

1.0 Reference and Address			
Report Number	21020419HKG-002	Original Issued: 15-Mar-2021	Revised: None
Standard(s)	Class 2 Power Units [UL 1310:2018 Ed.7+R:16Aug2019]		
	Power Supplies With Extra-Low Voltage Class 2 Outputs [CSA C22.2#223:2015 Ed.3]		
Applicant	<u>DONGGUAN RONG HANG ELECTRONIC TECHNOLOGY CO. LTD</u>	Manufacturer 1	<u>DONGGUAN RONG HANG ELECTRONIC TECHNOLOGY CO. LTD</u>
Address	3F, Building 3, Gekeng Industrial Zone, Hengli Town, DONGGUAN City, 523460 GUANGDONG	Address	3F, Building 3, Gekeng Industrial Zone, Hengli Town, DONGGUAN City, 523460 GUANGDONG
Country	CHINA	Country	CHINA
Contact	Mr. Fan	Contact	Mr. Fan
Phone	13712339053	Phone	13712339053
FAX	NA	FAX	NA
Email	rhpower@126.com	Email	rhpower@126.com

2.0 Product Description	
Product	CLASS 2 POWER UNIT
Brand name	
Description	The product covered by this report is a CLASS 2 POWER UNIT. It provided with non-polarized input blades as input connection and output terminated with output connector as output connection. For outdoor use.
Models	RH- followed by three numbers; followed by -; followed by four numbers; followed by U4.
Model Similarity	All models are similar except for model name, output rating and electrical rating of some components. The 1st to 3rd "*" can be replaced by three digits from 090 to 240, indicate output voltage range from 9.0-24.0Vdc the minimum rising step by 0.1V, eg. 090=9.0V, 240=24.0V; The 4th to 7th "*" can be replaced by three digits from 0010 to 3500, indicate output current range from 0.01-3.5A, the minimum rising step by 0.001A, eg. 0010=0.01A, 3500=3.5A The color of components are not controlled.
Ratings	Input:100-120V AC 50/60Hz 1.5A Output:9.0-24.0V DC, 0.01-3.5A, 42.0W Max.
Other Ratings	NA

3.0 Product Photographs

Photo no. 1 - Overall view

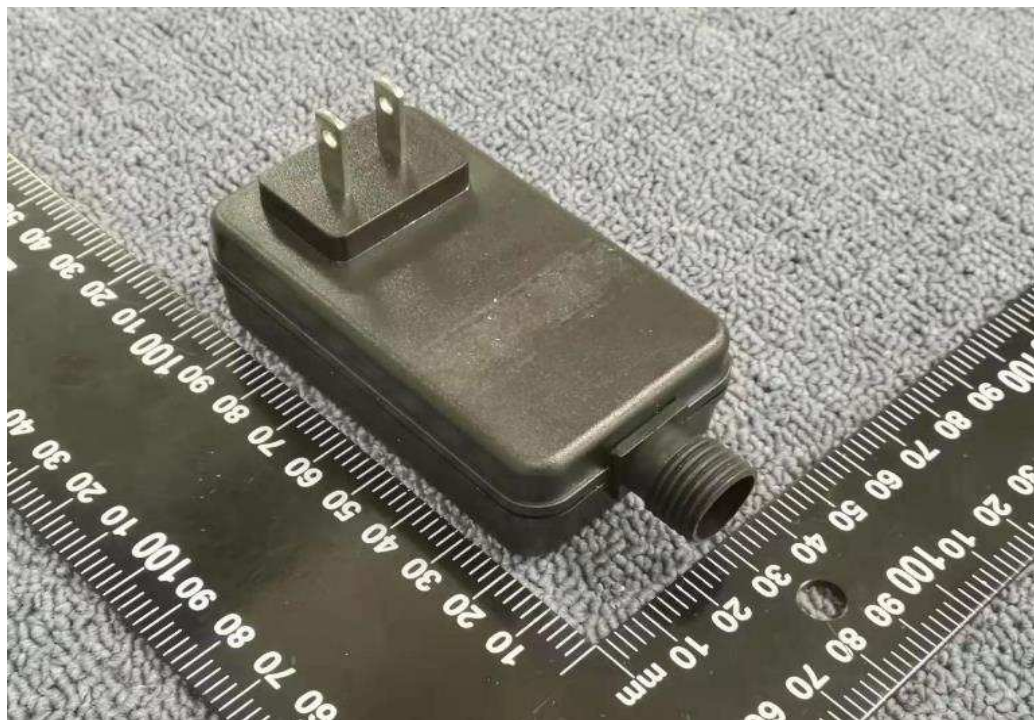


Photo no. 2 - Overall view

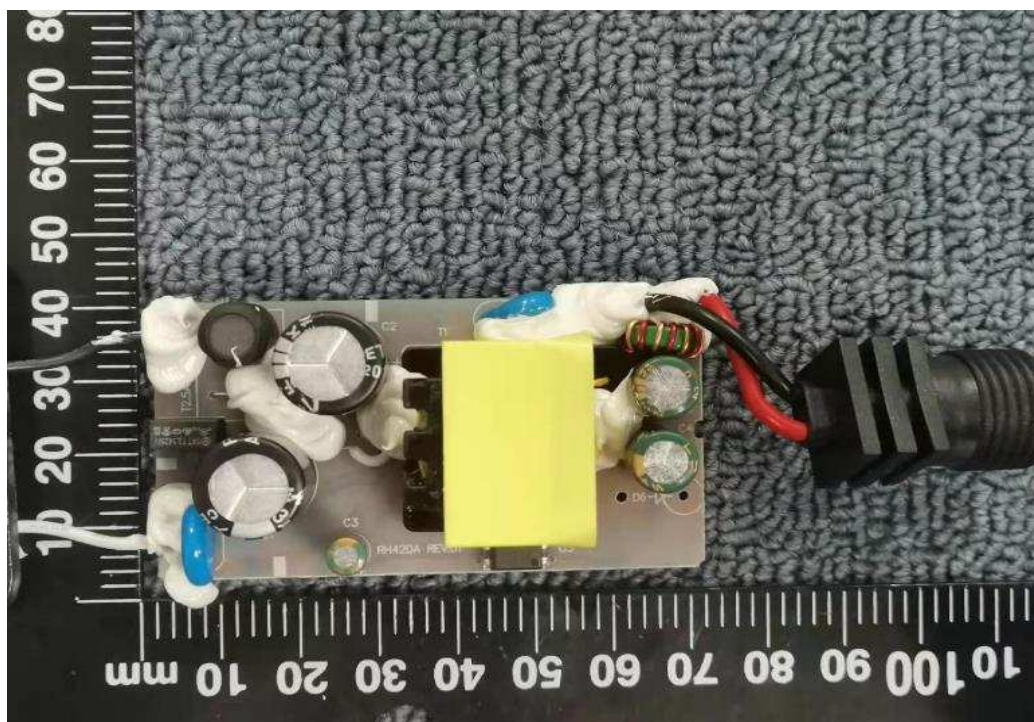


3.0 Product Photographs

Photo no. 3 - Internal view



Photo no. 4 - Top view for PCB



3.0 Product Photographs

Photo no. 5 - Top view for PCB

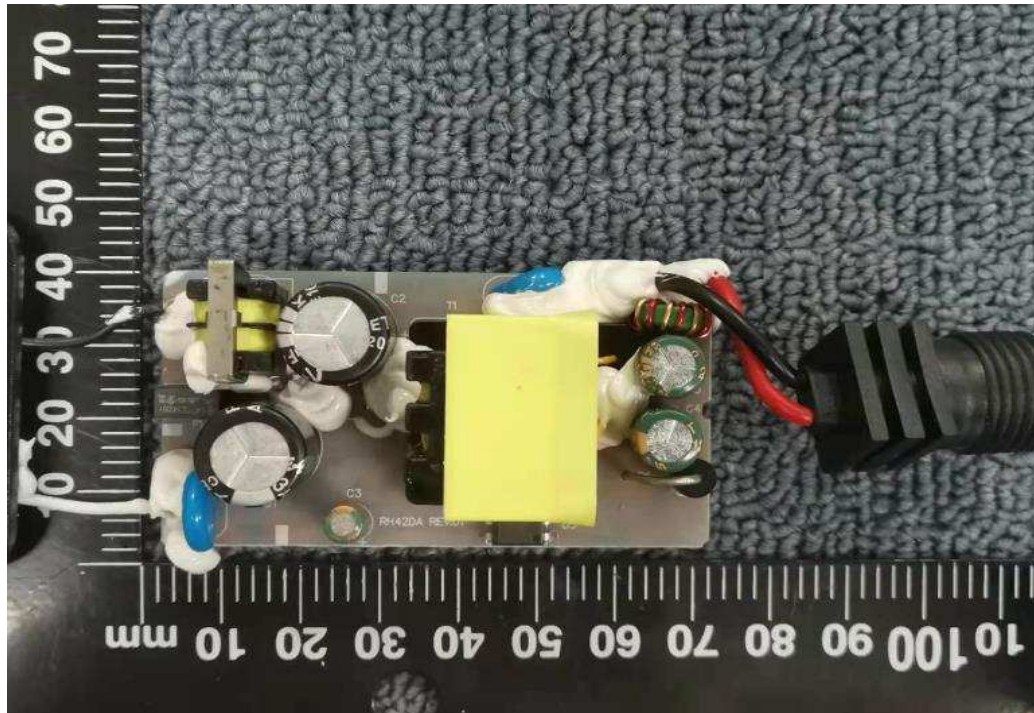
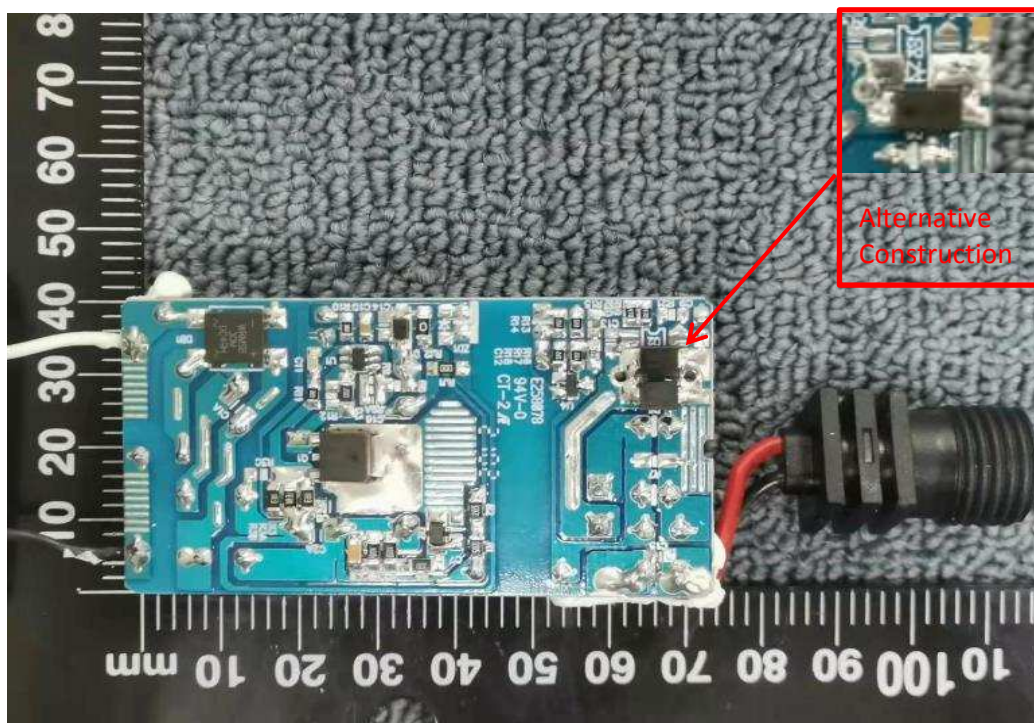


Photo no. 6 - Bottom view for PCB



3.0 Product Photographs

Photo no. 7 - Top view of Transformer

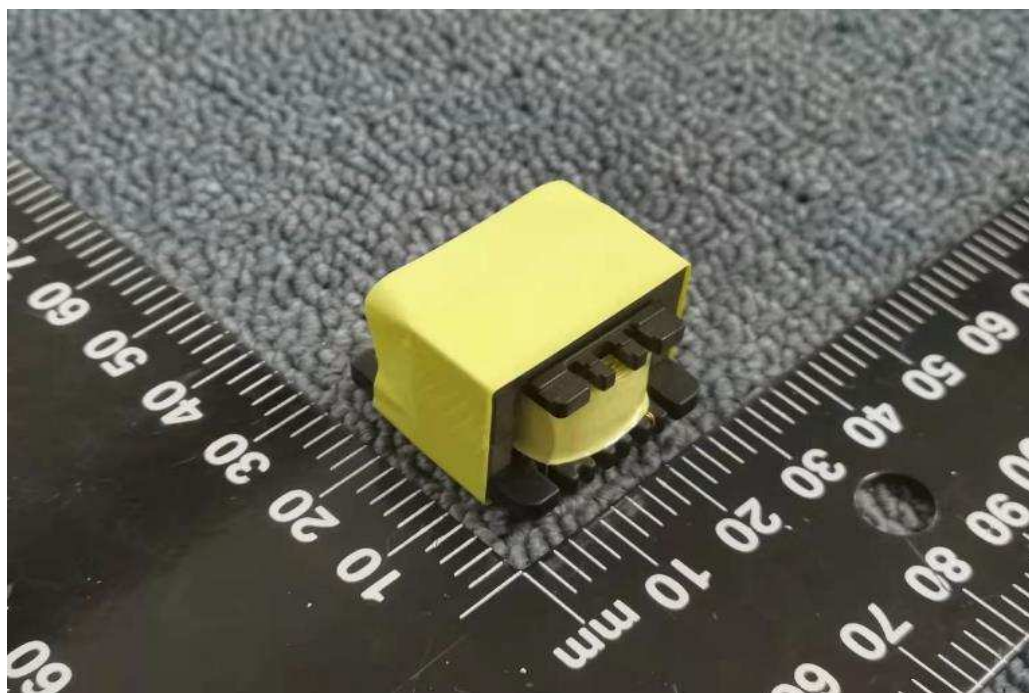
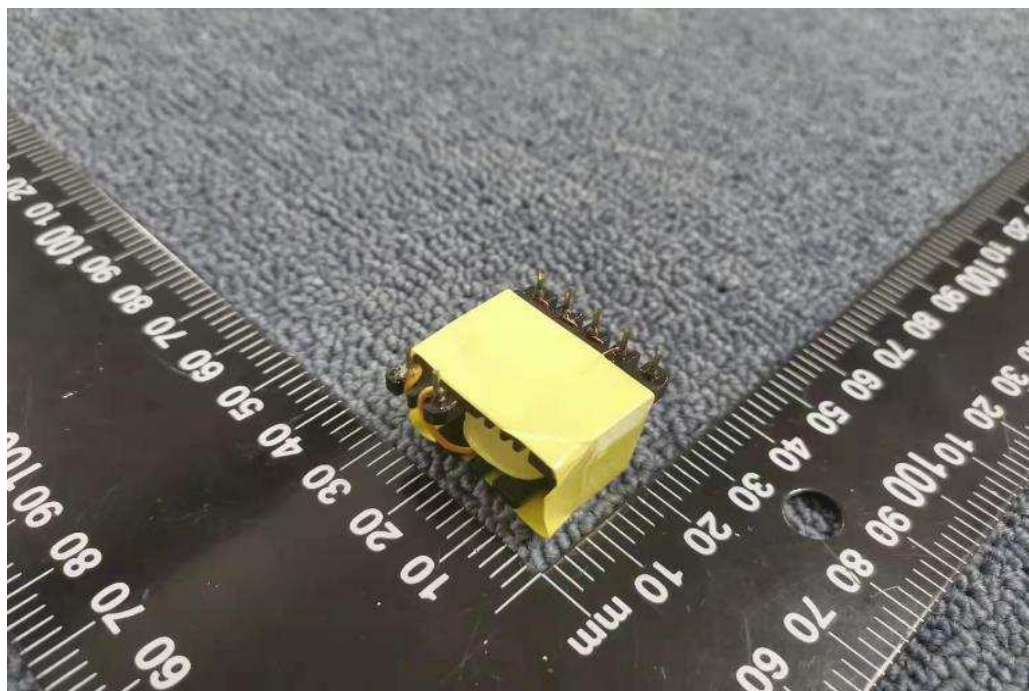


Photo no. 8 - Bottom view of Transformer



3.0 Product Photographs

Photo no. 9 - Internal view for Transformer

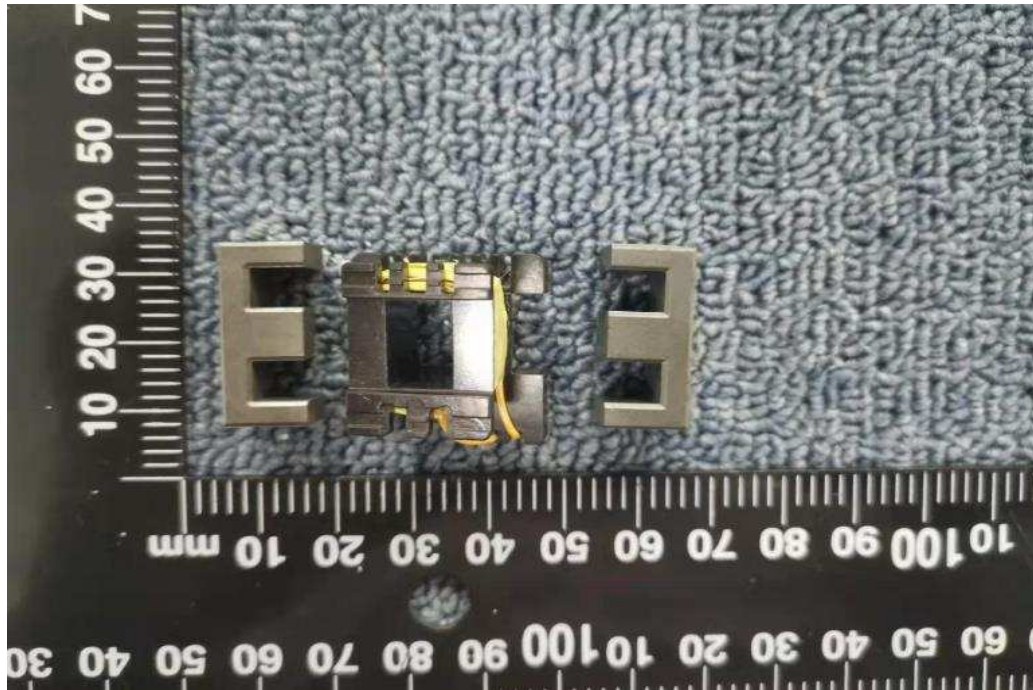
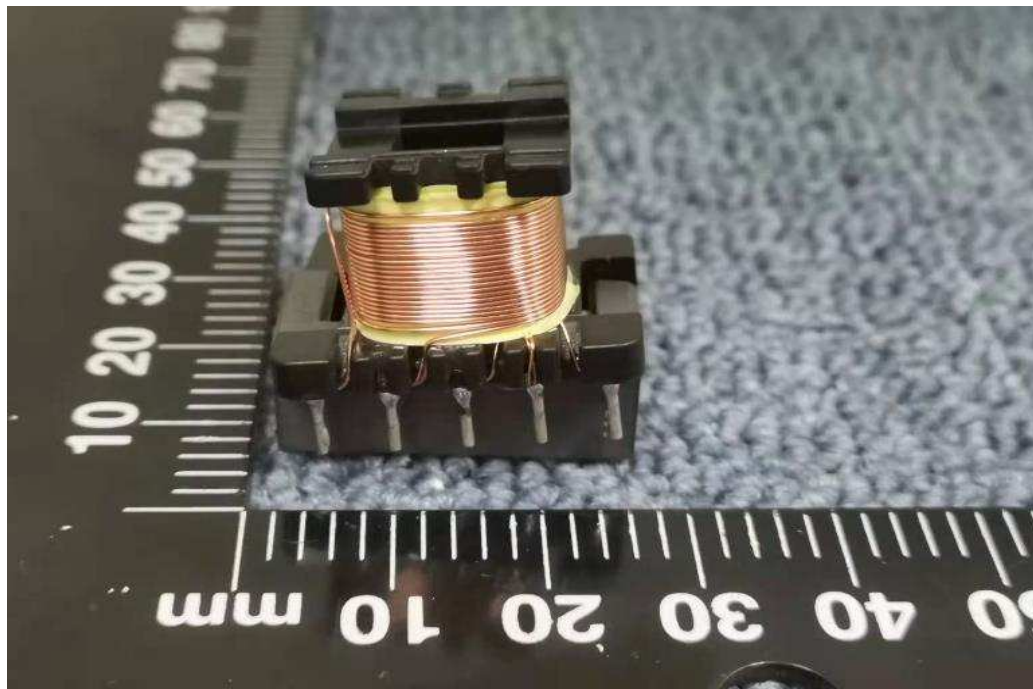


Photo no. 10 - Internal view for Transformer



3.0 Product Photographs

Photo no. 11 - Internal view for Transformer

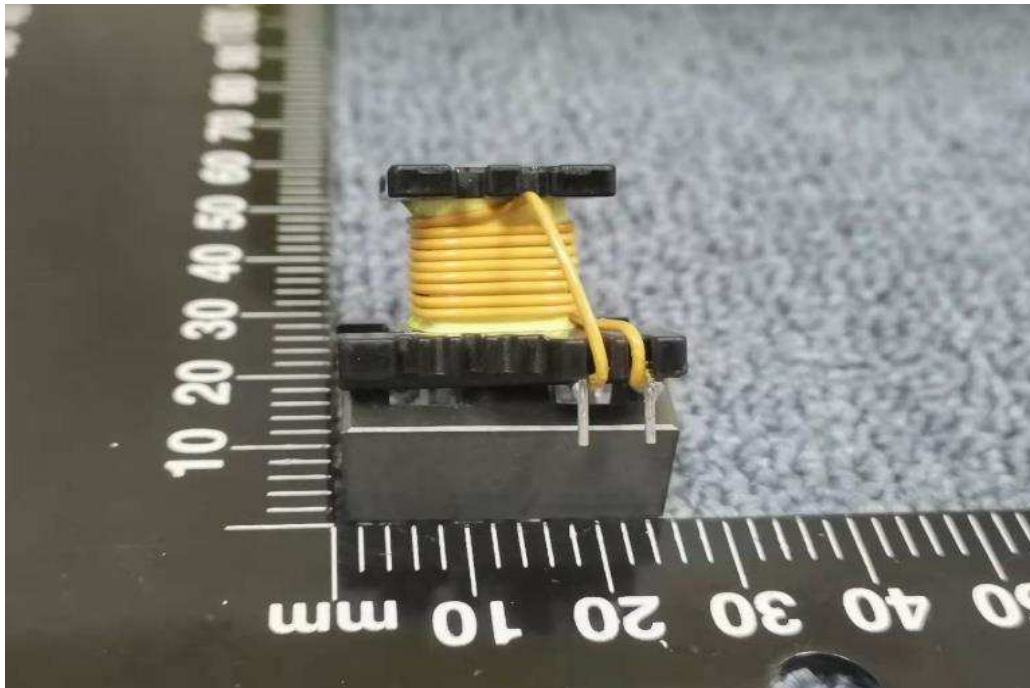
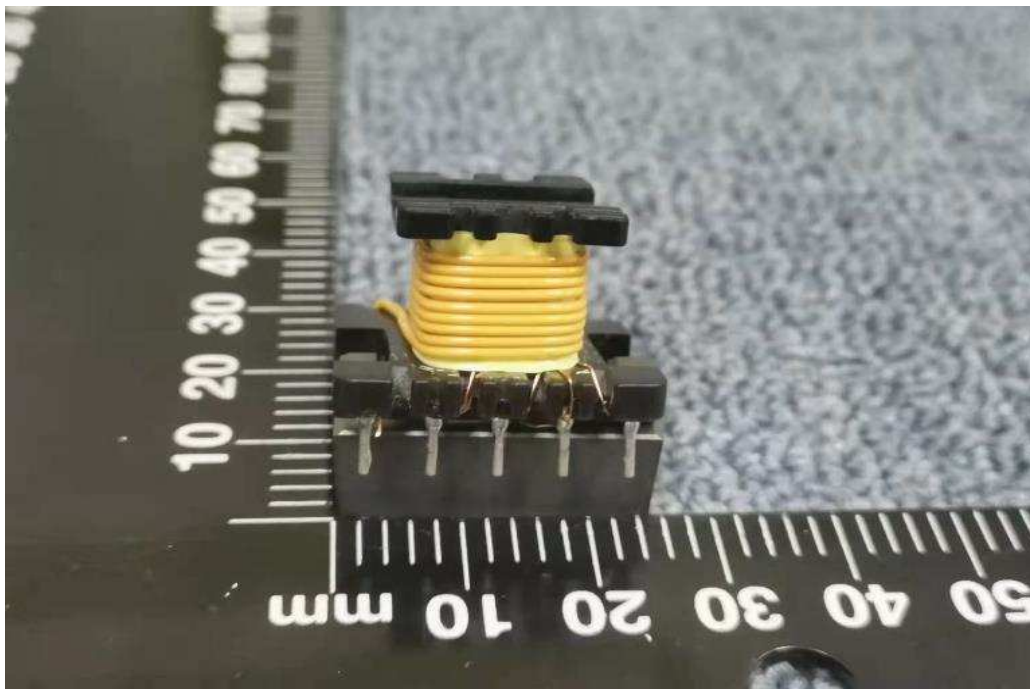


Photo no. 12 - Internal view for Transformer



4.0 Critical Components

Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
1	1	Plug Pin (2 provided)	Various	Various	2 copper blades, non-polarized type. Any point on either blade located at least 5.1mm to perimeter of the face section from which the blades project.	NR
1	2	Enclosure	SABIC INNOVATIVE PLASTICS US L L C	940(f1)	PC, rated V-0, 120°C, HWI=3, HAI=3, min. thickness 1.5mm. The upper and lower enclosure fixed by ultrasonic welding.	cURus
1	3	Plug holder	SABIC INNOVATIVE PLASTICS US L L C	940(f1)	PC, rated V-0, 120°C, HWI=3, HAI=3.	cURus
1	4	Label (not shown)	CANNING PRINTING CO LTD	1M MAT CH PET	The information was printed on label adhered on enclosure, it complied label rubbing test. (See Illustrations 8 for details).	cURus
			various	various		
			various	various	Silk-screen or laser etching on the enclosure, it complied label rubbing test.	NR
4	5	PCB	CIRCUITRONIC METAL ELECTRONICS FTY	CT-2	V-0, 130°C.	cURus
			DONGGUAN CITY HUAXIA PCB MFG CO LTD	HX-2		
			JIANGXI ZHONG XIN HUA ELECTRONICS INDUSTRY CO LTD	ZXH-3		
			GENERAL ATRONICS CIRCUIT BOARD LTD	GA-018		
				GA-07		
				GA-08A		
				GA-09		
				GA011		
			ZHONGSHAN LIXIN CHAIN-BOARD CO LTD	LX-20		
			KEMBLE ELECTRONICS.LTD	139		
				140		
			PREMIER ELECTRONIC PLASTIC LTD	ZR-04		
			various	various	V-0 or better, min. 130°C.	

4.0 Critical Components

Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
4	6	Current fuse (F1)	DONGGUAN CHEVRON ELECTRONIC TECHNOLOGY CO LTD	3GF	Rated T2.5AL, 250VAC	cURus
				3GK		
				3GM		
				3GT		
			DONGGUAN LUOYI ELECTRONIC TECHNOLOGY CO LTD	3DP		
				3NP		
				3FC		
				3TC		
				3GP		
				3SP		
				3FB		
				3TB		
			various	various		
4	7	Electrolytic Capacitors (C1, C2)	various	various	Min. 400V, max. 33uF, 105°C.	NR
6	8	Bridge diode (DB1)	various	various	Min. 0.6A, min. 600V.	NR
6	9	MOSFET (Q1)	various	various	Min. 1A, min. 600V.	NR
4	10	Varistor (VR1)	SHENZHEN SOCAY ELECTRONICS CORP LTD	10D471K	Min. AC 300V, 85°C, coating V-0	cURus
			DONGGUAN CIGU ELECTRONIC TECHNOLOGY CO., LTD	CG10D471K		
			DONG GUAN CITY JIANKUN ELECTRONICS TECHNOLOGY CO LTD	10D471K		
			HONGZHI ENTERPRISES LTD	HEL10D471K		
			THINKING ELECTRONIC INDUSTRIAL CO LTD	TVR10471-D		
			SUCCESS ELECTRONICS CO LTD	SVR10D471K		
4	11	Inductor (L1) (Optiontal)	DONG GUAN PENG JU ELECTRONICS & TECHNOLOGY CO. LTD	UU9.8	Class B, min. 350uH, soldering on PCB directly, consist of the following components: (See Illustration 3-3a for details)	NR
			GETWELL ELECTRONIC (HUIZHOU) CO LTD	8*10		
			Various	Various		

4.0 Critical Components

Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
4	11a	-Magnet wire (not shown)	SHING SHUN MAGNET WIRE (HUIZHOU) CO LTD	*UEW	Polyurethane, min 130°C.	UR
			Various	Various		
4	11b	-Bobbin (not shown)	SUMITOMO BAKELITE CO LTD	PM-9820	PMC, rated V-0, 150°C, HWI=1, HAI=0, Min. thickness 0.40mm.	cURus
			Various	Various	PMC or Phenolic (PF), rated V-0, min. 150°C, HWI=1, HAI=0, Min. thickness 0.40mm.	
4	11c	-Insulated tape (not shown)	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX (a)(b)	Rated 130°C with flame retardant.	cURus
			Various	Various		
4	12	Optocoupler (U3)	EVERLIGHT ELECTRONICS CO LTD	EL817	Double protection type, used for bridging between primary and secondary circuits, min. 100°C.	cURus
			BRIGHT LED ELECTRONICS CORP	BPC-817*		
			WISELITE OPTRONICS CO LTD	MPC817		
				MPC817XN(Y)(Z)-FGV		
				MPC817C1-FG		
			SHENZHEN ORIENT COMPONENTS CO LTD	ORPC-817B		
				ORPC-817C		
			LITE-ON TECHNOLOGY CORP	LTV-817		
			FAIRCHILD SEMICONDUCTOR PTE LTD	H11A817+		
			COSMO ELECTRONICS CORP	KP1010		
				K1010		

4.0 Critical Components

Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
4	13	Y-Capacitor (YC1)	DONGGUAN CIGU ELECTRONIC TECHNOLOGY CO., LTD	CD	Max. 2200pF, min. 250V, 125°C, Y1 type.	cURus
			DONG GUAN CITY JIANKUN ELECTRONICS TECHNOLOGY CO LTD	JT		
			SOUTH CHINA ELECTRONIC CO LTD	CY		
			DONGGUAN EASY-GATHER ELECTRONIC CO LTD	DCF		
			SHANTOU HIGH-NEW TECHNOLOGY DEVELOPMNT ZONE SONGTIAN ENTERPRISE CO LTD	UL(STE), VDE(CD)		
			JYA-NAY CO LTD	JN		
			JYH CHUNG ELECTRONICS CO LTD	JD		
			HONGZHI ENTERPRISES LTD	Y		
			SUCCESS ELECTRONICS CO LTD	SB		
			GUANGDONG SOUTH HONGMING ELECTRONIC SCIENCE & TECHNOLOGY CO LTD	F		
			HSUAN TAI ELECTRONICS CO LTD	CY Series		
			Various	Various		
7	14	Transformer (T1)	DINGGUAN CITY LINENG ELECTRONIC SCIENCE AND TECH CO LTD	T-01	Class F, Soldering on PCB directly, consist of the following components. Input and output: See Section 2.0 - Rating for details. (See Illustration 2 for details.)	NR

4.0 Critical Components

Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
7	14a	- Insulation system	DINGGUAN CITY LINENG ELECTRONIC SCIENCE AND TECH CO LTD	LN-155	Class 150(F)	cURus
7	14b	-Bobbin (not shown)	CHANG CHUN PLASTICS CO LTD	T375J	PMC, rated V-0, 150°C, HWI=1, HAI=0, Min. thickness 0.85mm.	cURus
			CHANGSHU SOUTH-EAST PLASTIC CO LTD	PF2A5-151J(b)		
			SUMITOMO BAKELITE CO LTD	PM-9820		
			SUMITOMO CHEMICAL CO LTD	E4008L(gt)		
			Various	Various	PMC or Phenolic (PF), rated V-0, min. 150°C, HWI=0, HAI=0, Min. thickness 0.85mm.	
10	14c	-Magnet wire	DONGGUAN NISSEN CABLE CO LTD	F2	Polyurethane, min 155°C, used as primary winding.	UR
			SHENZHEN DAYANG INDUSTRY CO LTD	xUEW-NY/155		
			SHING SHUN MAGNET WIRE (HUIZHOU) CO LTD	*UEW		
			ZHANGJIAGANG HUAFA ELECTRONIC MATERIAL CO LTD	*UEW/155 or QA-*/155		
			Various	Various		
11	14d	-Triple insulated wire	FURUKAWA ELECTRIC CO LTD	TEX-FR	Rated 155°C, reinforced insulation, used as secondary winding.	cURus
			DAH JIN TECHNOLOGY CO LTD	TLW-F(xx)(y)@		
			SHANGHAI LUCKY TRADE CO LTD	TIW-F		

4.0 Critical Components

Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
7	14e	-Insulated tape	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-20X	Rated 180°C with flame retardant.	cURus
			JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	J16		
			CHYUN YIH TAPE CO LTD	PB416F		
7	14g	-Varnish (not shown)	ELANTAS PDG INC	V1630	Min. 155°C.	cURus
			SHOWA DENKO MATERIALS CO LTD	WP-2952F-2G		
			YUEYANG GREEN TECHNOLOGY CO LTD	JX-1150(a)		
			Various	Various		
4	15	Output lead wire	GUANGDONG DONGJU WIRE & CABLE CO LTD	2464	Min. 80°C, min. 300VAC, VW-1	cURus
				2468		
				1185		
				various		
3	16	Mylar sheet	Dupont Hongji Films Foshan Co Ltd	M031	rated VTM-2, 105°C, min. thickness 0.25mm.	cURus

NOTES:

1) Not all item numbers are indicated (called out) in the photos, as their location is obvious.

2) "Various" means any type, from any manufacturer that complies with the "Technical data and securement means" and meets the "Mark(s) of conformity" can be used.

3) Indicates specific marks to be verified, which assures the agreed level of surveillance for the component. "NR" - indicates Unlisted and only visual examination is necessary. "See 5.0" indicates Unlisted components or assemblies to be evaluated periodically refer to section 5.0 for details.

5.0 Critical Unlisted CEC Components

No Unlisted CEC components are used in this report.

6.0 Critical Features

Recognized Component - A component part, which has been previously evaluated by an accredited certification body with restrictions and must be evaluated as part of the basic product considering the restrictions as specified by the Conditions of Acceptability.

Listed Component - A component part, which has been previously Listed or Certified by an accredited Certification Organization with no restrictions and is used in the intended application within its ratings.

Unlisted Component - A part that has not been previously evaluated to the appropriate designated component standard. It may also be a Listed or Recognized component that is being used outside of its evaluated Listing or component recognition.

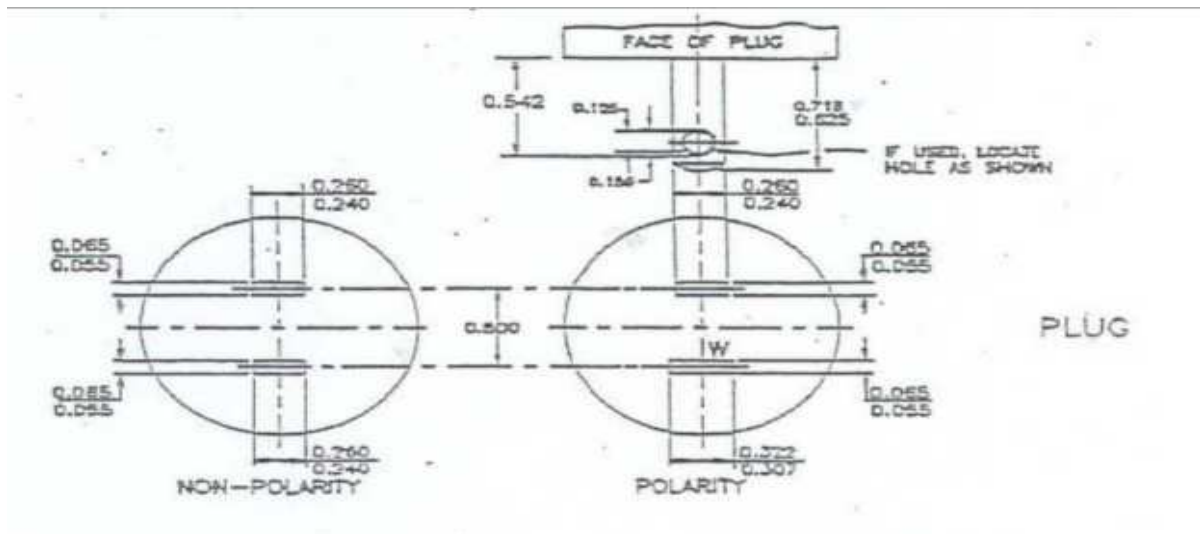
Critical Features/Components - An essential part, material, subassembly, system, software, or accessory of a product that has a direct bearing on the product's conformance to applicable requirements of the product standard.

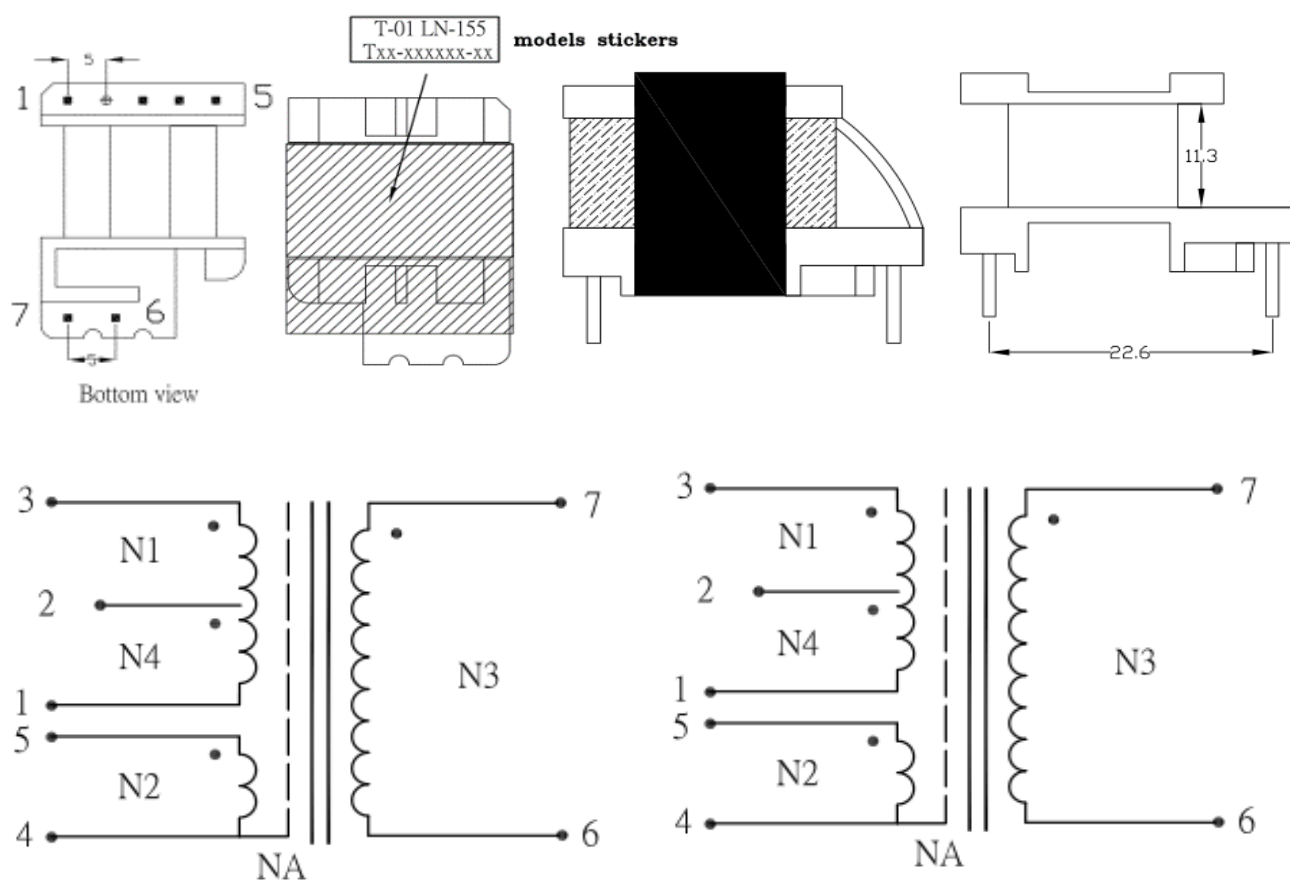
Construction Details - For specific construction details, reference should be made to the photographs and descriptions. All dimensions are approximate unless specified as exact or within a tolerance. In addition to the specific construction details described in this Report, the following general requirements also apply.

1. Spacing - Between the different polarity of live parts, between primary and secondary circuit, between primary circuit and accessible part, between core and accessible part, minimum 4.8mm spacing is maintained through air and over surfaces of insulating material. Between primary and secondary winding, between core to secondary winding of the transformer, between core and secondary component, minimum 6.4mm spacing is maintained through air and over surfaces of insulating material.
2. Mechanical Assembly - Components such as switches, fuseholders, connectors, wiring terminals and display lamps are mounted and prevented from shifting or rotating by the use of lockwashers, starwashers, or other mounting format that prevents turning of the component.
3. Corrosion Protection - All ferrous metal parts are protected against corrosion by painting, plating or the equivalent.
4. Accessibility of Live Parts - All uninsulated live parts in primary circuitry are housed within a non-metallic enclosure constructed with no openings other than those specifically described in Sections 4 and 5.
5. Grounding - This product is not provided with a means of grounding as it is not required to be grounded.
6. Internal Wiring - Internal wiring is routed away from sharp or moving parts. Internal wiring leads terminating in soldered connections are made mechanically secure prior to soldering. Recognized Component separable (quick disconnect) connectors of the positive detent type, closed loop connectors, or other types specifically described in the text of this report are also acceptable as internal wiring terminals. At points where internal wiring passes through metal walls or partitions, the wiring insulation is protected against abrasion or damage by plastic bushings or grommets.
7. Schematics - Refer to Illustration 4 for schematics requiring verification during Field Representative Inspection Audits.
8. Markings - The product is marked on label as described in item no. 4 of Section 4.0 as follows: cETLus certification mark, brand name, model, electrical rating. Refer to Illustrations 8.
9. Cautionary Markings - The cautionary marking are required. Refer to Illustration 8.
10. Installation, Operating and Safety Instructions - Instructions for installation and use of this product are provided by the manufacturer. Refer to Illustration 9 to 9a.
11. Transformer - Supplier records must be provided that indicate the received shipment of transformers (section 4.0, item 14) was constructed as indicated in illustrations 2. These records must be available at the factory for inspection on every received shipment.

7.0 Illustrations

Illustration 1 - Plug pin

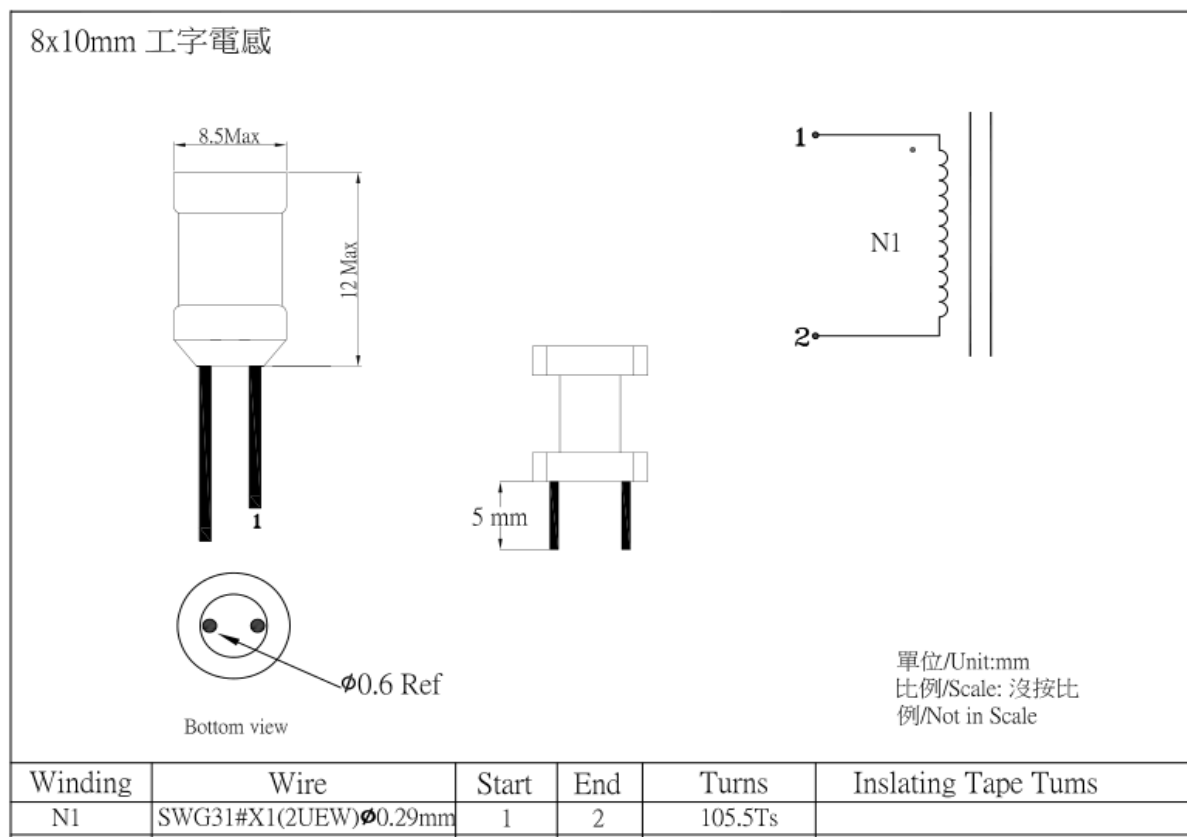


7.0 Illustrations**Illustration 2** - Transformer (T1) construction for model T-01

Winding	Wire	Start	End	Turns	Insulating Tape Turns
N1	Φ0.35mm x 1	3	2	28Ts	2 TURNS OF FR TAPE
N2	Φ0.18mm x 1	5	4	10Ts	2 TURNS OF FR TAPE
N3	TIW Φ0.75mm x1	7	6	9Ts	2 TURNS OF FR TAPE
NA	0.025 x 10mm	4	#	1.1Ts	2 TURNS OF FR TAPE
N4	Φ0.35mm x 1	2	1	23Ts	2 TURNS OF FR TAPE
Core					2 TURNS OF FR TAPE

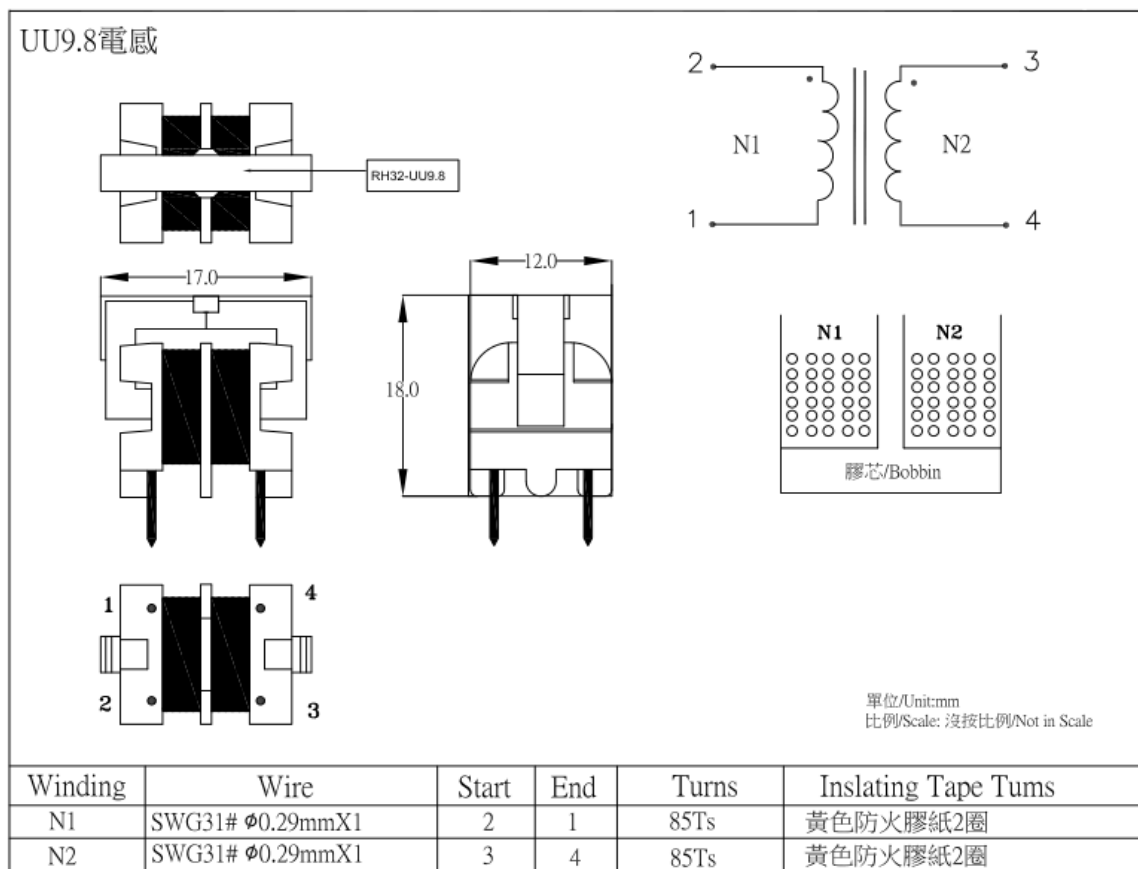
7.0 Illustrations

Illustration 3 - Line filter (L1)



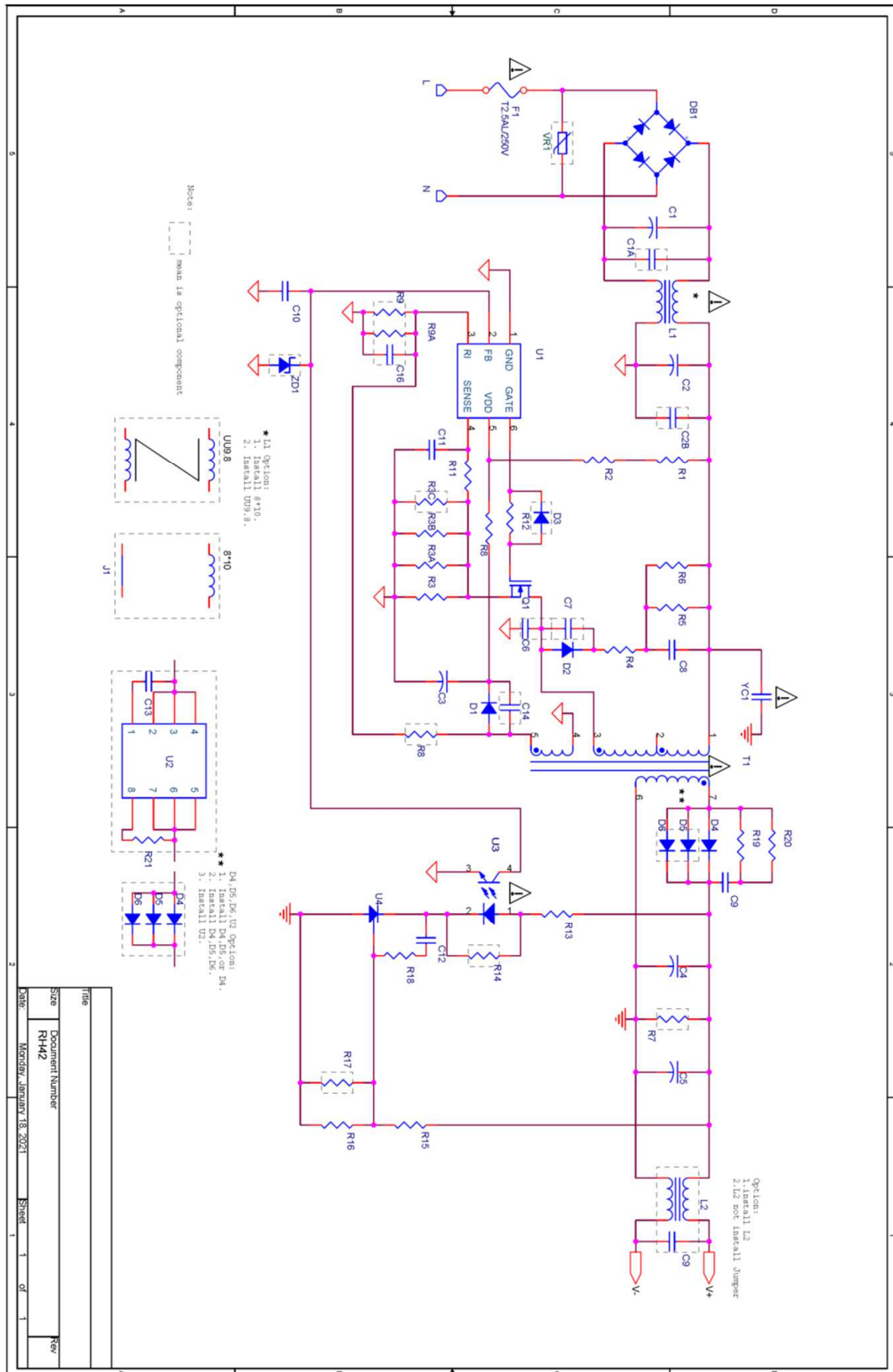
7.0 Illustrations

Illustration 3a - Line filter (L1)



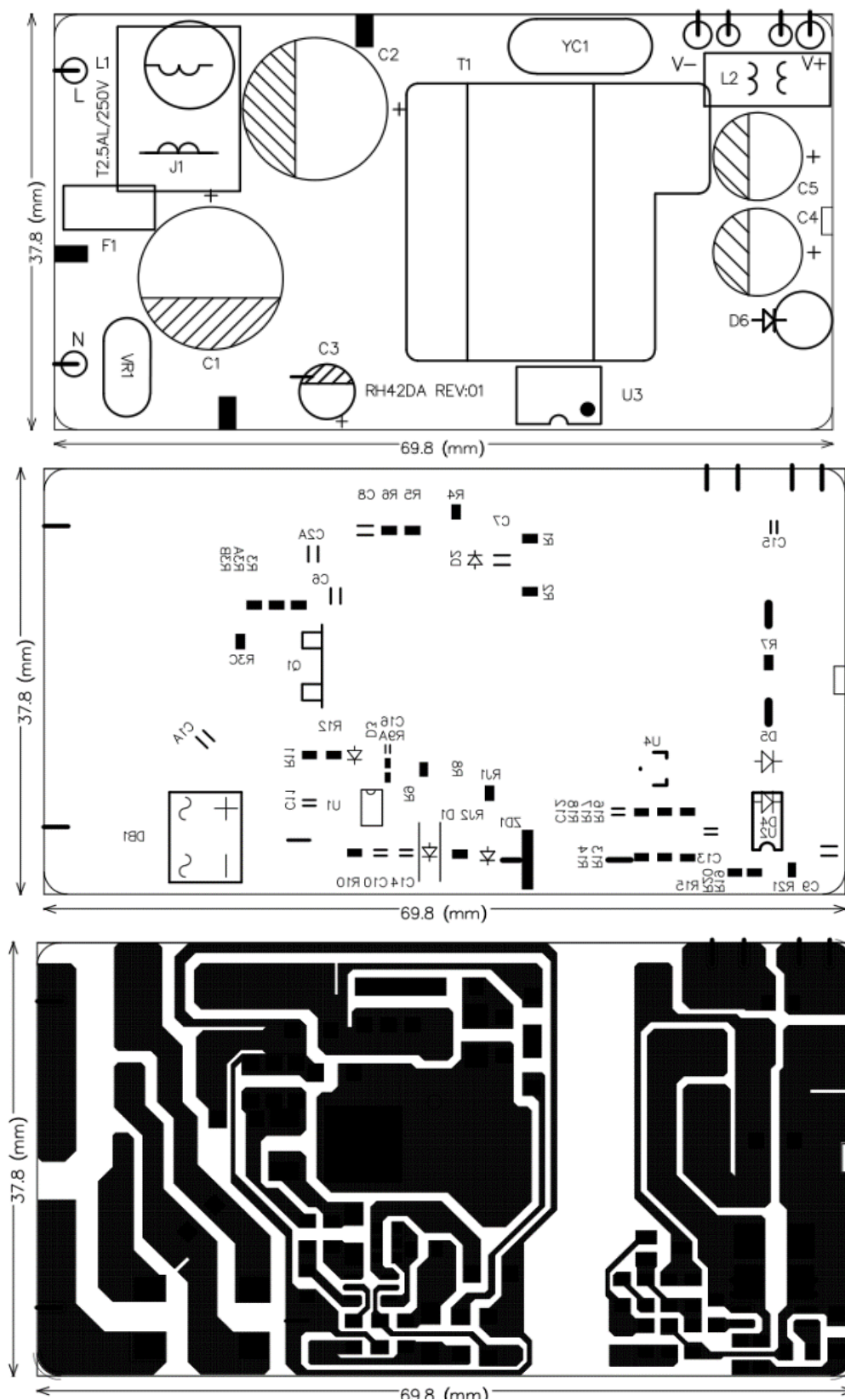
7.0 Illustrations

Illustration 4 - Circuit diagram



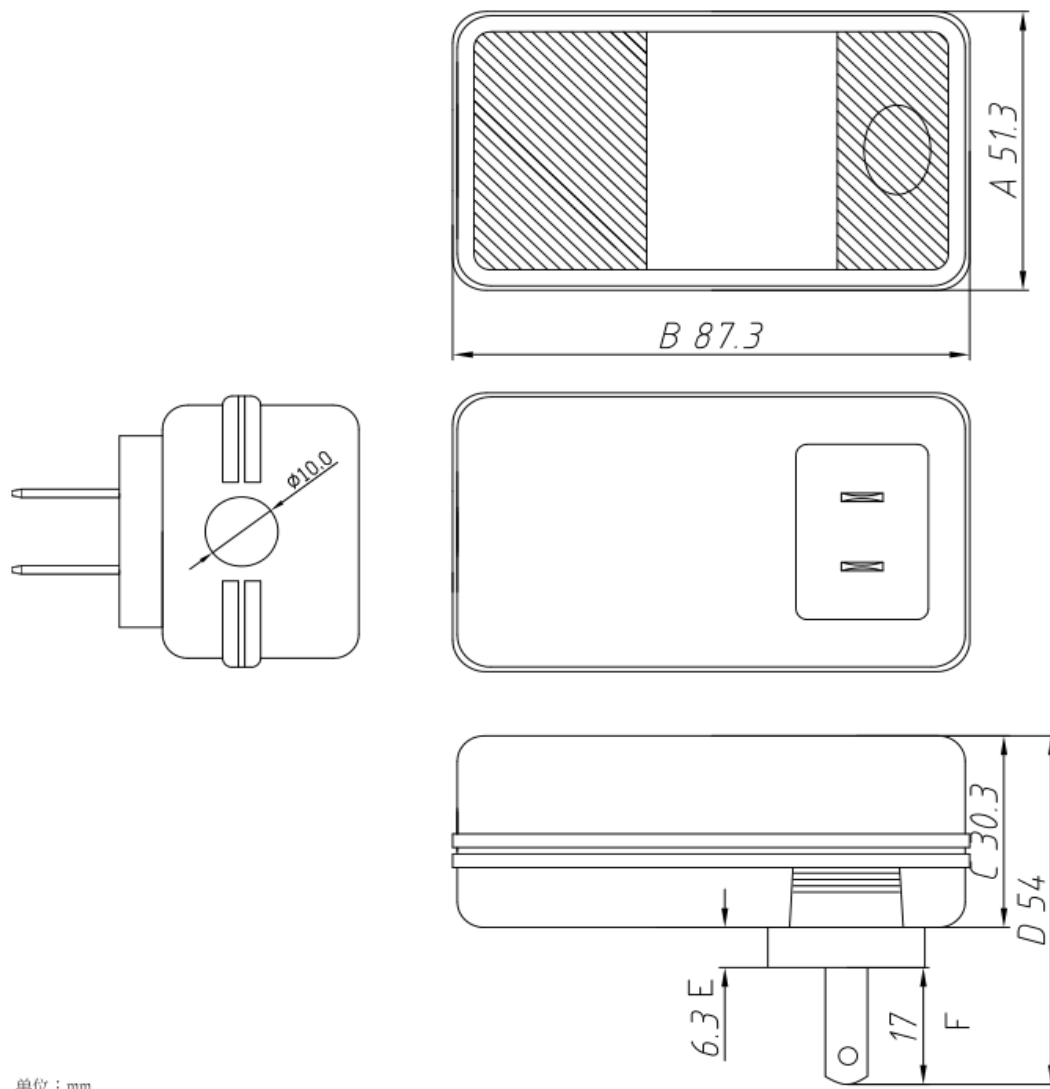
7.0 Illustrations

Illustration 5 - PCB layout



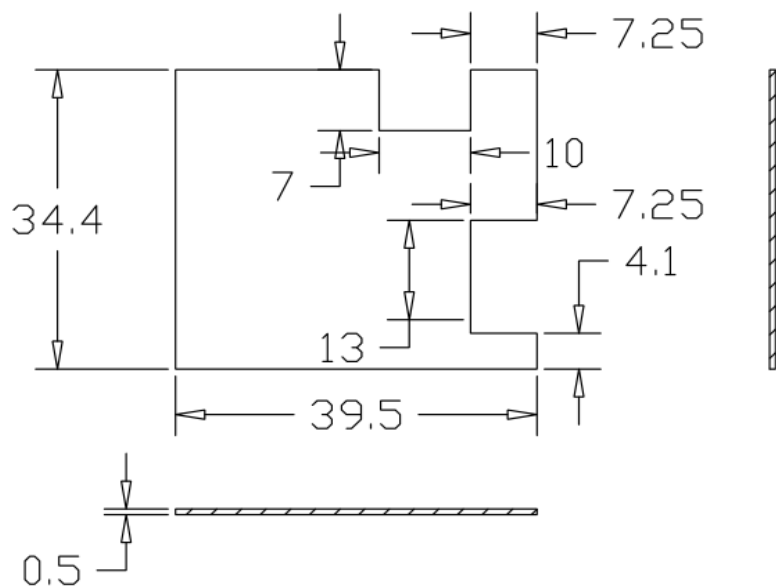
7.0 Illustrations

Illustration 6 - Enclosure drawing



7.0 Illustrations

Illustration 7 - Mylar sheet drawing



7.0 Illustrations

Illustration 8 - Marking

The following information was printed on label adhered, laser etching or craved on enclosure



WARNING: Risk of Electric Shock. Install only to a covered Class A GFCI receptacle that has an enclosure that is weatherproof with the attachment plug cap inserted or removed.

WARNING: Not for use with receptacles that are weatherproof only when the receptacle is covered (attachment plug cap not inserted and receptacle cover closed).

WARNING: Risk of Electric Shock. Mount the unit at a height greater than 0.3 m from the ground surface.

Remarks:

- The above markings are the sample for marking in series. The different model number and output rating will be changed.
- The above markings are the minimum requirements required by the safety standard. For the final productions samples, the additional markings which do not give rise to misunderstanding may be added.
- All parts of cETLus mark must be clearly legible when viewed on the product. The letters "CM" and "LISTED" inside cETLus mark must be visible.
- The letters "CAUTION" and "ATTENTION" in letters not less than 3.2mm high. The remaining letters shall not be less than 1.6mm high.
- Date Code "YYWW", "YY" means year, "WW" means week. e.g. 2032 means weeks 32 of 2020.

7.0 Illustrations**Illustration 9 - Instruction manual (English)**

User manual

CLASS 2 POWER UNIT

Model: RH-***-****U4

The 1st to 3rd "*" can be replaced by three digits from 090 to 240, indicate output voltage range from 9.0-24.0Vdc the minimum rising step by 0.1V, eg. 090=9.0V, 240=24.0V;

The 4th to 7th "*" can be replaced by three digits from 0010 to 3500, indicate output current range from 0.01-3.5A, the minimum rising step by 0.001A, eg. 0010=0.01A, 3500=3.5A

Input: 100-120V~ 50/60Hz 1.5A

Output: 9.0-24.0Vdc, 0.01-3.5A, 42.0W Max.

To comply with the published safety standards, the following must be observed when using this switching power supply.

Note:

IMPORTANT SAFETY INSTRUCTIONS-SAVE THESE INSTRUCTIONS and DANGER-TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, CAREFULLY FORLLow THESE INSTRUCTIONS.

1. READ AND FOLLOW ALL SAFETY INSTRUCTIONS.
2. Read and follow all instructions that are on the product or provided with the product.
3. The Power supply is certified according to the relevant safety standards UL1310.
4. The output power taken from the supply must not exceed the rating given on the adaptor.
5. The adapter is not intended to be repaired by service personnel in case of failure or component defect (unit can be thrown away).
6. The disconnection from line voltage is made by main plug.
7. This power unit is intended to be correctly orientated in a vertical or floor mount position.
8. For connection to a supply not in the U.S.A., use an attachment plug adapter of the proper configuration for the power outlet, if needed.
9. For a direct plug-in power unit marked in accordance with 65.2:
WARNING: Risk of Electric Shock. When used outdoors, install only to a covered Class A GFCI protected receptacle that is weatherproof with the power unit connected to the receptacle. If one is not provided, contact a qualified electrician for proper installation. Ensure that the power unit and cord do not interfere with completely closing the receptacle cover.
10. WARNING: Risk of Fire. Installation involves special wiring methods to run wiring through a building structure. Consult a qualified electrician.
11. For a unit intended to be mounted greater than 0.30 m (1 foot) from the ground surface:
WARNING: Risk of Electric Shock. Mount the unit at a height greater than 1 foot from the ground surface.

SAVE THESE INSTRUCTIONS – This manual contains important safety and operating instructions for power units.

-The letters "IMPORTANT SAFETY INSTRUCTIONS-SAVE THESE INSTRUCTIONS and DANGER-TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, CAREFULLY FORLLow THESE INSTRUCTIONS" in letter of 1/8 inch (3.18mm) high or in a readily visible contrasting text.

7.0 Illustrations

Illustration 9a - Instruction manual (French)

Bedienungsanleitung

CLASS 2 POWER UNIT

Model: RH-***-****U4

The 1st to 3rd "*" can be replaced by three digits from 090 to 240, indicate output voltage range from 9.0-24.0Vdc the minimum rising step by 0.1V, eg. 090=9.0V, 240=24.0V;

The 4th to 7th "*" can be replaced by three digits from 0010 to 3500, indicate output current range from 0.01-3.5A, the minimum rising step by 0.001A, eg. 0010=0.01A, 3500=3.5A

Eingang: 100-120V~ 50/60Hz 1.5A

Ausgang: 9.0-24.0Vdc, 0.01-3.5A, 42.0W Max.

Pour se conformer aux normes de sécurité publiées, les conditions suivantes doivent être observées lors de l'utilisation de cette alimentation de commutation.

Notez :

CONSIGNES DE SÉCURITÉ IMPORTANTES – sauvent (économisent) CES INSTRUCTIONS et DANGER - POUR RÉDUIRE LE RISQUE DU FEU OU LA DÉCHARGE ÉLECTRIQUE, SOIGNEUSEMENT FORLLOW CES INSTRUCTIONS.

1. LISEZ ET SUIVEZ TOUTES LES INSTRUCTIONS DE SÉCURITÉ.
 2. Lisez et suivez toutes les instructions figurant sur le produit ou fournies avec le produit.
 3. L'alimentation est certifiée selon les normes de sécurité pertinentes UL1310.
 4. La puissance de sortie prélevée sur l'alimentation ne doit pas dépasser la valeur nominale indiquée sur l'adaptateur.
 5. L'adaptateur n'est pas destiné à être réparé par le personnel de service en cas de panne ou de défaut de composant (l'unité peut être jetée).
 6. La déconnexion de la tension secteur se fait par la prise principale.
 7. Ce bloc d'alimentation est conçu pour être correctement orienté en position de montage vertical ou au sol.
 8. Pour la connexion à une alimentation non aux États-Unis, utilisez un adaptateur de fiche de connexion de la configuration appropriée pour la prise de courant, si nécessaire.
 9. Pour un bloc d'alimentation enfichable direct marqué conformément à 65.2:
AVERTISSEMENT: Risque d'électrocution. Lorsqu'il est utilisé à l'extérieur, installez uniquement sur une prise couverte de classe A protégée par GFCI et résistant aux intempéries avec le bloc d'alimentation connecté à la prise. Si aucun n'est fourni, contactez un électricien qualifié pour une installation correcte. Assurez-vous que le bloc d'alimentation et le cordon n'interfèrent pas avec la fermeture complète du couvercle de la prise.
 10. AVERTISSEMENT: Risque d'incendie. L'installation implique des méthodes de câblage spéciales pour faire passer le câblage à travers une structure de bâtiment. Consultez un électricien qualifié.
 11. Pour une unité destinée à être montée à plus de 0,30 m (1 pied) de la surface du sol:
AVERTISSEMENT: Risque d'électrocution. Montez l'unité à une hauteur supérieure à 1 pied de la surface du sol.
- CONSERVEZ CES INSTRUCTIONS - Ce manuel contient des instructions de sécurité et de fonctionnement importantes pour les unités motrices.

7.0 Illustrations

Illustration 10 - Model list

Model list

Product: CLASS 2 POWER UNIT

Model: RH-***-****U4

The 1st to 3rd "" can be replaced by three digits from 090 to 240, indicate output voltage range from 9.0-24.0Vdc the minimum rising step by 0.1V, eg. 090=9.0V, 240=24.0V;

The 4th to 7th "" can be replaced by three digits from 0010 to 3500, indicate output current range from 0.01-3.5A, the minimum rising step by 0.001A, eg. 0010=0.01A, 3500=3.5A

Input: 100-120V~ 50/60Hz 1.5A

Output: 9.0-24.0Vdc, 0.01-3.5A, 42.0W Max.

Model	Output voltage (Vdc)	Output current (mA)	Max. Output Power (W)	Transformer (T1) type
RH-***-****U4	9.0 - 24.0	10-3500	42.0	T-01

8.0 Test Summary

Evaluation Period	08-Feb-21 to 02-Mar-21		Project No.	HK21020419
Sample Rec. Date	08-Feb-21	Condition	Prototype	Sample ID. #1-#6
Test Location	Intertek Testing Services Hong Kong Ltd. 2/F., Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong SAR, China			
Test Procedure	Testing Lab			

Determination of the result includes consideration of measurement uncertainty from the test equipment and methods. The product was tested as indicated below with results in conformance to the relevant test criteria.

The following tests were performed:

Test Description	UL 1310:2018 Ed.7+R:16Aug20 19 Clause	CSA C22.2#223:201 5 Ed.3 Clause	UL 746C, 6th Edition, rev. June 23, 2015 Clause
Leakage Current test	26	6.6	--
Leakage Current Test and Dielectric Voltage Withstand	27	--	--
Maximum Output Voltage Test	28	--	--
Maximum Input Test	29	--	--
Output Current and Power Test	30	--	--
Full-Load Output Current Test	32	--	--
Normal Temperature Test	33	6.4	--
Dielectric Voltage Withstand test	34	6.5	--
Operation Test	38	--	--
Abnormal Tests	39	6.8	--
Tests on Insulating Materials	40	6.14	--
Strain Relief Test	41	--	--
Push Relief Test	42	--	--
Direct Plug-in Blade Secureness Tes	43		
Direct Plug-in Security of Input Contacts Test	44		
Abuse Tests	46	--	--
Rating	--	6.3	--
Secondary Circuit Protection	--	6.7	--
Drop and Impact	--	6.9	--
Strain Relief and Blade Retention	--	6.10	--
Securment of Components	--	6.12	--
Compression (rod)	--	6.15	--
Deformation (non-metallic enclosures)	--	6.16	--
Rain Test	--	6.17	--
Strain Relief Test after Mold Stress Relief Distortion Test	--	--	31
Mold Stress Relief Distortion Test	--	--	61

Remarks:

Rated max. ambient temperature (Ta) 40°C was considered and specific by client.

8.1 Signatures

A representative sample of the product covered by this report has been evaluated and found to comply with the applicable requirements of the standards indicated in Section 1.0.

Completed by:	Ivan Chau	Reviewed by:	Lam Chi Ho
Title:	Assistant Engineer	Title:	Manager
Signature:		Signature:	

9.0 Correlation Page For Multiple Listings

The following products, which are identical to those identified in this report except for model number and Listee name, are authorized to bear the ETL label under provisions of the Intertek Multiple Listing Program.

BASIC LISTEE	DONGGUAN RONG HANG ELECTRONIC TECHNOLOGY CO LTD
Address	3F, Building 3, Gekeng Industrial Zone, Hengli Town, DONGGUAN City, 523460 GUANGDONG
Country	CHINA
Product	CLASS 2 POWER UNIT

MULTIPLE LISTEE 1	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	
MULTIPLE LISTEE 1 MODELS	BASIC LISTEE MODELS

MULTIPLE LISTEE 2	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	
MULTIPLE LISTEE 2 MODELS	BASIC LISTEE MODELS

MULTIPLE LISTEE 3	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	
MULTIPLE LISTEE 3 MODELS	BASIC LISTEE MODELS

10.0 General Information

The Applicant and Manufacturer have agreed to produce, test and label ETL Listed products in accordance with the requirements of this Report. The Manufacturer has also agreed to notify Intertek and to request authorization prior to using alternate parts, components or materials.

COMPONENTS**LISTING MARK**

The ETL Listing mark applied to the products shall either be separable in form, such as labels purchased from Intertek, or on a product nameplate or other media only as specifically authorized by Intertek. Use of the mark is subject to the control of Intertek.

The mark must include the following four items:

- 1) applicable country identifiers "US" and/or "C" or "US", "C" and "EU"
- 2) the word "Listed" or "Classified" or "Recognized Component" (whichever is appropriate)
- 3) a control number issued by Intertek
- 4) a product descriptor that identifies the standards used for certification. Example:

For US standards, the words, "Conforms to" shall appear with the standard number along with the word, "Standard" or "Std." Example: "Conforms to ANSI/UL Std. XX."

For Canadian standards, the words "Certified to CAN/CSA Standard CXX No. XX." shall be used, or abbreviated, "Cert. to CAN/CSA Std. CXX No. XX."

Can be used together when both standards are used.

Note: A facsimile must be submitted to Intertek, Attn: Follow-up Services for approval prior to use.

The facsimile need not have a control number. A control number will be issued **after signed Certification**

Agreements have been received by the Follow-up Services office, approval of the facsimile of your proposed Listing Mark, satisfactory completion of the Listing Report, and scheduling of a factory assessment in your facility.

MANUFACTURING AND PRODUCTION TESTS

Manufacturing and Production Tests shall be performed as required in this Report.

FOLLOW-UP SERVICE

Periodic unannounced audits of the manufacturing facility (and any locations authorized to apply the mark) shall be scheduled by Intertek. An audit report shall be issued after each visit. Special attention will be given to the following:

1. Conformance of the manufactured product to the descriptions in this Report.
2. Conformance of the use of the ETL mark with the requirements of this Report and the Certification Agreement.
3. Manufacturing changes.
4. Performance of specified Manufacturing and Production Tests.

In the event that the Intertek representative identifies non-conformance(s) to any provision of this Report, the Applicant shall take one or more of the following actions:

1. Correct the non-conformance.
2. Remove the ETL Mark from non-conforming product.
3. Contact the issuing product safety evaluation center for instructions.

10.1 Evaluation of Unlisted Components

Because Unlisted Components are uncontrolled, and they do not fall under a third party follow up program, Intertek may require these components to be tested and/or evaluated at least once annually, more often for certain components, as part of the independent certification process. The Unlisted Components in Section 5.0 require testing and/or evaluation as indicated.

The Applicant will be notified, in writing, via the applicable contact methods, as defined in Section 1.0, when these components must be selected and sent to Component Evaluation Center (CEC) for re-evaluation.

Due to particular testing requirements, some components may be requested to be shipped to specific labs. Thus, specific shipment destination(s) for each sample will be provided in the written notification.

Managing CEC Location:

Intertek Testing Services Hong Kong Limited

ETL Component Evaluation Center

Unit H, 3/F., Garment Centre, 576 Castle Peak Road

Kowloon, Hong Kong

Attn: Sample Room

Sample Disposition: Due to the destructive nature of the testing, all samples will be discarded at the conclusion of testing unless, the manufacturer specifically requests the return of the samples. The request for return must accompany the initial component shipment.

11.0 Manufacturing and Production Tests

The manufacturer agrees to conduct the following Manufacturing and Production Tests as specified:

Required Tests

Dielectric Voltage Withstand Test

11.1 Dielectric Voltage Withstand TestMethod

One hundred percent of production of the products covered by this Report shall be subjected to a routine production line dielectric withstand test.

The test shall be conducted on products, which are fully assembled. Prior to applying the test potential, all switches, contractors, relays, etc., should be closed so that all primary circuits are energized by the test potential. If all primary circuits cannot be tested at one time, then separate applications of the test potential shall be made.

The test voltage specified below shall be applied between primary circuits and accessible dead-metal parts. The test voltage may be gradually increased to the specified value but must be maintained at the specified value for one second or one minute as required.

Test Equipment

The test equipment shall incorporate a transformer with an essentially sinusoidal output, a means to indicate the applied test potential, and an audible and/or visual indicator of dielectric breakdown.

The test equipment shall incorporate a voltmeter in the output circuit to indicate directly the applied test potential if the rated output of the test equipment is less than 500VA.

If the rated output of the test equipment is 500VA or more, the applied test potential may be indicated by either:

- 1 - a voltmeter in the primary circuit;
- 2 - a selector switch marked to indicate the test potential; or
- 3 - a marking in a readily visible location to indicate the test potential for test equipment having a single test potential output.

In cases 2 and 3, the test equipment shall include a lamp or other visual means to indicate that the test potential is present at the test equipment output. All test equipment shall be maintained in current calibration.

Products Requiring Dielectric Voltage Withstand Test:

<u>Product</u>	<u>Test Voltage</u>	<u>Test Time</u>
All products covered by this Report. (Input and Output, Input and accessible Surface)	1200V	1 s
	or	
	1000V	60 s
<u>Product</u>	<u>Test Voltage</u>	<u>Test Time</u>
One sample from each shipment of transformer (section 4.0, item 14): (Primary and secondary winding, Core and secondary winding)	1200V	1 s
	or	
	1000V	60 s

12.0 Revision Summary

The following changes are in compliance with the declaration of Section 8.1:

[illegible]