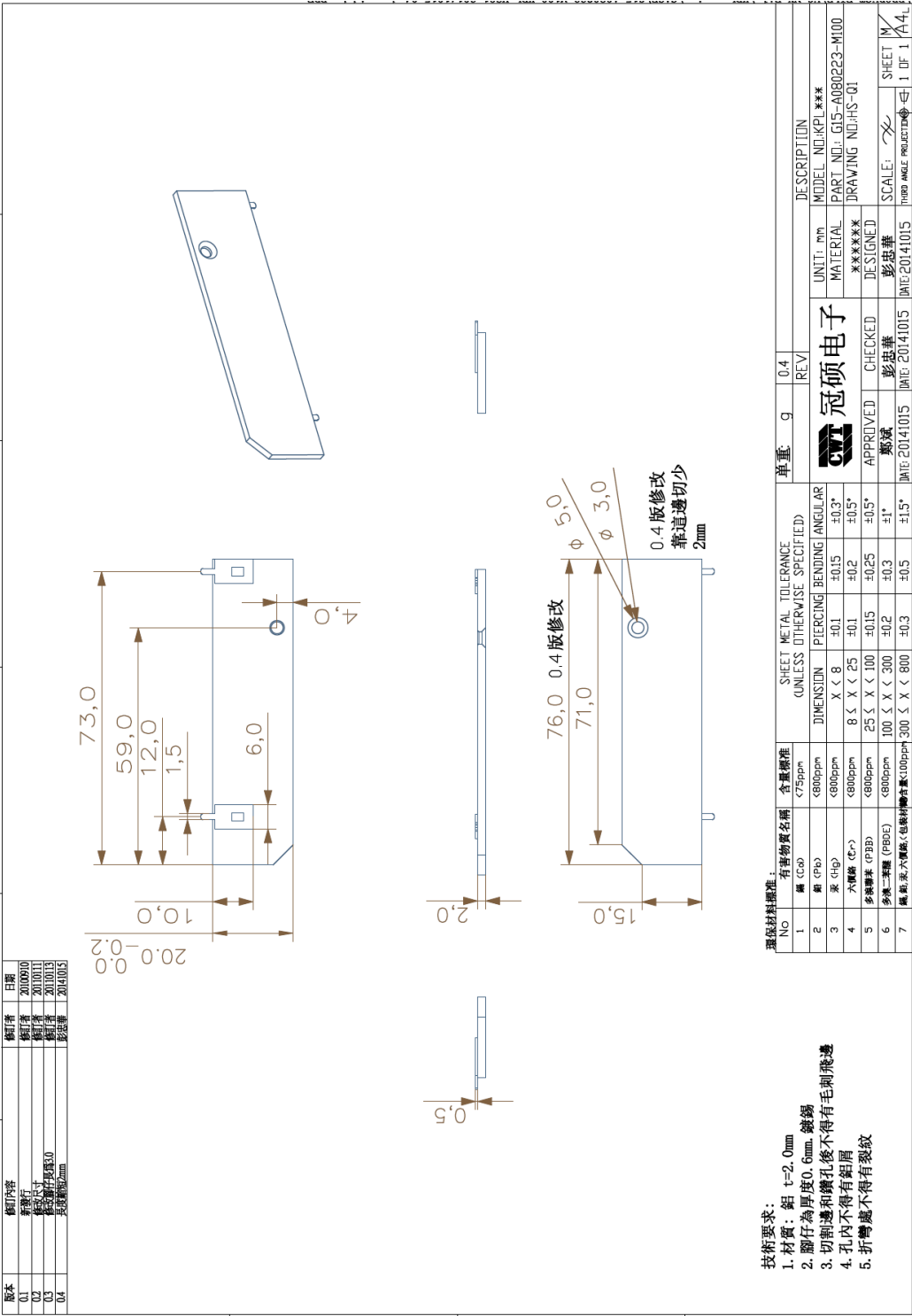
Insulation sheet for KPL PCB with fuse: FUSE1

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



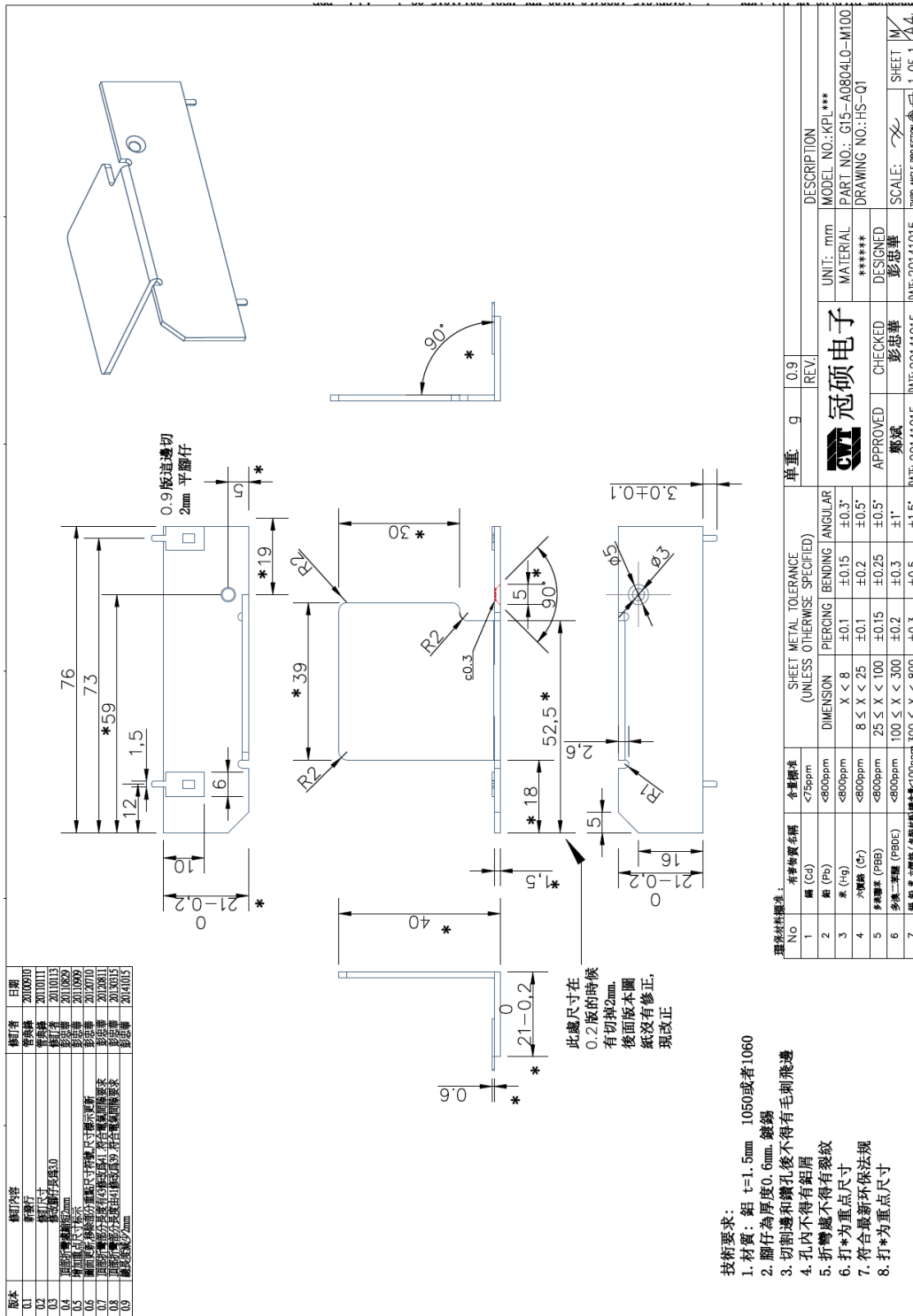
EMI Shielding Plate for KPL PCB with fuse: FUSE1

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

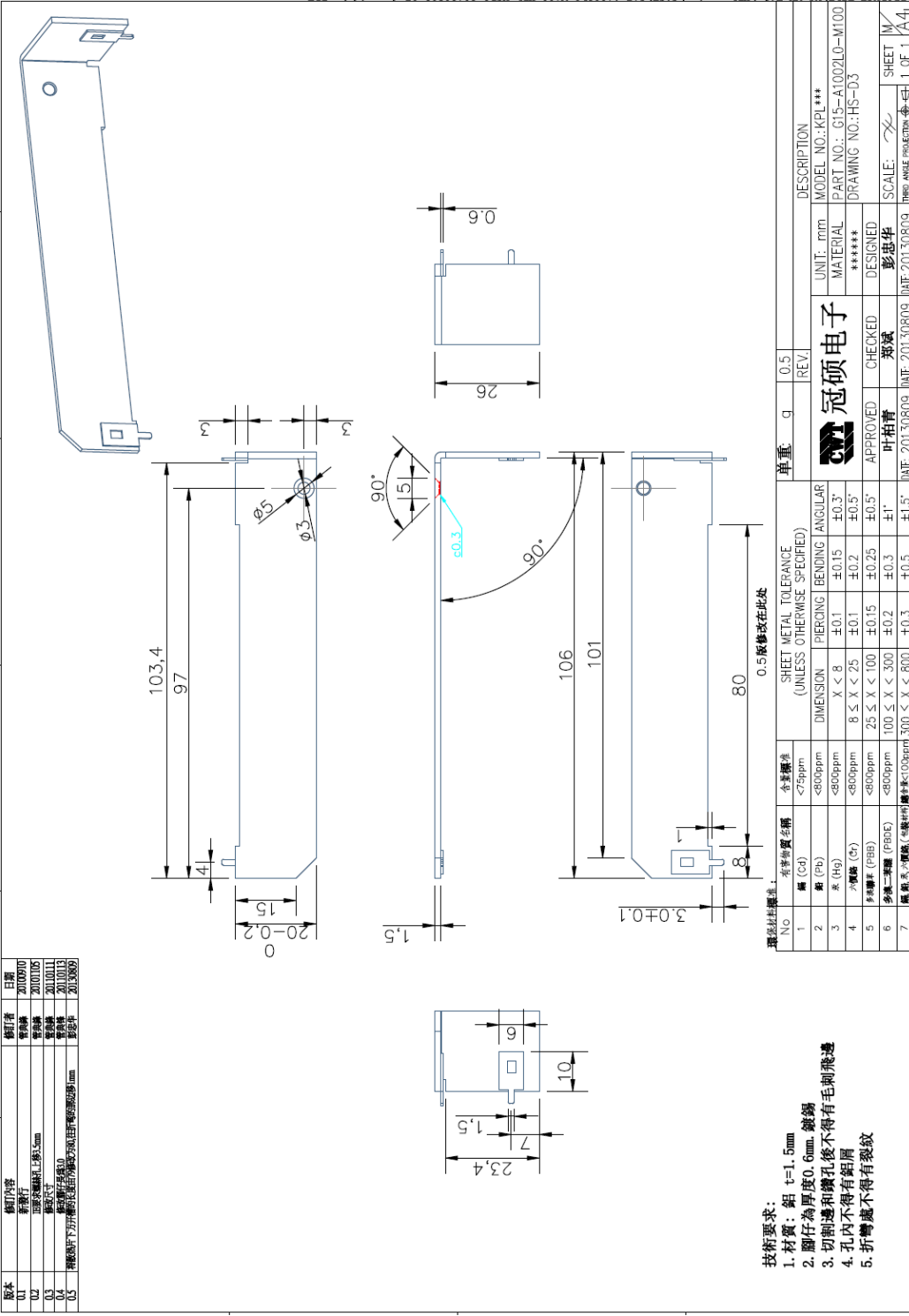


Q1 Heatsink (for KPL all models except x=65, 66; y=F)

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxYwzzzzz

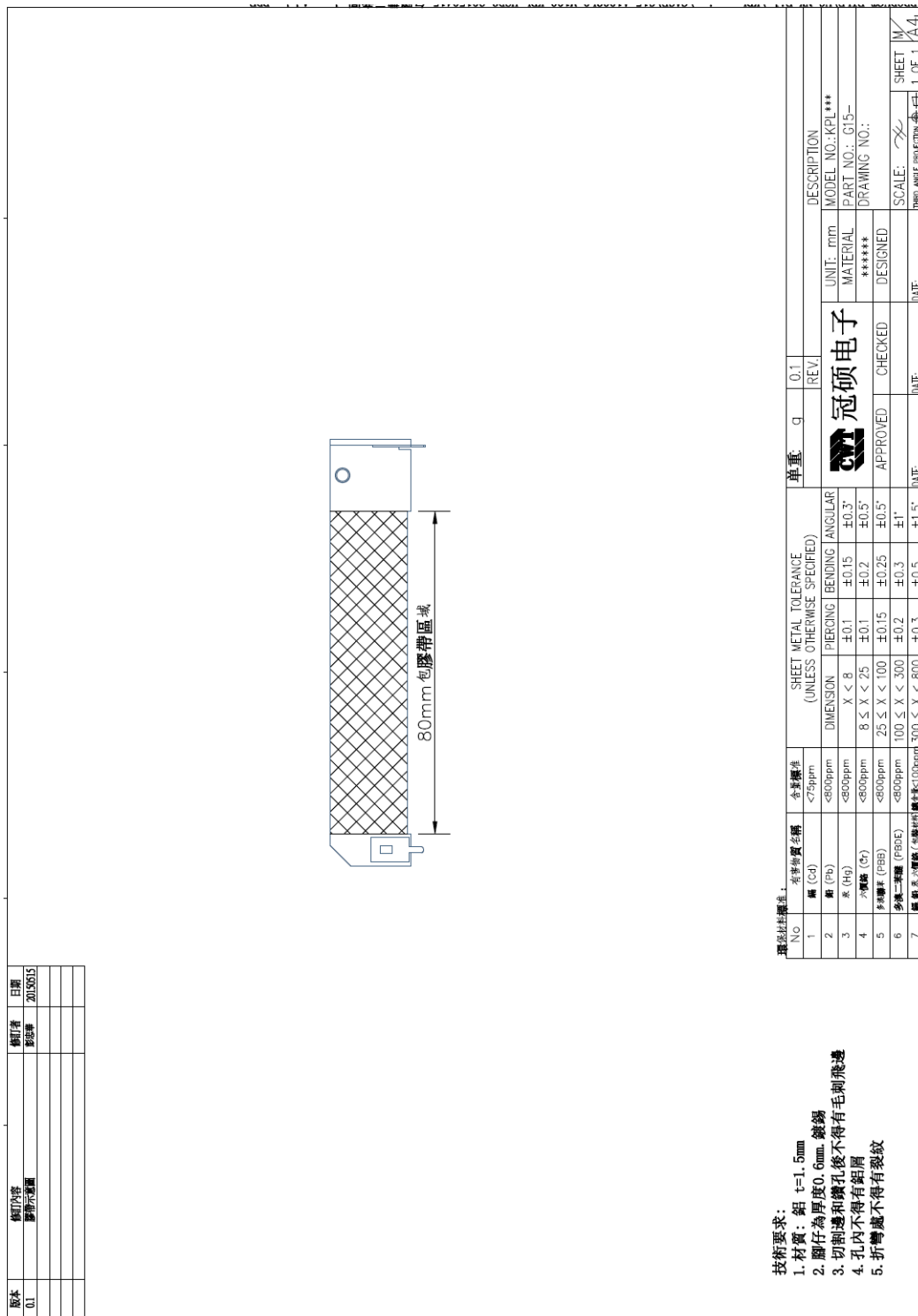


Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



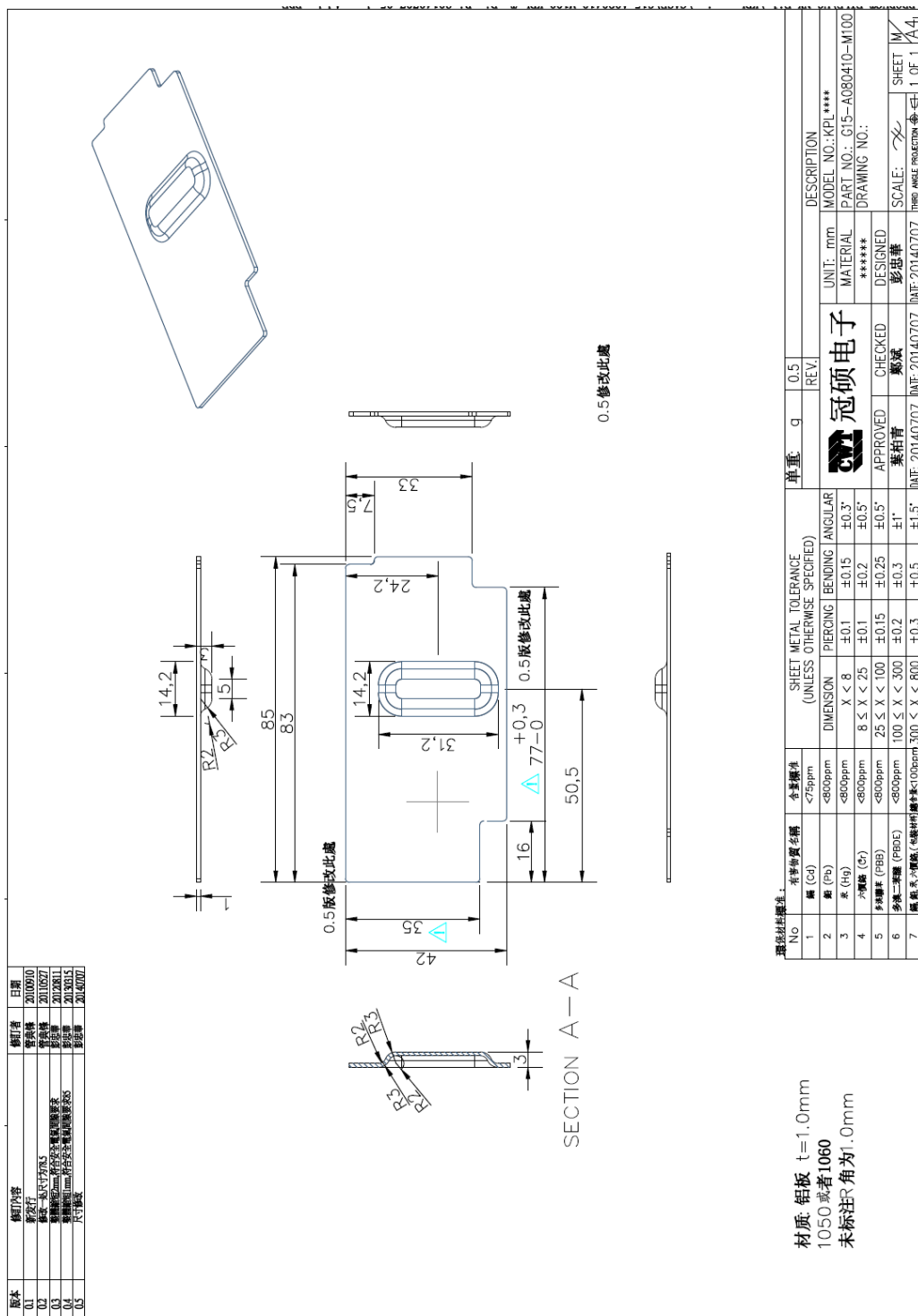
D3 Heatsink for KPL PCB with fuse: FUSE1

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



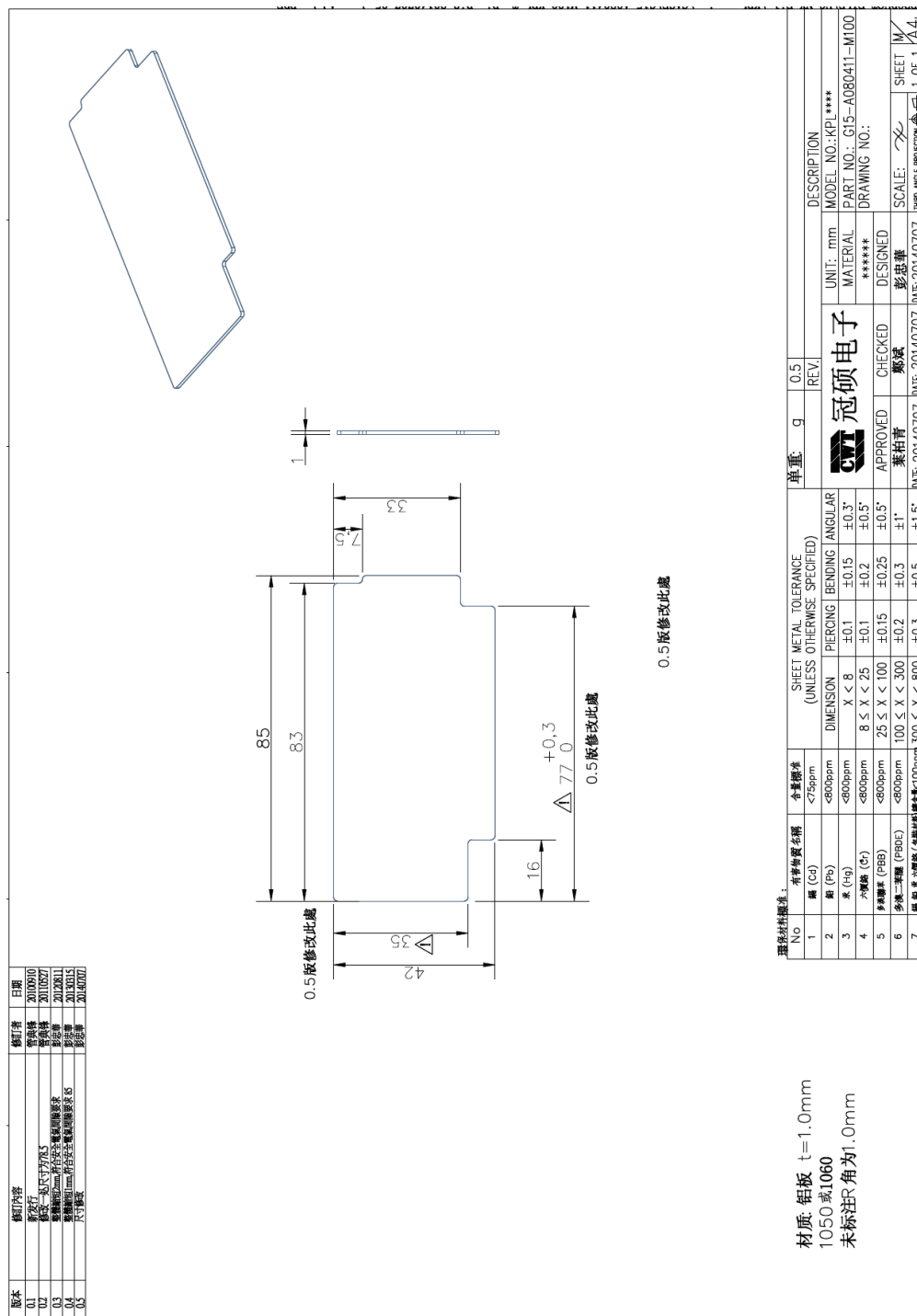
D3 Heatsink for KPL PCB with fuse: FUSE1

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



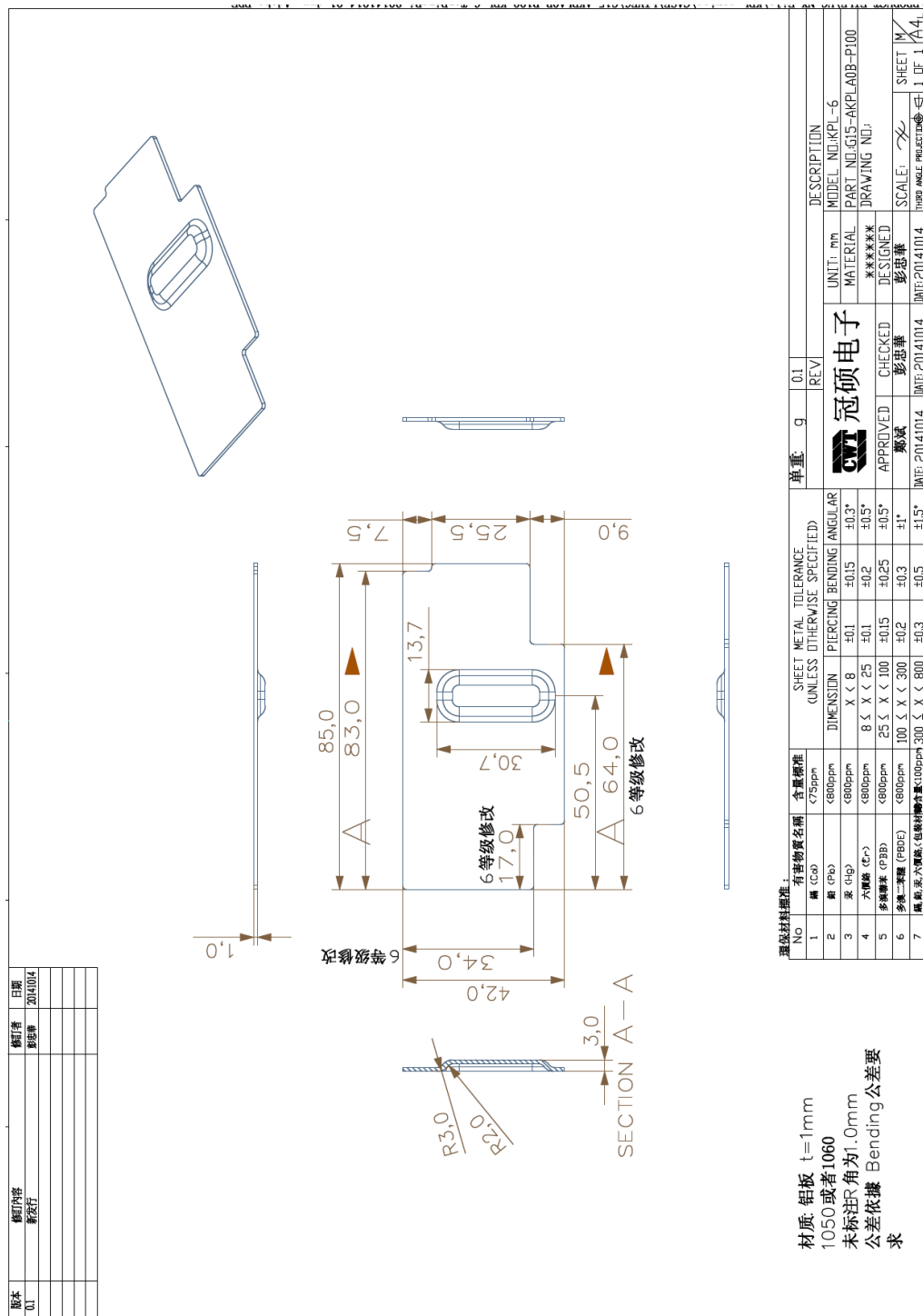
Top Heatsink for KPL PCB with fuse: FUSE1
For x=60, 65; y=all except x=65; y=F

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



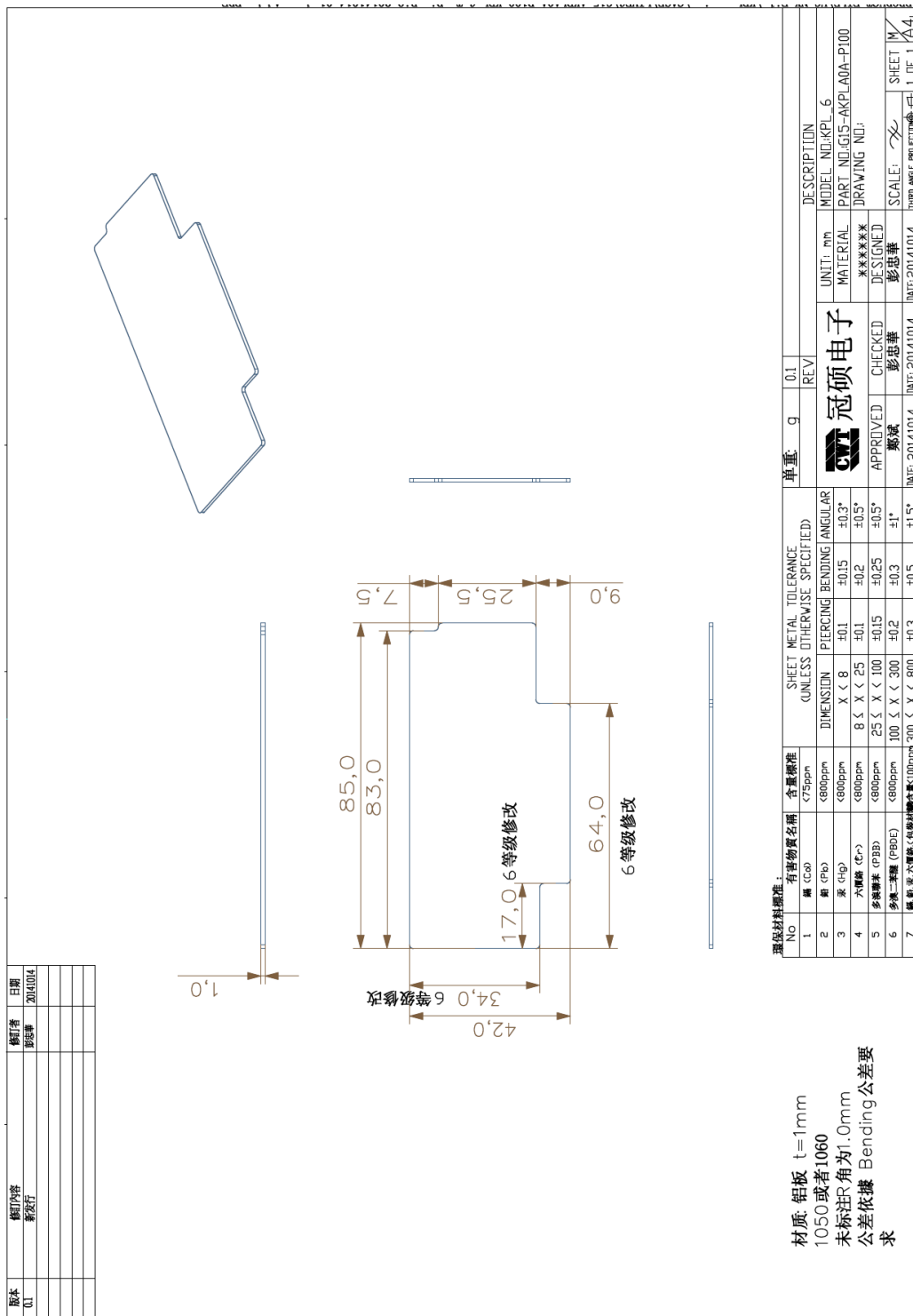
Top Heatsink for KPL PCB with fuse: FUSE1
For x=65; y=F

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



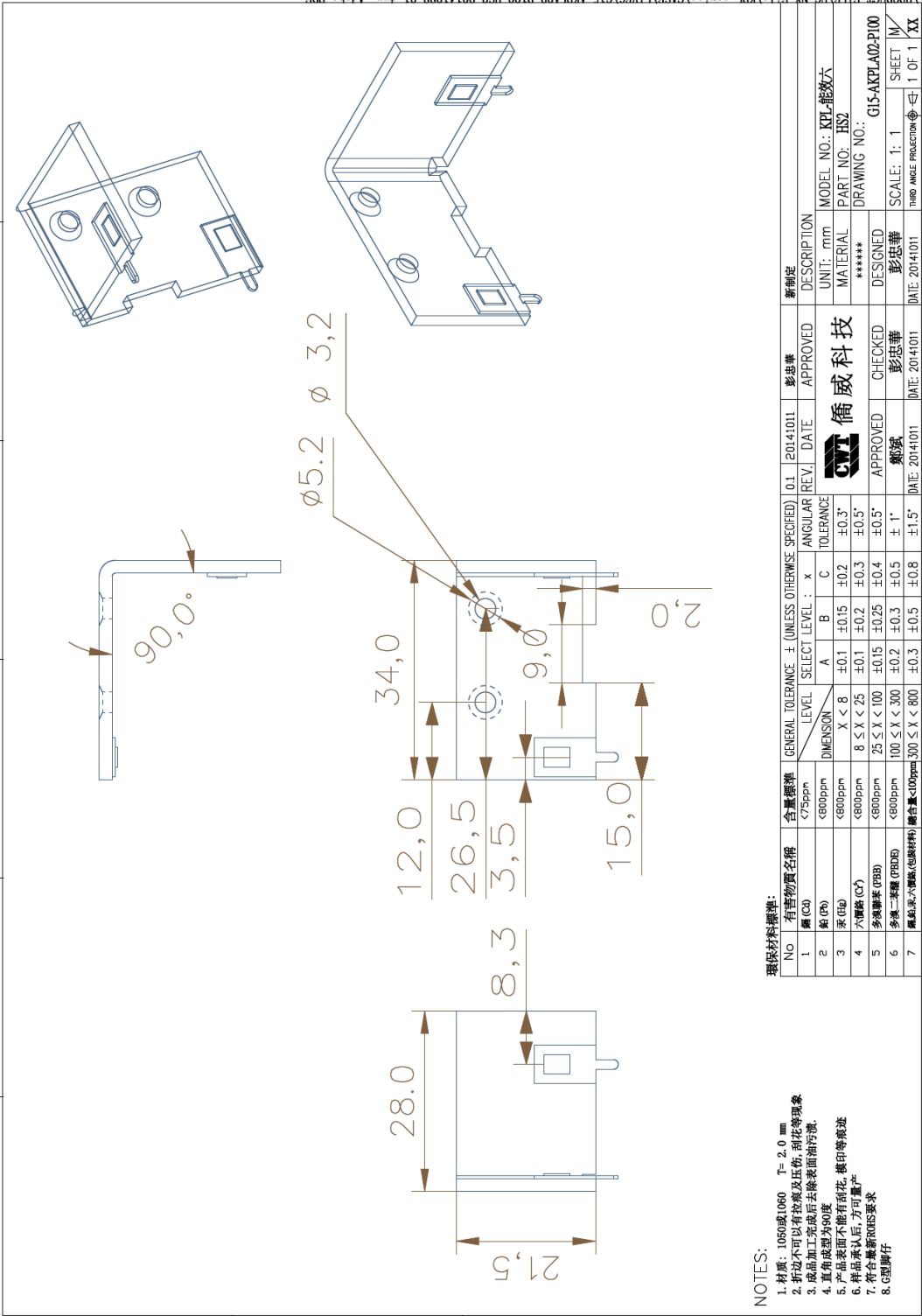
Top Heatsink for KPL PCB with fuses: F1, F2
For x=60, 65; y=all except x=65, y=F

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

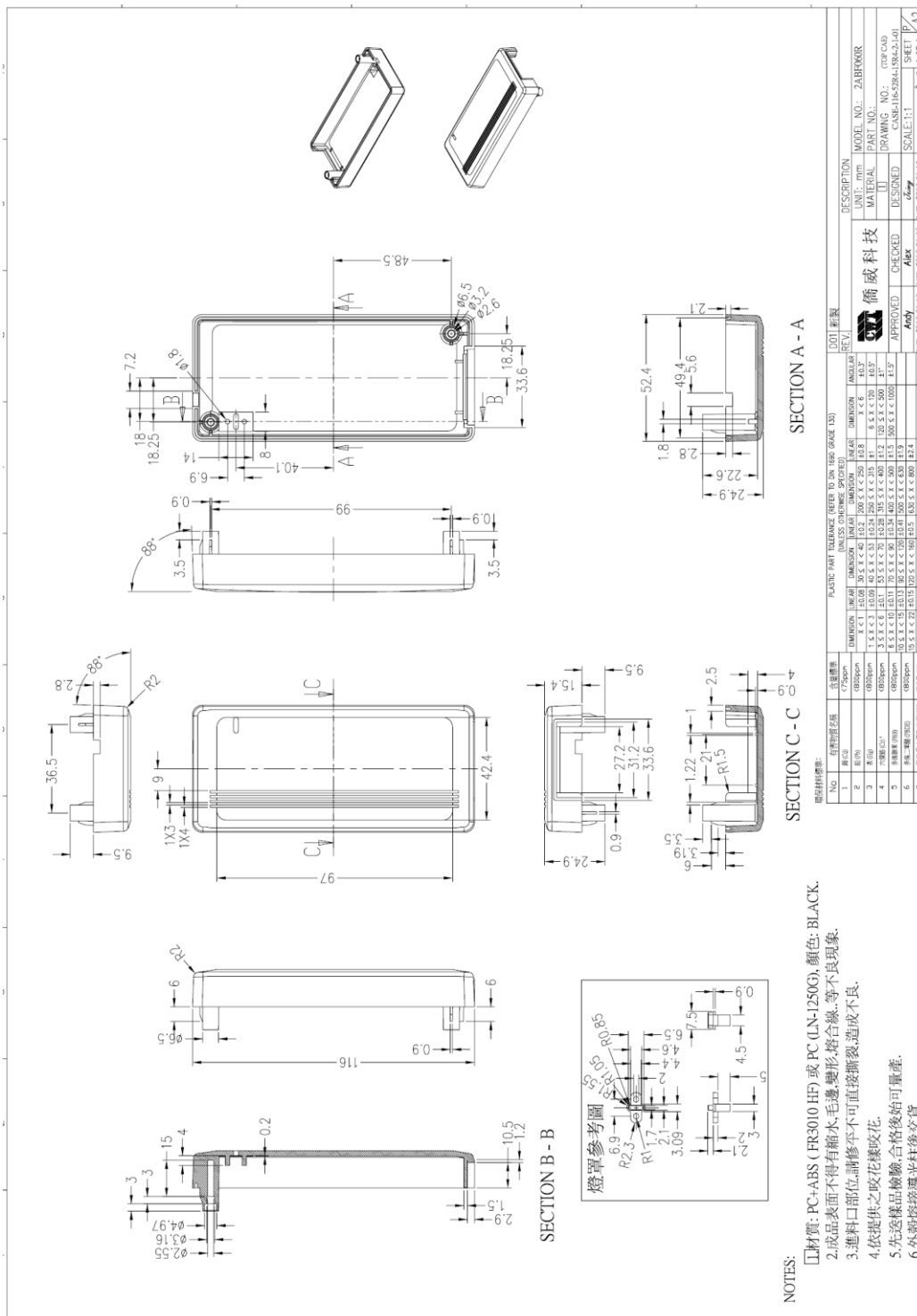


Top Heatsink for KPL PCB with fuses: F1, F2
For x=65, 66; y= F

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

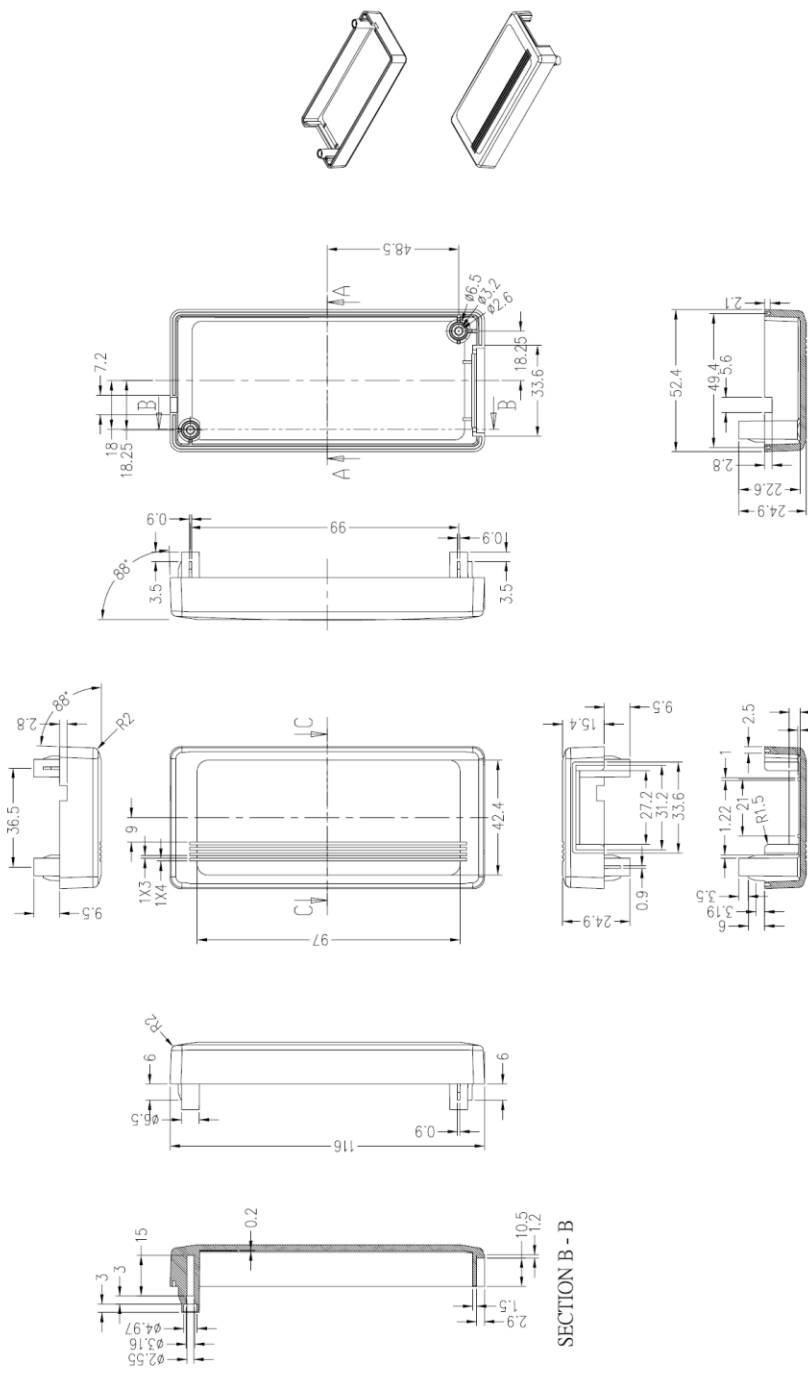


Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



Top Case with LDE for 2ABF & 2ACL

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



- NOTES:
- 1. 材質: PC+ABS (FR3010 HP) 或 PC (LN-1250G) 顏色: BLACK.
 - 2. 成品表面不得有縮水、毛邊、變形、熔合線、等不良現象。
 - 3. 進料口部位請修平不可直接撕裂造成不良。
 - 4. 依提供之咬花樣咬花。
 - 5. 先送樣品檢驗, 合格後始可量產。
 - 6. 外殼熔接處, 光後交貨。

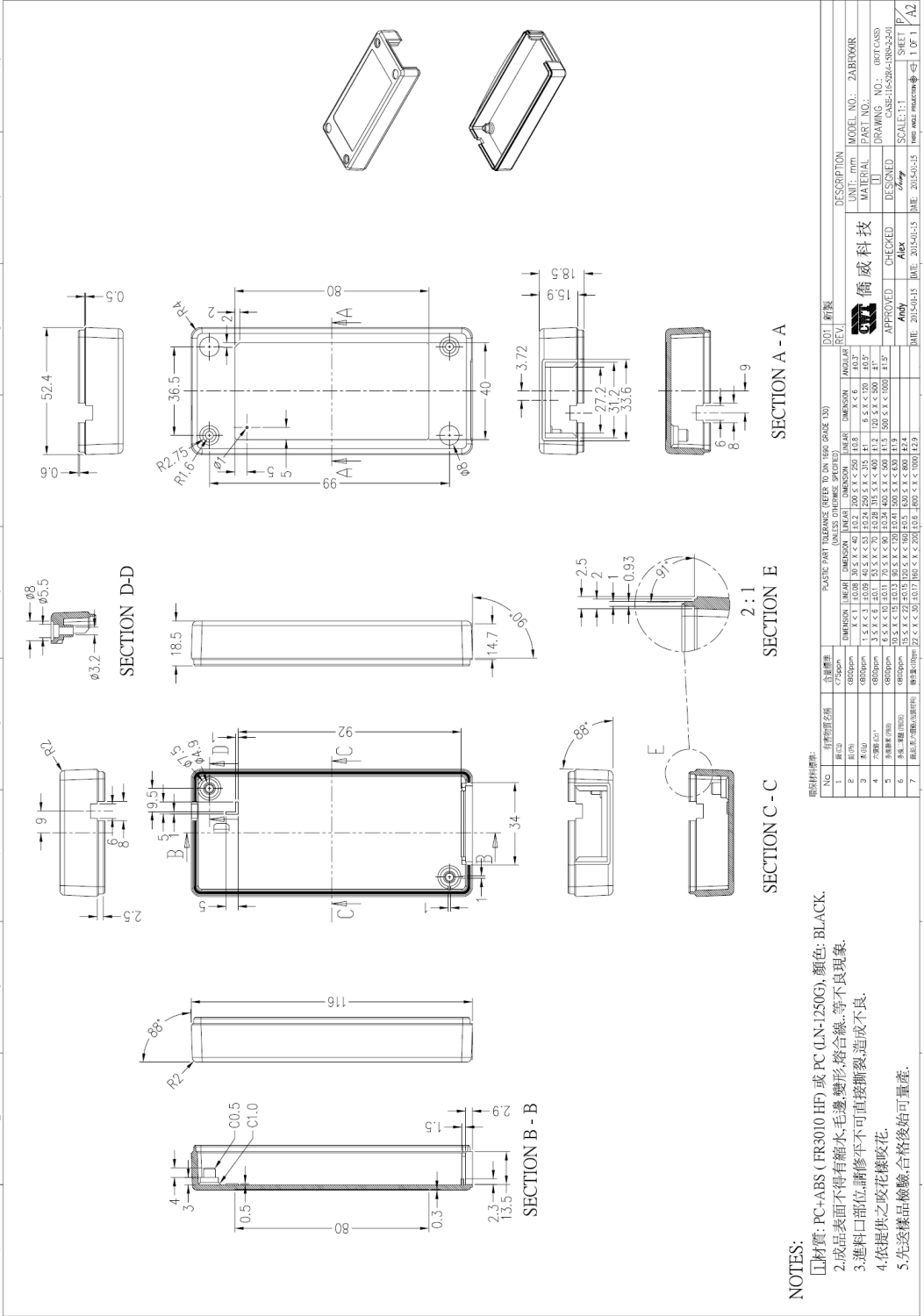
SECTION A - A

SECTION C - C

PLASTIC PART TOLERANCE (REFER TO DIN 16764 GRADE 120)		DIMENSION		TOLERANCE	
NO.	UNIT	MIN.	MAX.	MIN.	MAX.
1	mm	0.13	0.25	0.13	0.25
2	mm	0.13	0.25	0.13	0.25
3	mm	0.13	0.25	0.13	0.25
4	mm	0.13	0.25	0.13	0.25
5	mm	0.13	0.25	0.13	0.25
6	mm	0.13	0.25	0.13	0.25
7	mm	0.13	0.25	0.13	0.25

Top Case without LDE for 2ABF & 2ACL

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

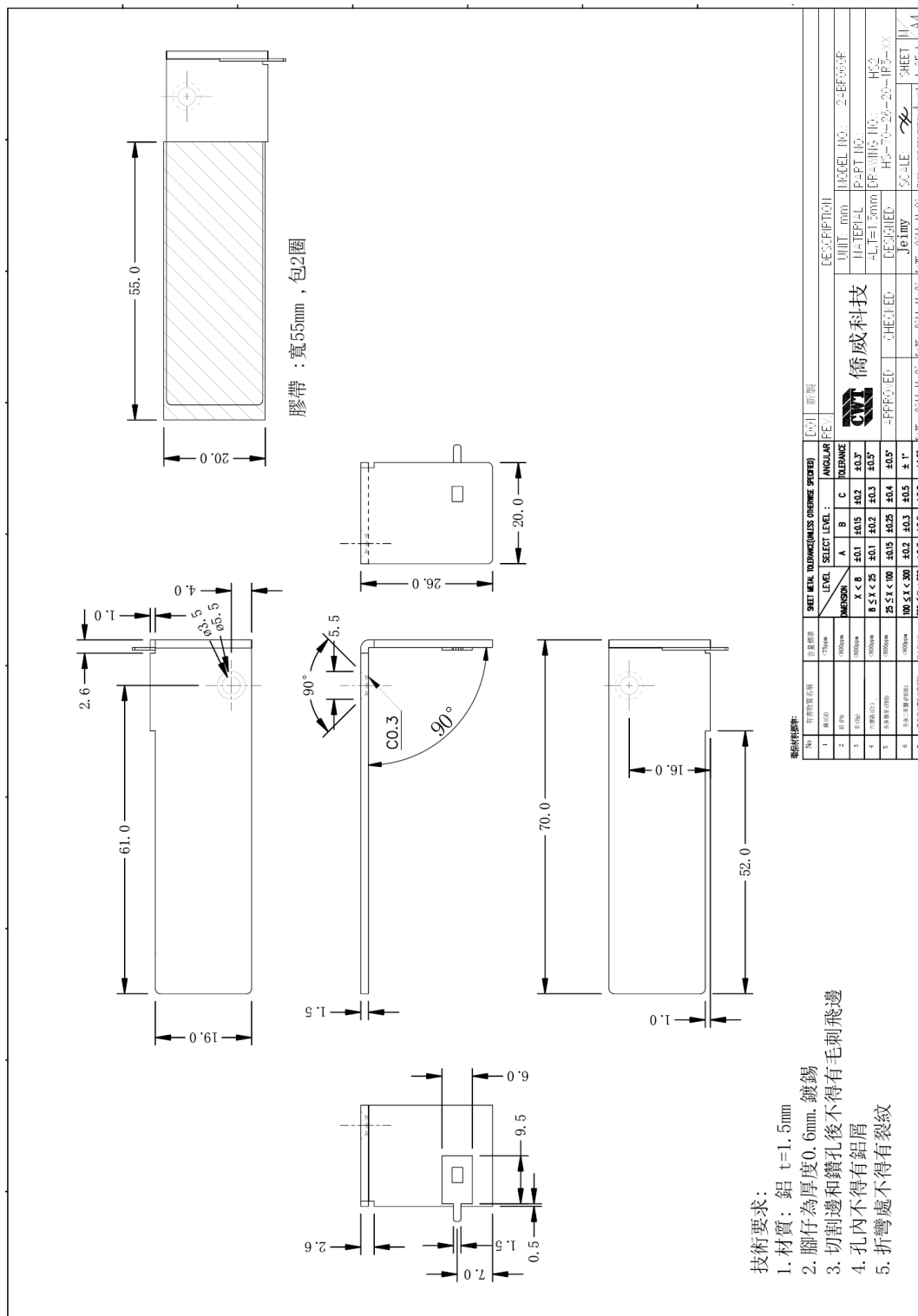


NOTES:
1. 材料: PC+ABS (FR3010 HF) 或 PC (LN-1250G), 顏色: BLACK.
2. 成品表面不得有縮水、毛邊、變形、熔合線、等不良現象。
3. 進料口部位, 請修平不可直接撕裂造成不良。
4. 依提供之咬花樣咬花。
5. 先塗樣品檢驗, 合格後始可量產。

Bottom Case for 2ABF & 2ACL

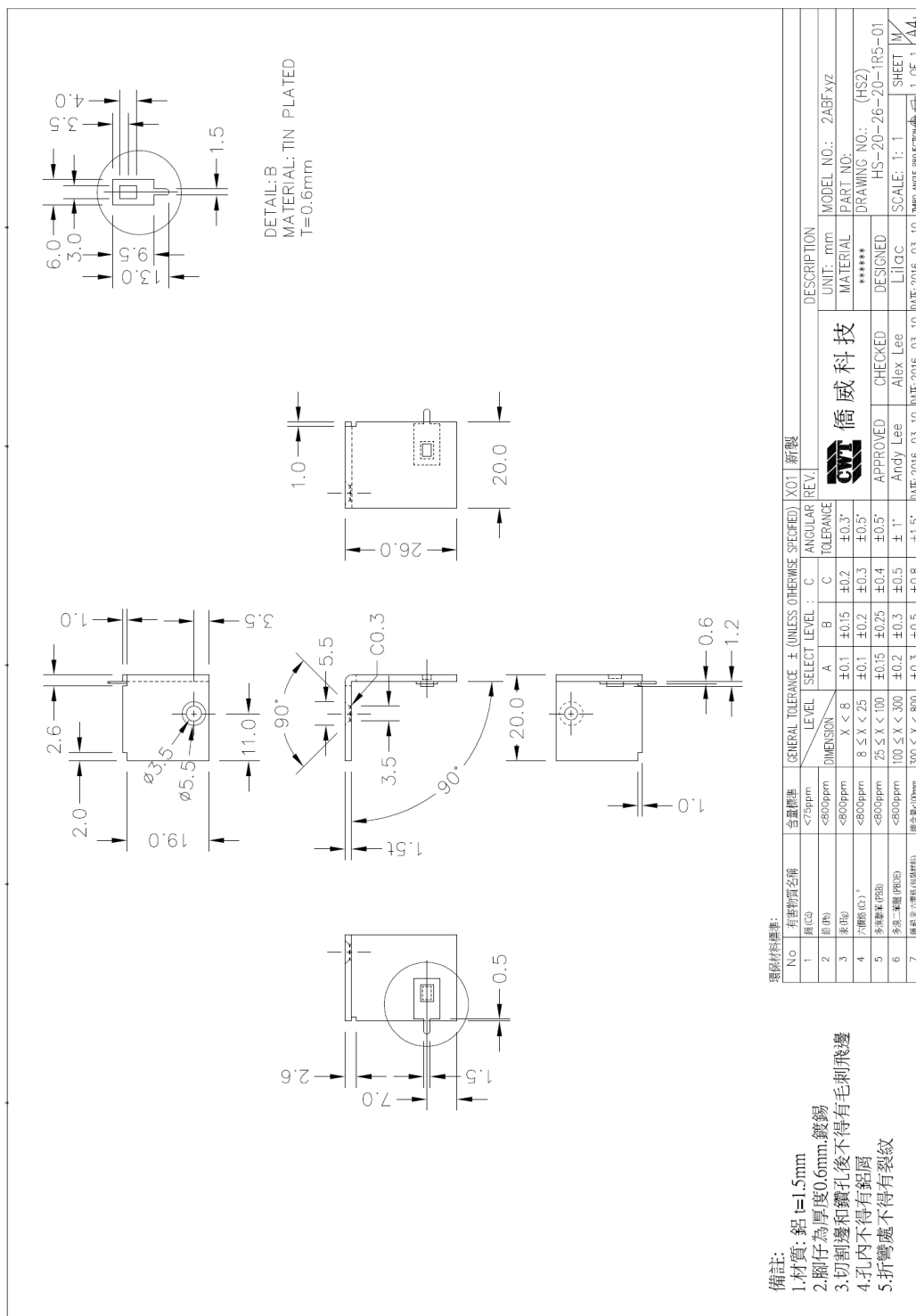
HS1 for 2ABF & 2ACL

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

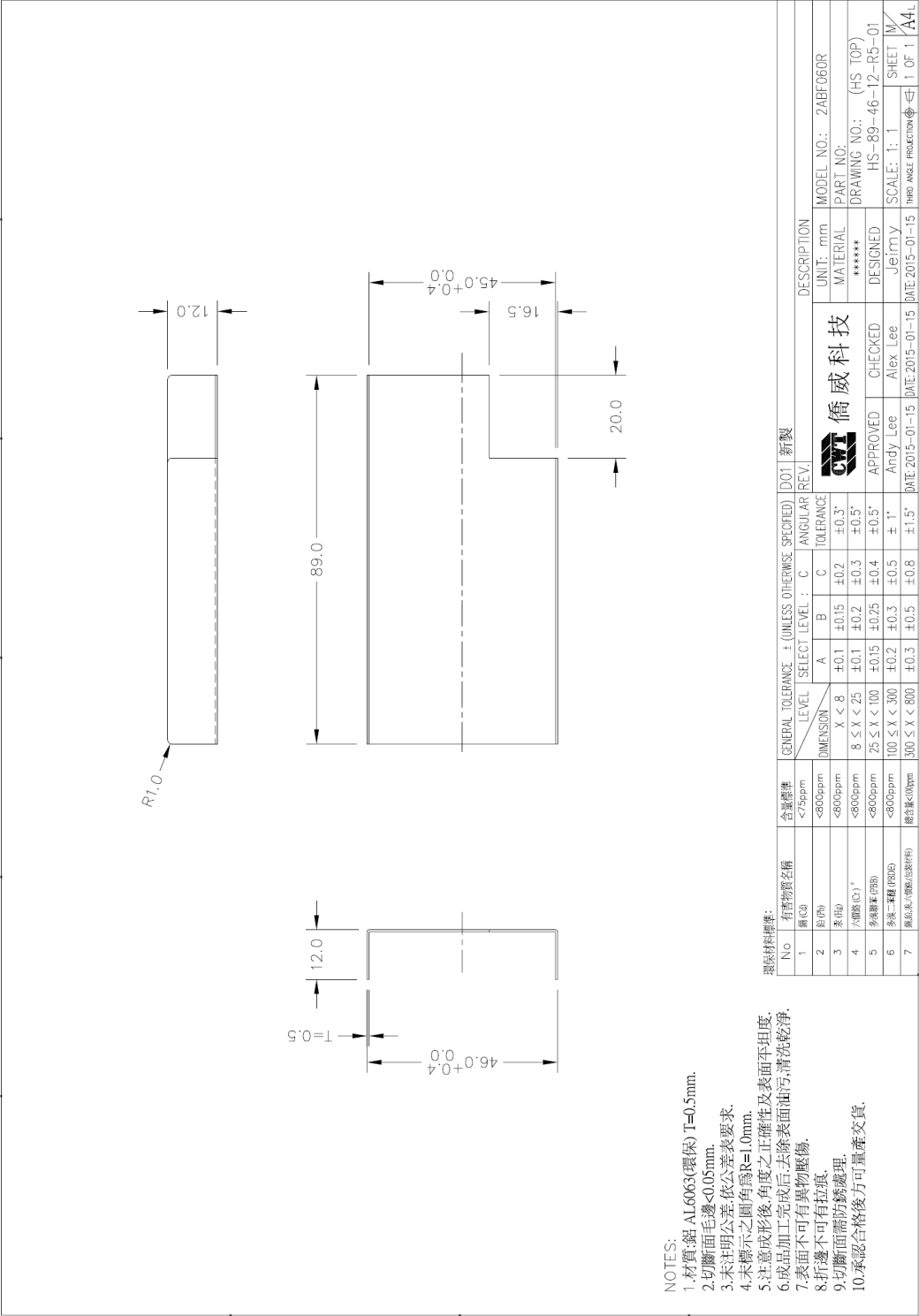


HS2 (L=70mm) for 2ABF & 2ACL

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz

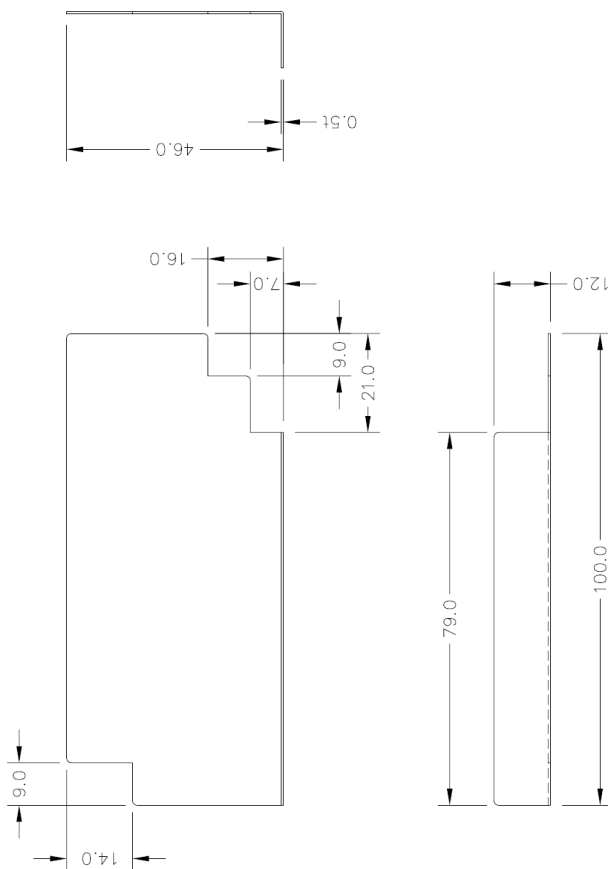


Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



Top HS for 2ABF & 2ACL (except Y=B)

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



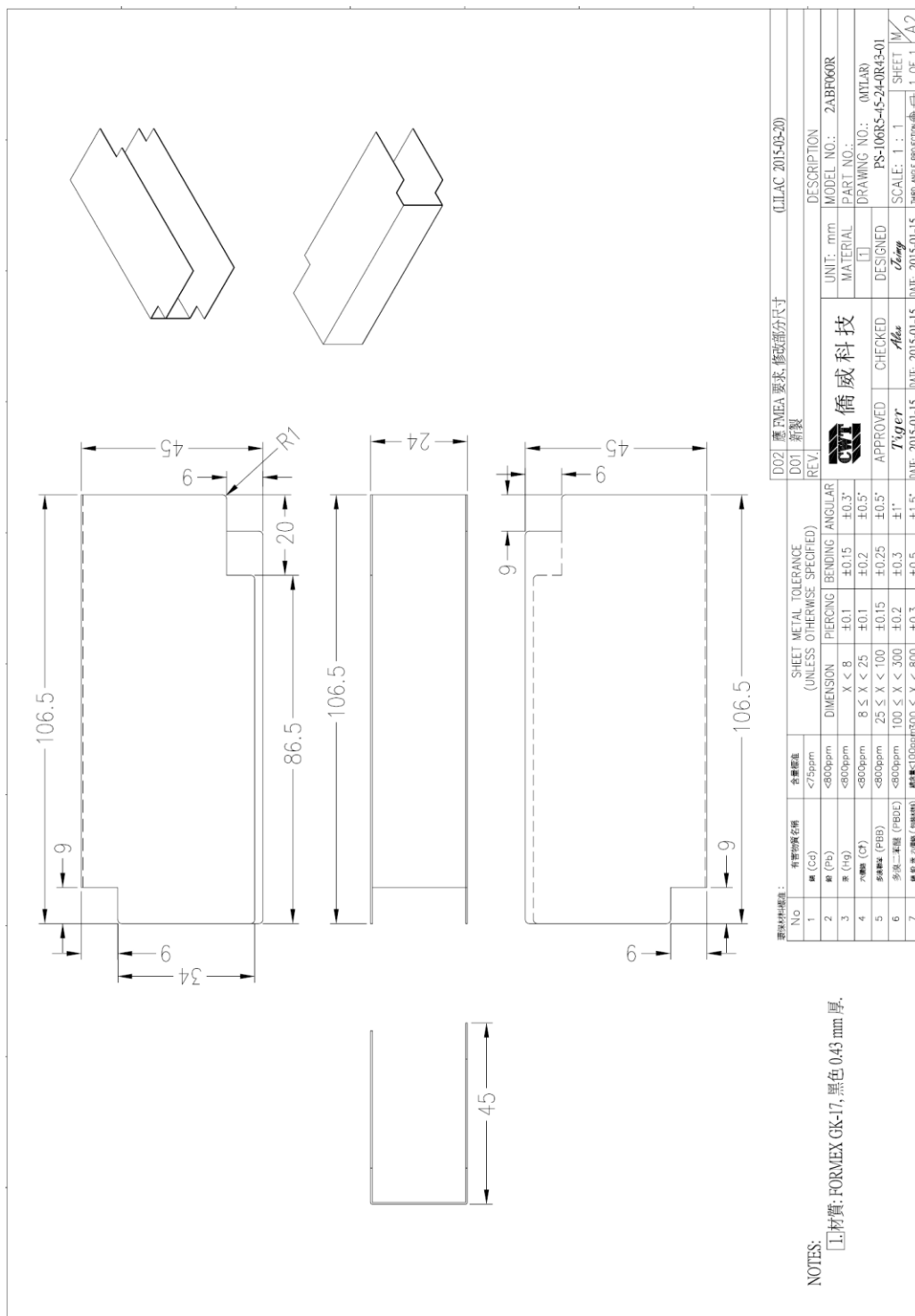
NOTES:

1. 材質:鋁 AL6063(環保) T=0.5mm.
2. 切斷面公差 <0.05mm.
3. 未注明公差,依公差表要求.
4. 未標示之圓角半徑R=1.0mm.
5. 注意成型前後,有度之正確性及表面平坦度.
6. 成品加工完成后,去餘表面油汗,清洗乾淨.
7. 表面不可有異物刮傷.
8. 切邊不可有拉痕.
9. 切斷面需防銹處理.
10. 承認合格後方可量產交貨.

題材料仕様:									
No	有物名	合標準	GENERAL TOLERANCE ± (UNLESS OTHERWISE SPECIFIED)			LEVEL SELECT		ANGULAR REV.	
		750ppm	A	B	C	LEVEL	C	ANGULAR	REV.
1	1 鋼 (C)	<800ppm							
2	2 鋼 (S)	<800ppm							
3	3 鋼 (S)	<800ppm							
4	4 鋼 (S)	<800ppm							
5	5 鋼 (S)	<800ppm							
6	6 鋼 (S)	<800ppm							
7	7 鋼 (S)	<800ppm							

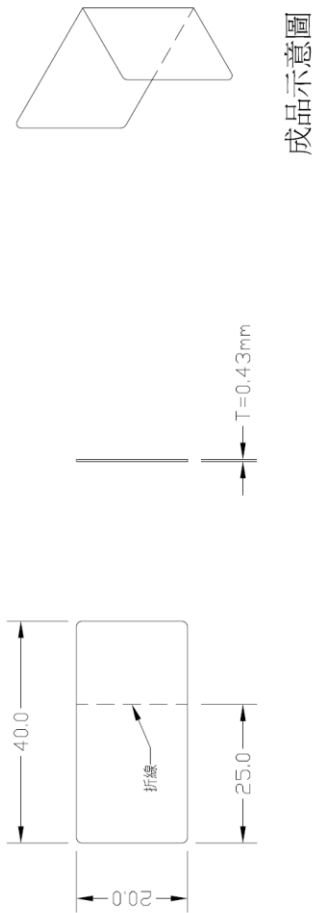
Bottom HS for 2ABF & 2ACL (except Y=B)

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



Mylar for 2ABF & 2ACL (except Y=B)

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



備註:
1.材質:GK-17, T=0.43mm.
2.顏色:黑色.

Mylar for 2ABF & 2ACL

圖樣材料標準:		D01 新製		REV.		DESCRIPTION	
No	材料名稱	公差標準	SHEET METAL TOLERANCE (UNLESS OTHERWISE SPECIFIED)		DESCRIPTION		
1	鋼 (G)	<75ppm	DIMENSION		UNIT: mm		
2	鋼 (G)	<80ppm	X < 8		MATERIAL		
3	鋼 (G)	<80ppm	8 ≤ X < 25		*****		
4	鋼 (G)	<80ppm	25 ≤ X < 100		DESIGNED NO.		
5	鋼 (G)	<80ppm	100 ≤ X < 300		PS-40-20-OR43-01		
6	鋼 (G)	<80ppm	300 ≤ X < 600		SCALE: 1/1		
7	鋼 (G)	<80ppm	600 ≤ X < 1200		THIRD ANGLE PROJECTION		



僑威科技

APPROVED: Andy

CHECKED: Alex

DATE: 2015-03-23

DATE: 2015-03-23

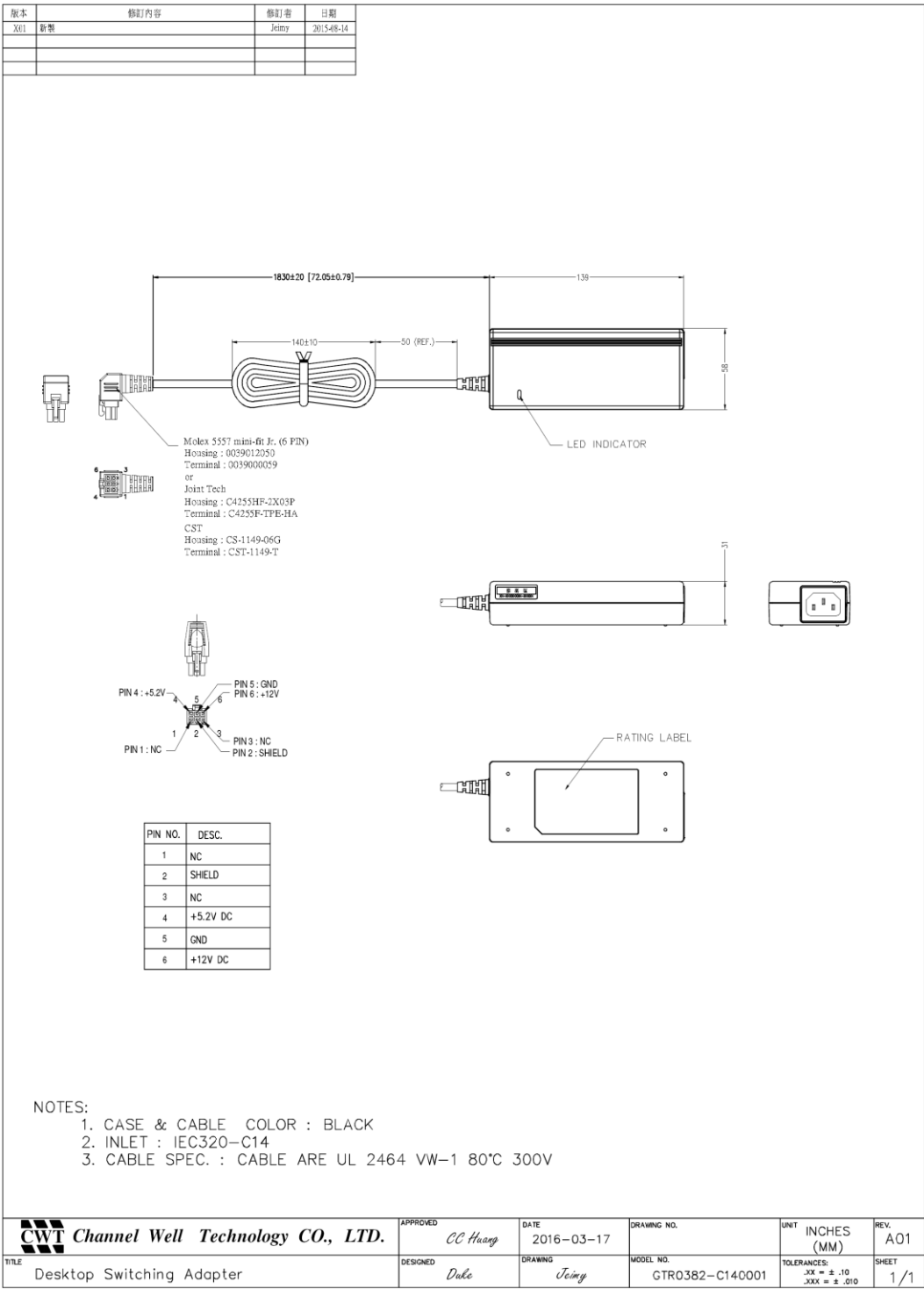
DATE: 2015-03-23

DATE: 2015-03-23

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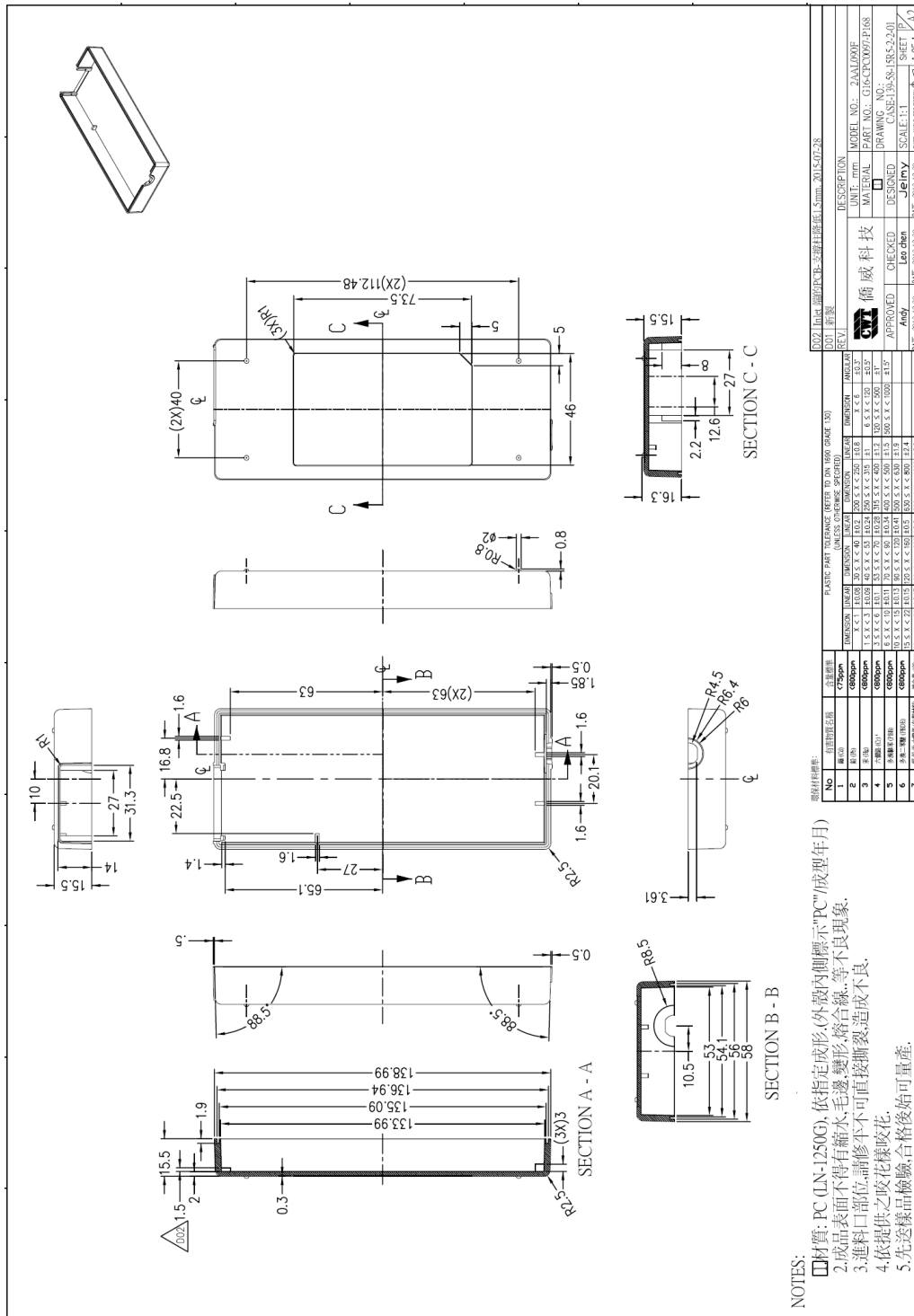
DATE: 2015-03-23

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



GTR Overall

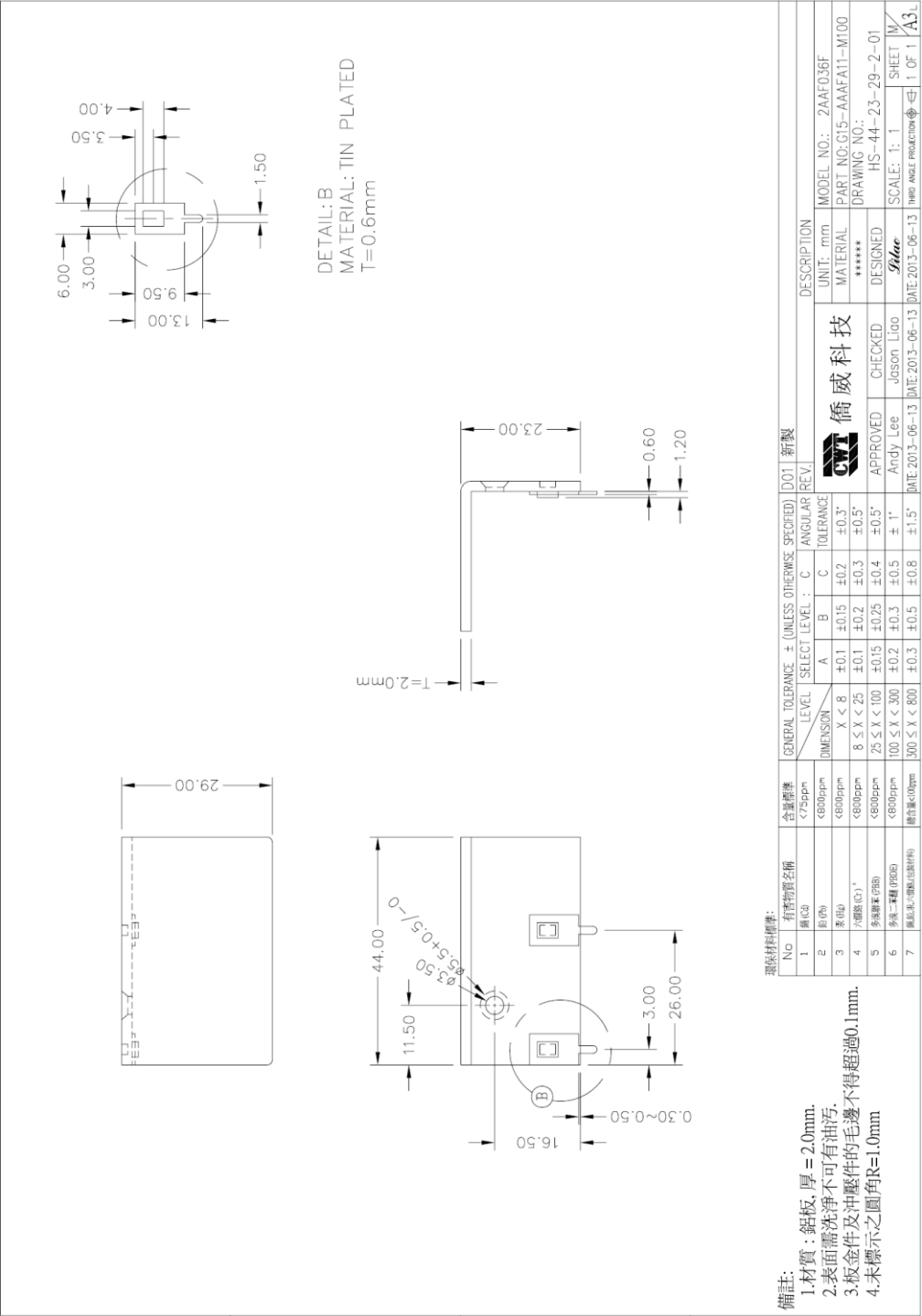
Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ,
2ABFxxxYzzzzz, 2ACL2ACLxxYwzzzzz



GTR Bottom Case

GTR Top Case

Product: AC Adapter
Type Designation: KPL-xy, KPL-xy-VI, KPL-xy-II, KPL-xy-KV, GTRxxxYzzzzz, PAA060M-ZZZ, 2ABFxxxYzzzzz, 2ACL2ACLxxxYwzzzzz



GTR HS1