

UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2014-10-14 (Information Technology Equipment - Safety - Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Listing
CCN:	QQGQ, QQGQ7 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
Product:	Switching Mode Power Adaptor
Model:	F05L5-xxxyyySPAU; F05L5-xxxyyySPAU-U (where 'xxx' are 3 digit numbers from 040 to 130 which represents the output voltage in voltage dividing by 10, for example ,050 represents output voltage is 5Vdc, 'yyy' are 3digit numbers from 001 to 100 which represents the output current in Ampere after dividing by 100, for example ,100 represents output current is 1.0A, F05L5-xxxyyySPAU represents the output connect used of the DC wire ,F05L5-xxxyyySPAU-U represents the output connect used of the USB port).
Rating:	I/P: 100-120Vac or 100-240Vac, 50/60Hz, 0.2A O/P: See Enclosure Miscellaneous 7-04 for detail.
Applicant Name and Address:	SHENZHEN FRECOM ELECTRONICS CO LTD FRECOM BLDG FUCHUAN TECHNOLOGY ZONE TONGFUYU INDUSTRY GUANGMING ST BAOAN DISTRICT SHENZHEN GUANGDONG 518107 CHINA

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Issue Date: 2015-02-11
2015-06-04

Page 2 of 13

Report Reference #

E257831-A19-UL

Prepared by: Candy Guo

Reviewed by: Kenny Lin

Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

- A. Authorization - The Authorization page may include additional Factory Identification Code markings.
- B. Generic Inspection Instructions -
 - i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
 - ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
 - iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

Direct Plug In Adaptor. All electrical components mounted on PWB and housed in plastic enclosure. Provided with non-polarized input blades (NEMA plug type 1-15P) and non-standard polarized output connector or output leads.

Model Differences

All models have the same circuit diagram, PCB layout except for output rating, model name and output type.

Technical Considerations

- Equipment mobility : direct plug-in
- Connection to the mains : pluggable A
- Operating condition : continuous
- Access location : operator accessible
- Over voltage category (OVC) : OVC II
- Mains supply tolerance (%) or absolute mains supply values : +10%, -10%
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class II (double insulated)
- Considered current rating of protective device as part of the building installation (A) : 20 A
- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : up to 5000
- Altitude of test laboratory (m) : less than 2000 meters
- Mass of equipment (kg) : less than 0.06 Kg
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 45°C
- The means of connection to the mains supply is: Pluggable A (DPIU)
- The product is intended for use on the following power systems: TN

- The equipment disconnect device is considered to be: Plug
- The product was investigated to the following additional standards: The blade dimension was evaluated for compliance with NEMA configurations in accordance with Wiring Devices - Dimensional Specifications, ANSI/NEMA WD6.
- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): Output terminal.
- The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual

Additional Information

The components L3,C3 and C5 in the circuit are optional.

Revision for Project 4786939993:

Alternate Transformer (Model 16015000900R) for F05L5-xxxxxyySPA models which output voltage 11.0-13.0Vdc.

Additional Standards

The product fulfills the requirements of: N/A

Markings and instructions

Clause Title	Marking or Instruction Details
LPS Mark (Optional)	LPS
1.7.1 Power rating - Ratings	Ratings (voltage, frequency/dc, current)
1.7.1 Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
1.7.1 Power rating - Model	Model Number
1.7.1 Power rating - Class II symbol	Symbol for Class II construction
1.7.6 Fuses - Rating	Rated current and voltage and type located on or adjacent to fuse or fuseholder.

Special Instructions to UL Representative

Inspect the transformer(s) listed in table "Electric Strength Test Special Constructions" per AA1.1– (C): When the tests are conducted at other location, inspect test record and specification sheet provided by the component manufacturer. Verify the specification sheet indicates 100% routine test specified in the table be

conducted at the component manufacturer.

Production-Line Testing Requirements

Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.

Model	Component	Removable Parts	Test probe location	V rms	V dc	Test Time, s
All models	T1	-	Primary-Secondary	300 0	4242	1

Earthing Continuity Test Exemptions - This test is not required for the following models:

All models

Electric Strength Test Exemptions - This test is not required for the following models:

-

Electric Strength Test Component Exemptions - The following solid-state components may be disconnected from the remainder of the circuitry during the performance of this test:

-

Sample and Test Specifics for Follow-Up Tests at UL

Model	Component	Material	Test	Sample(s)	Test Specifics
-	-	-	-	-	-

1.5.1	TABLE: list of critical components					Pass
Object/part or Description	Manufacturer/ trademark	type/model	technical data	Product Category CCN(s)	Required Marks of Conformity	Supplement ID
01. Enclosure	SABIC INNOVATIVE PLASTICS US L L C (E121562)	945 (GG)	HWI 3, V-0, 120 degree C, Minimum thickness 2.0mm, two parts sealed by ultrasonic, measured overall dimension approx. 49.6 x 38.5 x 26.8mm. See enclosure 7-01 for details.	QMFZ2/8	UL	
02. plug holder	SABIC INNOVATIVE PLASTICS US L L C (E121562)	945 (GG)	HWI 3, V-0, 120 degree C, Minimum thickness 2.0mm	QMFZ2/8	UL	
03. Input Blades	--	--	Copper or Copper alloy, non-polarized, solid copper alloy (NEMA 1-15P configuration). Integrally melded onto enclosure, the perimeter of the face section from which the blade projection is minimum 5.1 mm from any point on either blade.	--	--	
04. PCB	Interchangeable	Interchangeable	V-1 or better, 130 degree C	ZPMV2/8	UL	
05. Current fuse (F1)	Interchangeable	Interchangeable	Rated T2.0AL, 250Vac.	JDYX7	UL	
05a. Current fuse (F1) (Alternative)	SHENZHEN LANSON ELECTRONICS CO LTD(E221465)	3N	Rated T2.0AL, 250Vac.	JDYX2/8	UL	
05b. Current fuse (F1) (Alternative)	CONQUER ELECTRONICS CO LTD(E82636)	PTU	Rated T2.0AL, 250Vac.	JDYX2/8	UL	
05c. Fusing Resistors (F1) (Alternative)	JIEYANG MADEFORCE ELECTRONIC CO LTD (E358222)	RX21-2W	Rated 10 ohm, 2W; 250Vac; Rated 20 ohm, 2W, 250Vac	FPEW2	UL	
05d. Fusing Resistors	SHENZHEN YINGFA	RXF-2WS Series	Rated 10 ohm, 2W; 250Vac;	FPEW2/8	UL	

(F1) (Alternative)	ELECTRONICS CO LTD(E356782)		Rated 20 ohm, 2W, 250Vac			
05e. Fusing Resistors (F1) (Alternative)	ANHUI CHANGSHENG ELECTRONICS CO LTD(E306095)	FRT-2W, RXF21-2W	Rated 10 ohm, 2W; 250Vac; Rated 20 ohm, 2W, 250Vac	FPEW2/8	UL	
05f. Fusing Resistors (F1) (Alternative)	DONGGUAN HONGDA ELECTRONIC TECHNOLOGY CO LTD(E359590)	RXF	Rated 10 ohm,2W, 350Vac; Rated 20 ohm,2W, 350Vac	FPEW2/8	UL	
06. Varistor (MOV1) (Optional)	SUCSESSES ELECTRONICS CO., LTD(E330256)	SVR10D471K, SVR10D561K, SVR10D681K, SVR10D911K, SVR14D471K, SVR14D561K, SVR14D681K, SVR14D911K	Minimum 300Vac, complied with 6KV3KA test. Epoxy powder coating, rating V-0	VZCA2/8	UL	
06a. Varistor (MOV1) (Optional) (Alternate)	THINKING ELECTRONIC INDUSTRIAL CO LTD (E314979)	TVR10471K, TVR10561K, TVR10681K, TVR10911K, TVR14471K, TVR14561K, TVR14681K, TVR14911K	Minimum 300Vac, complied with 6KV3KA test. Epoxy powder coating, rating V-0	VZCA2/8	UL	
06b. Varistor (MOV1) (Optional) (Alternate)	CENTRA SCIENCE CORP (E316325)	CNR-14D471K, CNR-14D561K, CNR-14D681K, CNR-14D911K	Minimum 300Vac, complied with 6KV3KA test. Epoxy powder coating, rating V-0	VZCA2/8	UL	
06c. Varistor (MOV1) (Optional) (Alternate)	Cerglass Mfg Inc (E317616)	10D471K, 10D561K, 10D681K, 14D471K, 14D561K, 14D681K	Minimum 300Vac, complied with 6KV3KA test. Epoxy powder coating, rating V-0	VZCA2/8	UL	

		14D911K				
06d. Varistor (MOV1) (Optional) (Alternate)	SHANTOU HIGH- NEW TECHNOLOGY DEVELOPMNT ZONE SONGTIAN ENTERPRISE CO LTD (E330837)	14D471K, 14D561K, 14D681K, 14D911K	Minimum 300Vac, complied with 6KV3KA test. Epoxy powder coating, rating V-0	VZCA2/8	UL	
06e. Varistor (MOV1) (Optional) (Alternate)	HONGZHI ENTERPRISES LTD (E324904)	HEL10D471K, HEL10D561K, HEL10D681K, HEL10D911K, HEL14D471K, HEL14D561K, HEL14D681K, HEL14D911K	Minimum 300Vac, complied with 6KV3KA test. Epoxy powder coating, rating V-0	VZCA2/8	UL	
06f. Varistor (MOV1) (Optional) (Alternate)	CERAMATE TECHNICAL CO LTD (E315429)	GNR14D471K GNR14D561K GNR14D681K GNR14D911K	Minimum 300Vac, complied with 6KV3KA test. Epoxy powder coating, rating V-0	VZCA2/8	UL	
06g. Varistor (MOV1) (Optional) (Alternate)	Lien Shun Electronics Co.,Ltd (E315524)	10D471K, 10D561K, 10D681K, 10D911K, 14D471K, 14D561K, 14D681K, 14D911K	Minimum 300Vac, complied with 6KV3KA test. Epoxy powder coating, rating V-0	VZCA2/8	UL	
06h. Varistor (MOV1) (Optional) (Alternate)	Brightking(ShenZhen) Co.,Ltd. (E327997)	10D471K, 10D561K, 10D681K 10D911K, 14D471K, 14D561K, 14D681K 14D911K	Minimum 300Vac, complied with 6KV3KA test. Epoxy powder coating, rating V-0	VZCA2/8	UL	
07. Y- Capacitor (CY1)	Shantou High-New	CD	Rated Maximum 1000pF,	FOWX2/8	UL	

(optional)	Technology Dev. Zone Songtian Enterprise Co., Ltd. (E208107)		minimum 250Vac, 125 degree C Meets with the 21 days damp heat steady-state test of IEC 60384-14.			
07a. Y- Capacitor (CY1) (optional) (Alternative)	Shenzhen Teruixiang Electronic Co, Ltd. (E315719)	TY	Rated Maximum 1000pF, minimum 250Vac, 125 degree C Meets with the 21 days damp heat steady-state test of IEC 60384-14.	FOWX2/8	UL	
07b. Y- Capacitor (CY1) (optional) (Alternative)	HAOHUA ELECTRONIC CO. (E233106)	CT7	Rated Maximum 1000pF, minimum 250Vac, 125 degree C Meets with the 21 days damp heat steady-state test of IEC 60384-14.	FOWX2/8	UL	
07c. Y- Capacitor (CY1) (optional) (Alternative)	DONGGUAN EASY- GATHER ELECTRONIC CO LTD(E252221)	DCF	Rated Maximum 1000pF, minimum 250Vac, 125 degree C Meets with the 21 days damp heat steady-state test of IEC 60384-14.	FOWX2/8	UL	
07d. Y- Capacitor (CY1) (optional) (Alternative)	GUANGDONG SOUTH HONGMING ELECTRONIC SCIENCE & TECHNOLOGY CO LTD(E154899)	F	Rated Maximum 1000pF, minimum 250Vac, 125 degree C Meets with the 21 days damp heat steady-state test of IEC 60384-14.	FOWX2/8	UL	
07e. Y- Capacitor (CY1) (optional) (Alternative)	SUCCESS ELECTRONICS CO LTD(E114280)	SE, SB	Rated Maximum 1000pF, minimum 250Vac, 125 degree C Meets with the 21 days damp heat steady-state test of IEC 60384-14.	FOWX2/8	UL	
07f. Y- Capacitor (CY1) (optional) (Alternative)	SHENZHEN HAOTIAN ELECTRONIC CO LTD(E326483)	HT	Rated Maximum 1000pF, minimum 250Vac, 125 degree C Meets with the 21 days damp heat steady-state test of IEC 60384-14.	FOWX2/8	UL	
07g. Y- Capacitor (CY1)	Anshan Kei Fat	CT7	Rated Maximum 1000pF,	FOWX2/8	UL	

(optional) (Alternative)	Electronic Ceramic Technical Co.,Ltd(E232980)		minimum 250Vac,125 degree C Meets with the 21 days damp heat steady-state test of IEC 60384-14.			
08. Heat shrinkable tube (used on F1)	Interchangeable	Interchangeable	Rated 600 V, 125 degree C, VW-1.	YDPU2/8	UL	
09. Electrolytic Capacitor (C1, C2)	Interchangeable	Interchangeable	Rated 2.2-6.8uF, Minimum 400V, 105 degree C	--	--	
10. Diode (BD1)	Interchangeable	Interchangeable	Minimum 1A, Minimum 600V	--	--	
11. Transistor(Q1)	Interchangeable	Interchangeable	Minimum 1A, Minimum 600V	--	--	
12. Line Filter (LF1) (optional)	SHENZHEN FRECOM ELECTRONICS CO LTD	F-00108220F	Rated 130 degree C	--	--	
12-1. Magnet wire	Interchangeable	Interchangeable	Rated minimum 130 degree C	OBMW2/8	UL	
12-2. Core	Interchangeable	Interchangeable	Ferrite, Measured overall 9.2mm by 9mm	--	--	
12-2. Bobbin	SUMITOMO BAKELITE CO LTD (E41429)	PM-9820	Phenolic, rated V-0, 150 degree C, Minimum 0.45mm thickness.	QMFZ2	UL	
13. Line Filter (L1) (optional)	ANHUI CHANG SHENG ELECTRONICS CO LTD	LGA0510-102K, LGA0410-102K	Rated 130 degree C	--	--	
13a. Line Filter (L1) (optional)	JIEYANG MADEFORCE ELECTRONIC CO LTD	LGA0510, LGA0410	Rated 130 degree C	--	--	
13b. Line Filter (L1) (optional)	B&M Magnetism Technology Limited	AL0510-102K, AL0410-102K	Rated 130 degree C	--	--	
13c. Line Filter (L1) (optional)	ShenZhen Anbel TECH Co.,Ltd	LGA0510-102KP52E, LGA0410-102KP52E	Rated 130 degree C	--	--	
13d. Line Filter (L1) (optional)	GuangDong FengHua Advanced Technology Holding	LGA-0510, LGA-0410	Rated 130 degree C	--	--	

	Co.,Ltd					
14. Transformer (T1)	Shenzhen Frecom Electronics Co Ltd	F05L5-050100-T1 EE-13 (4.0-7.0V), F05L5-060080-T1 EE-13 (5.0-8.0V), F05L5-120050-T1 EE-13, or 16015000900R (11.0-13.0V)	Class B, Rated 130 degree C	--	--	
14-1. Insulation system	SHENZHEN FRECOM ELECTRONICS CO LTD (E301301)	SBI4.2	Class B	OBJY2	UL	
14-2. Magnet wire	Interchangeable	MW 28, MW 75	Rated minimum 130 degree C, Polyurethane	OBMW2/8	UL	
14-3. Triple Wire	FURUKAWA ELECTRIC CO LTD (E206440)	TEX-E	Rated 130 degree C	OBJT2	UL	
14-3a. Triple Wire (Alternative)	TOTOKU ELECTRIC CO LTD (E166483)	TIW-2X	Rated 130 degree C	OBJT2	UL	
14-4. Core	Interchangeable	Interchangeable	Ferrite, Measured overall 16.3mm by 15.0mm by 9.5mm	--	--	
14-5. Bobbin	SUMITOMO BAKELITE CO LTD (E41429)	Sumikon PM-9820	Phenolic, rated V-0, 150 degree C, Minimum 0.45mm thickness.	QMFZ2	UL	
14-6. Insulation Tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD (E165111)	PZ, CT, WF	Rated 130 degree C	OANZ2	UL	
14-7. Varnish	ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC (E75225)	V1630FS Black	Rated Minimum 155 degree C.	OBOR2	UL	
15. Mylar sheet (enclosed capacitor, C4)	SICHUAN DONGFANG	DFPET 6023	VTM-2, 105 degree C, minimum thickness 0.25mm	QMFZ2	UL	

	INSULATING MATERIAL CO LTD(E199019)					
15a. Mylar sheet (Alternative)	JIANGSU YUXING FILM TECHNOLOGY CO LTD(E212271)	6023D	VTM-2, 105 degree C, minimum thickness 0.25mm	QMFZ2/8	UL	
15b. Mylar sheet (Alternative)	DUPONT HONGJI FILMS FOSHAN CO LTD(E241830)	MO31	VTM-2, 105 degree C, minimum thickness 0.25mm	QMFZ2/8	UL	
15c. Mylar sheet (Alternative)	SABIC INNOVATIVE PLASTICS US L L C(E121562)	FR700(GG)	V-0, 125 degree C, minimum thickness 0.25mm	QMFZ2/8	UL	
16. Current Limiting resistors (R10,R13)	Interchangeable	Interchangeable	Rated 1.5ohm-5.1ohm, Minimum 1/8W.	--	---	
17. Output Wire	Interchangeable	Interchangeable	Rated VW-1, Rate Min.24AWG, Min.80 degree C, Min. 300V,	AVLV2	UL	
18. Strain relief of output cord (for DC cord output)	Interchangeable	Interchangeable	Rated Minimum V-2, Minimum 80 degree C, integrally molded on output cord, fixed in enclosure hole. See enclosure 7-02 for details.	QMFZ2	UL	
19. USB Connector	Interchangeable	Interchangeable	USB Type, minimum 5V. Copper alloy pins housed in bodies of (QMFZ2), and V-2 minimum	ECBT2, RTRT2, QMFZ2/8	UL	
20. Glue (for fixing components into position)	Interchangeable	Interchangeable	Rated V-2 or better, 105 degree C	QMFZ2/8	UL	
21. Marking Label	Interchangeable	Interchangeable	Minimum 95 degree C, suitable for use on plastic material.	PGDQ2/8 or PGJ12/8	UL, CUL	

Enclosures

<u>Type</u>	<u>Supplement Id</u>	<u>Description</u>
Photographs	3-01	Overall view of unit (F05L5-xxxxyySPAU)
Photographs	3-02	Overall view of unit (F05L5-xxxxyySPAU)
Photographs	3-03	Overall view of unit (F05L5-xxxxyySPAU-U)
Photographs	3-04	Overall view of unit (F05L5-xxxxyySPAU-U)
Photographs	3-05	Inside view of unit(DC cord port)
Photographs	3-06	Inside view of unit(DC cord port)
Photographs	3-07	Inside view of unit(USB port)
Photographs	3-08	Inside view of unit(USB port)
Photographs	3-09	Overall view of T1
Photographs	3-13	Overall view of T1, top (Model 16015000900R)
Photographs	3-14	Overall view of T1, bottom (Model 16015000900R)
Diagrams	4-01	T1 sepc _F05L5-050100-T1_
Diagrams	4-02	T1 spec (F05L5-060080-T1)
Diagrams	4-03	T1 spec _F05L5-120050-T1_
Diagrams	4-04	LF1 spec
Diagrams	4-05	T1 spec (Model 16015000900R)
Schematics + PWB	5-01	Schematic
Schematics + PWB	5-02	PCB layout
Manuals	6-01	Manual
Miscellaneous	7-01	Enclosure dimension
Miscellaneous	7-02	Strain Relief spec.
Miscellaneous	7-03	Mylar sheet spec.
Miscellaneous	7-04	Model List
Miscellaneous	7-05	Marking Label
Miscellaneous	7-06	Enclosure(DC cord)



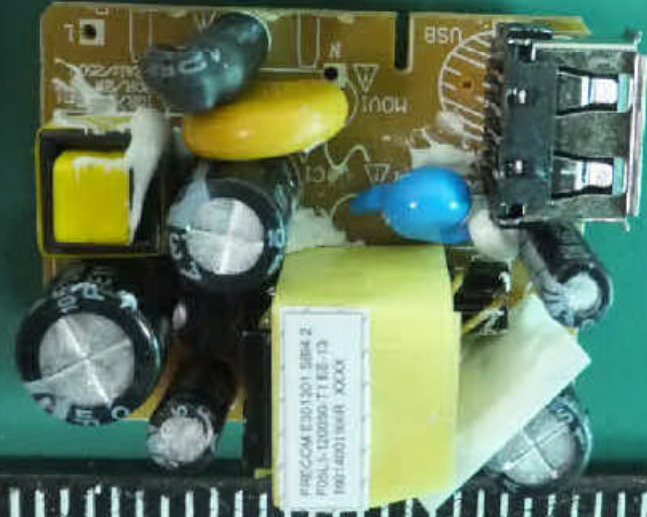
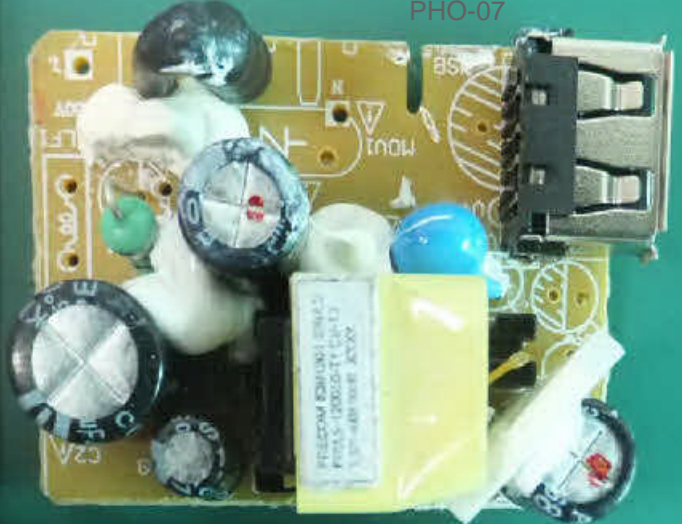




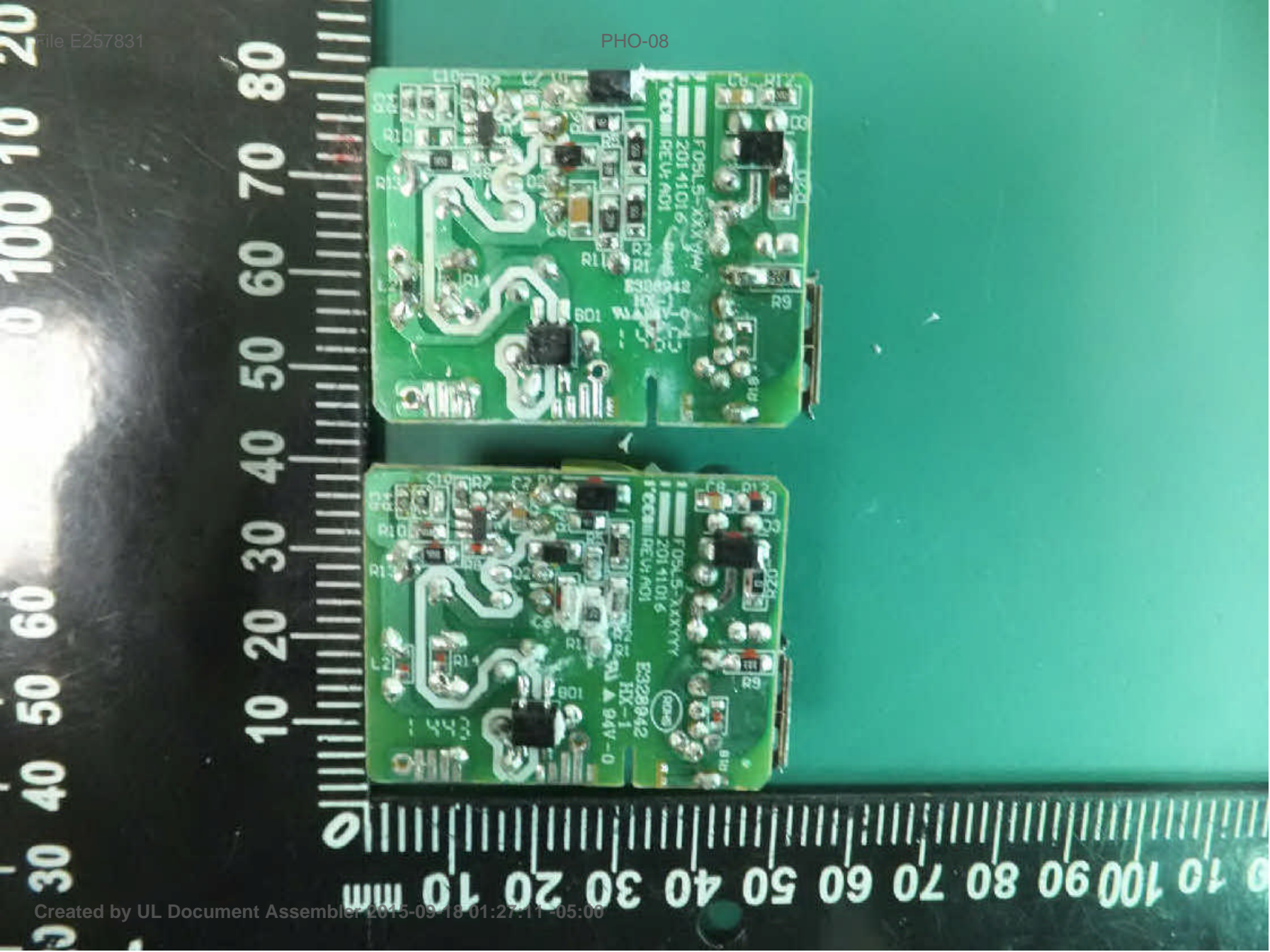




10 20 30 40 50 60 70 80



0 10 20 30 40 50 60 70 80 90 100 110 mm



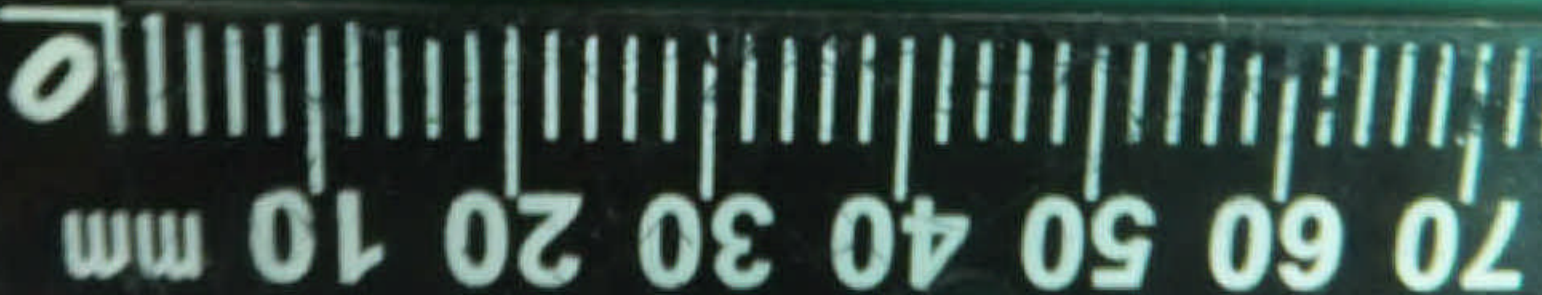
F05L5-XXXX 94V
20141016
ECM REV: A01

R1 R2 R3 R4 R5 R6 R7 R8 R9
C1 C2 C3 C4 C5 C6 C7 C8 C9 C10
Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10
D1 D2 D3 D4 D5 D6 D7 D8 D9 D10
B1 B2 B3 B4 B5 B6 B7 B8 B9 B10

F05L5-XXXXYY
20141016
ECM REV: A01

E3228942
HX-1
94V-0

R1 R2 R3 R4 R5 R6 R7 R8 R9
C1 C2 C3 C4 C5 C6 C7 C8 C9 C10
Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10
D1 D2 D3 D4 D5 D6 D7 D8 D9 D10
B1 B2 B3 B4 B5 B6 B7 B8 B9 B10





8 19 20 21 22 23 24

5 16 17 18 19 20





深圳市福瑞康电子有限公司

ShenZhen Frecom Electronic Co., LTD

中国深圳市光明新区同富裕工业区
 富川科技园福瑞康大厦
 Frecom Bld,FuChun Technology Zone
 TongFuYu Industry GuangMing,District
 ShenZhen,P.R.China

电 话：(86)-755-29530776
 Telephone: (86)-755-29530776
 传 真：(86)-755-29530005
 Fax : (86)-755-29530005

承 认 书

Approval Sheet

客 户(Customer) :

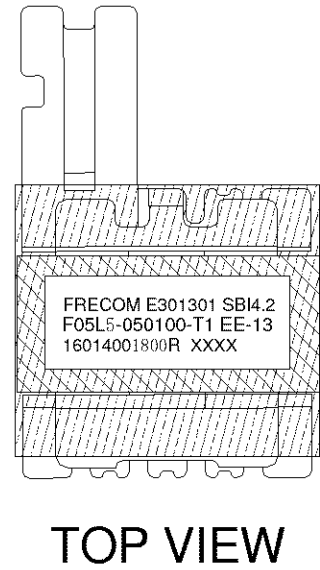
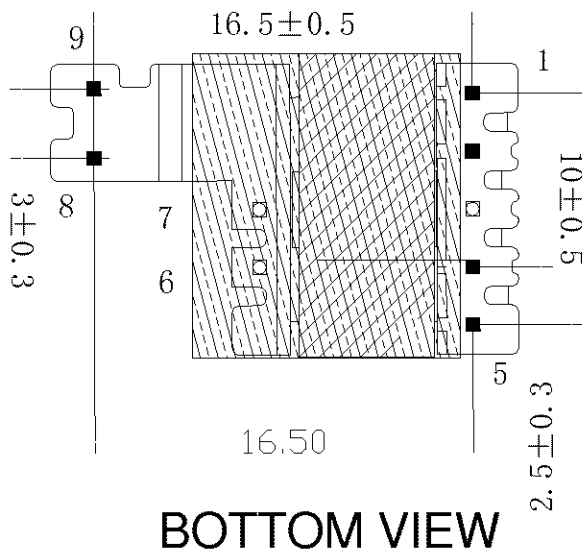
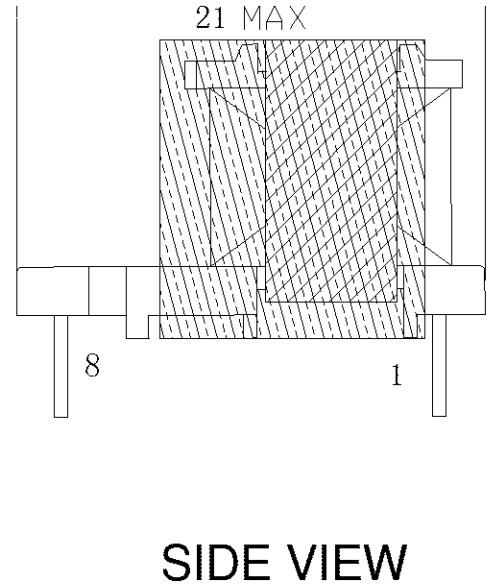
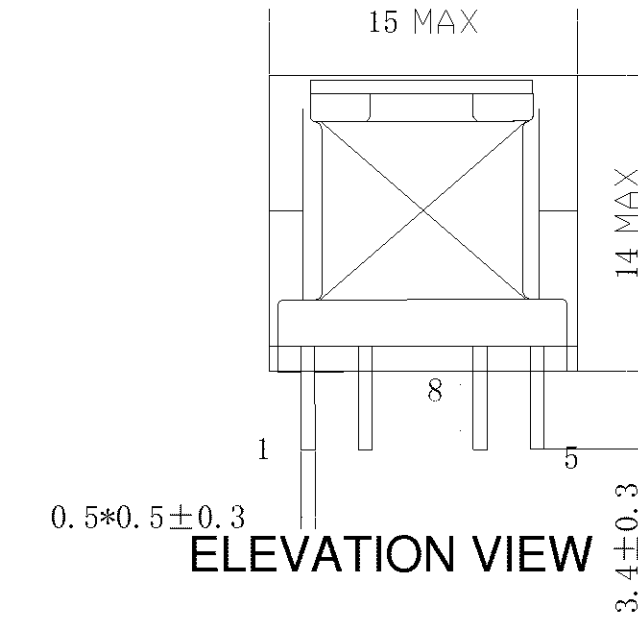
客户料号(Customer Part No.) :

福瑞康料号(Frecom Part No.) : 16014001800R / EE-13

福瑞康 (Frecom) :		
批 准 (Approve)	审 核(Check)	工 程 师(Engineer)
客 户 (Customer) :		
批 准 (Approve)	审 核(Check)	工 程 师(Engineer)

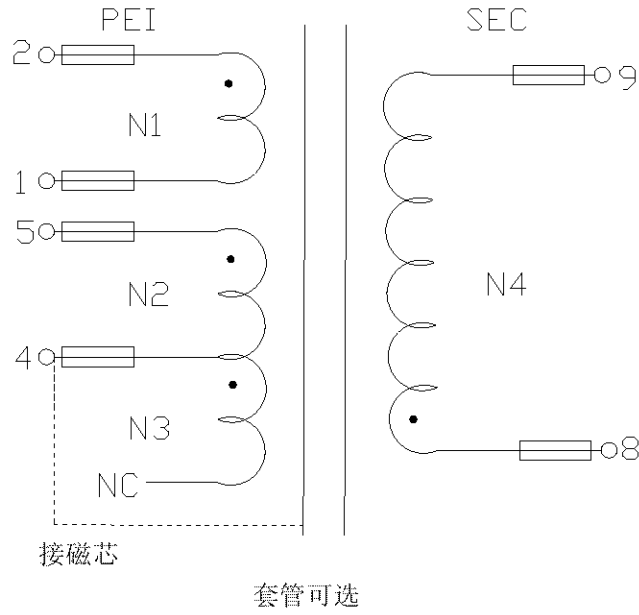
CUSTOMER		DESCRIPTION	EE-13 TRANSFORMER
----------	--	-------------	-------------------

1. OUTLINE DIMENSION: (UNIT:mm)

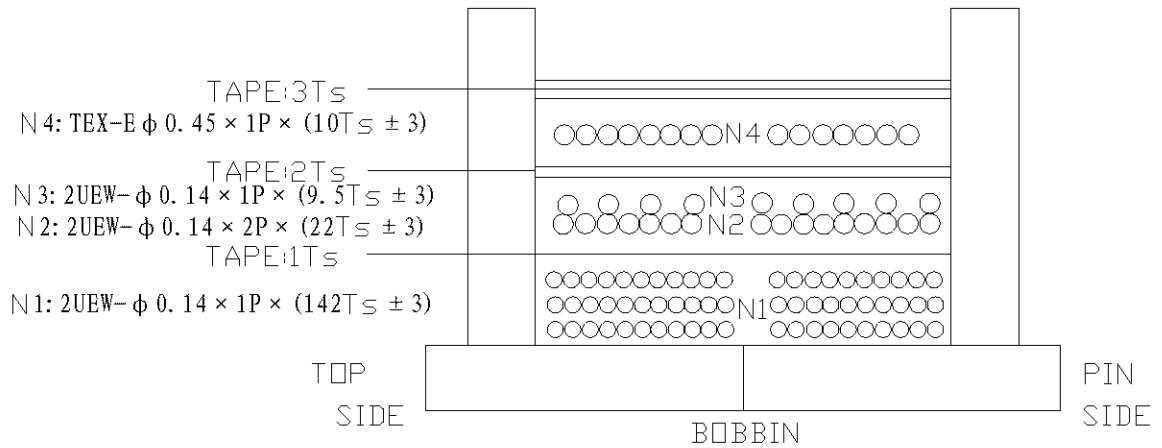


CUSTOMER		DESCRIPTION	EE-13 TRANSFORMER
----------	--	-------------	-------------------

2. SCHEMATIC:



3. WINDING SEQUENCE:




深圳市福瑞康电子有限公司
SHENZHEN FRECOM ELECTRONICS CO., LTD.

CUSTOMER		DESCRIPTION		EE-13 TRANSFORMER
4、 MATERIAL LIST:				
NO.	ITEM	MATERIAL	SUPPLIER	UL NO.
4-1	FERRITE CORE	EE-13 R2K	JINCHUAN ELECTRONICS CO., LTD	N/A
4-2	BOBBIN	T375J PM-9820	CHANG CHUN PLASTICS CO LTD SUMITOMO BAKELITE CO LTD	E59481 E209189
4-3	COPPER WIRE	POLYURETHANE WR- APPED COPPER WIRE CLASS 130°C	ZHUHAI SUNTEK WIRE CO LTD TAI-I ELECTRIC WIRE & CABLE CO LTD SHEN ZHEN CITY CHENGWEI INDUSTRY CO LTD	E234867 E85640 E227475
4-4	TRIPLE INSULATION WIRE	TEX-E GPX-B TIW-B	FURUKAWA ELECTRIC CO LTD SHANGHAI CHUANYE ELECTRONIC TECHNOLOGY CO LTD SHANGHAI LUCKY TRADE CO LTD	E206440 E243712 E305883
4-5	TAPE	PZ、 CT、 WF P298F	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD CHYUN YIH TAPE CO LTD	E165111 E81174
4-6	VARNISH	V1630FS Black T1148-1	ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC GUANGZHOU TIEGONG ELECTRICAL INSULATING MATERIALS CO LTD	E75225 E235951
4-7	STANNUM	SN-0.7 Cu	YIK SHING TAT INDUSTRIAL CO. LTD	N/A
4-8	FLUX	TF-747	TONG FANG ELECTRONIC NEW-MATERIAL CO LTD	N/A



深圳市福瑞康电子有限公司

ShenZhen Frecom Electronic Co., LTD

中国深圳市光明新区同富裕工业区
富川科技园福瑞康大厦
Frecom Bld,FuChun Technology Zone
TongFuYu Industry GuangMing,District
ShenZhen,P.R.China

电 话：(86)-755-29530776
Telephone: (86)-755-29530776
传 真：(86)-755-29530005
Fax : (86)-755-29530005

承 认 书

Approval Sheet

客 户(Customer) :

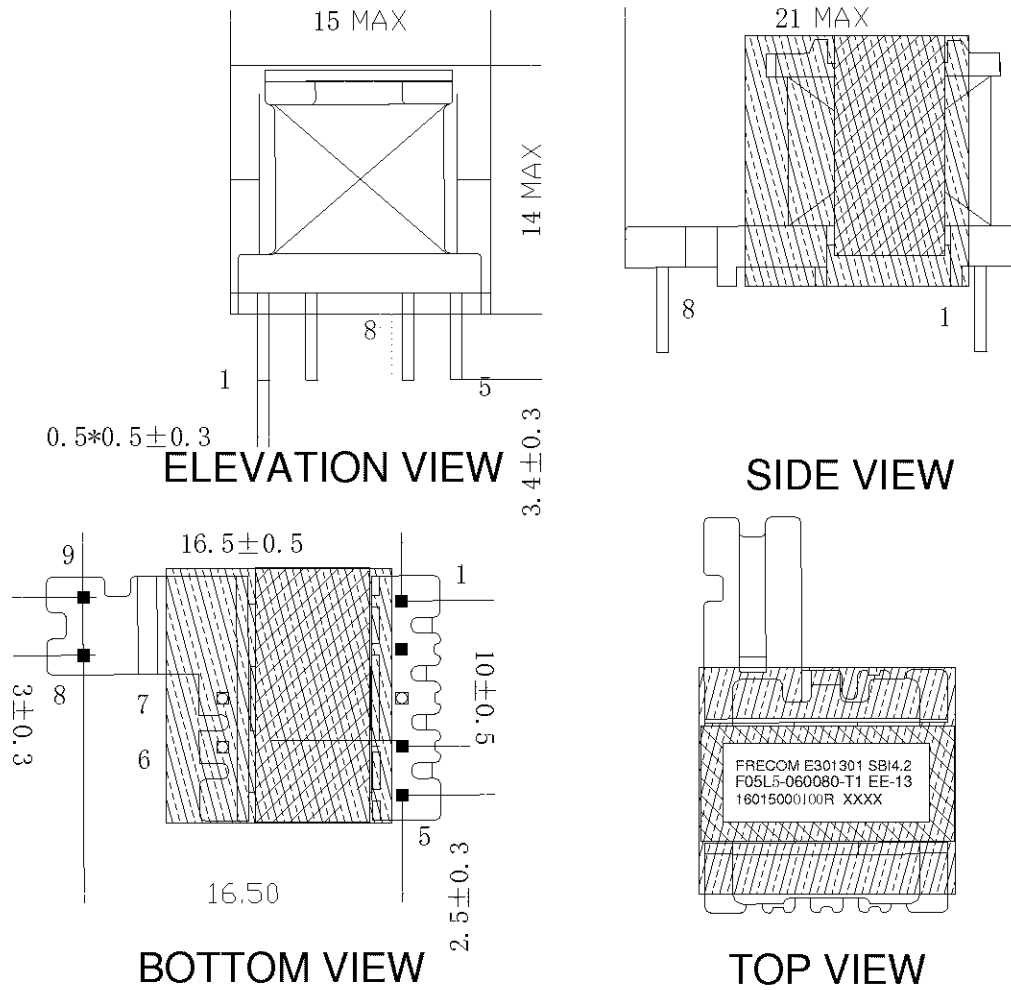
客户料号(Customer Part No.) :

福瑞康料号(Frecom Part No.) : 16015000100R / EE-13

福瑞康 (Frecom) :		
批 准 (Approve)	审 核(Check)	工 程 师(Engineer)
客 户 (Customer) :		
批 准 (Approve)	审 核(Check)	工 程 师(Engineer)

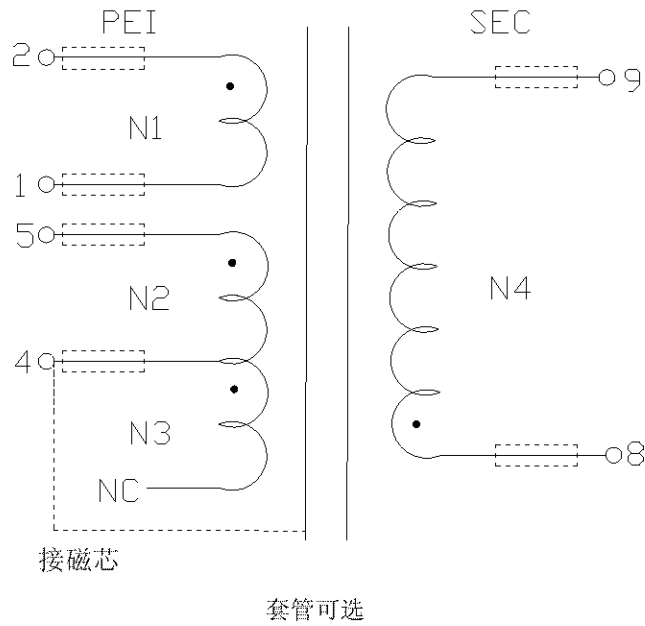
CUSTOMER		DESCRIPTION	EE-13 TRANSFORMER
----------	--	-------------	-------------------

1. OUTLINE DIMENSION: (UNIT:mm)

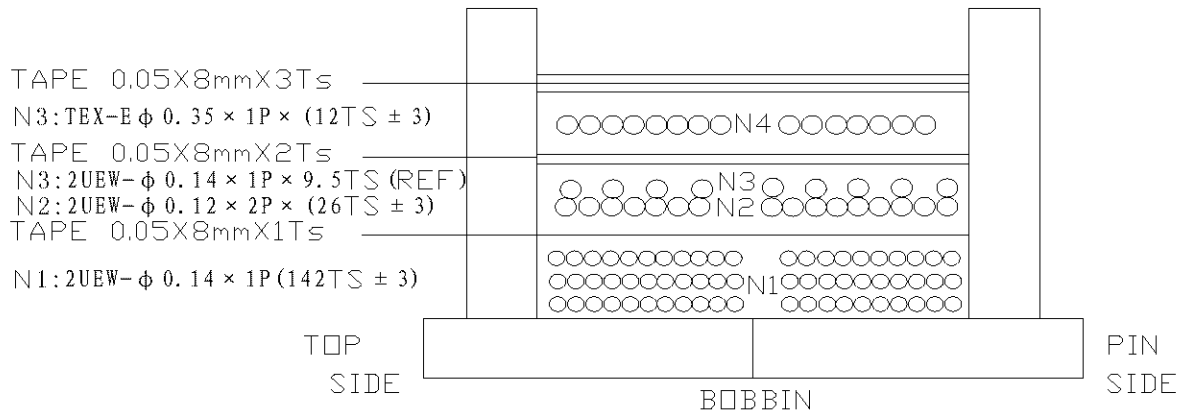


CUSTOMER		DESCRIPTION	EE-13 TRANSFORMER
----------	--	-------------	-------------------

2. SCHEMATIC:



3. WINDING SEQUENCE:




深圳市福瑞康电子有限公司
SHENZHEN FRECOM ELECTRONICS CO., LTD.

CUSTOMER		DESCRIPTION		EE-13 TRANSFORMER
4、 MATERIAL LIST:				
NO.	ITEM	MATERIAL	SUPPLIER	UL NO.
4-1	FERRITE CORE	EE-13 R2K	JINCHUAN ELECTRONICS CO., LTD	N/A
4-2	BOBBIN	T375J PM-9820	CHANG CHUN PLASTICS CO LTD SUMITOMO BAKELITE CO LTD	E59481 E209189
4-3	COPPER WIRE	POLYURETHANE WR- APPED COPPER WIRE CLASS 130°C	ZHUHAI SUNTEK WIRE CO LTD TAI-I ELECTRIC WIRE & CABLE CO LTD SHEN ZHEN CITY CHENGWEI INDUSTRY CO LTD	E234867 E85640 E227475
4-4	TRIPLE INSULATION WIRE	TEX-E GPX-B TIW-B	FURUKAWA ELECTRIC CO LTD SHANGHAI CHUANYE ELECTRONIC TECHNOLOGY CO LTD SHANGHAI LUCKY TRADE CO LTD	E206440 E243712 E305883
4-5	TAPE	PZ、CT、WF	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	E165111
		P298F	CHYUN YIH TAPE CO LTD	E81174
4-6	VARNISH	V1630FS Black	ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC	E75225
		T1148-1	GUANGZHOU TIEGONG ELECTRICAL INSULATING MATERIALS CO LTD	E235951
4-7	STANNUM	SN-0.7 Cu	YIK SHING TAT INDUSTRIAL CO. LTD	N/A
4-8	FLUX	TF-747	TONG FANG ELECTRONIC NEW-MATERIAL CO LTD	N/A



深圳市福瑞康电子有限公司

ShenZhen Frecom Electronic Co., LTD

中国深圳市光明新区同富裕工业区
 富川科技园福瑞康大厦
 Frecom Bld,FuChun Technology Zone
 TongFuYu Industry GuangMing,District
 ShenZhen,P.R.China

电 话：(86)-755-29530776
 Telephone: (86)-755-29530776
 传 真：(86)-755-29530005
 Fax : (86)-755-29530005

承 认 书

Approval Sheet

客 户(Customer) :

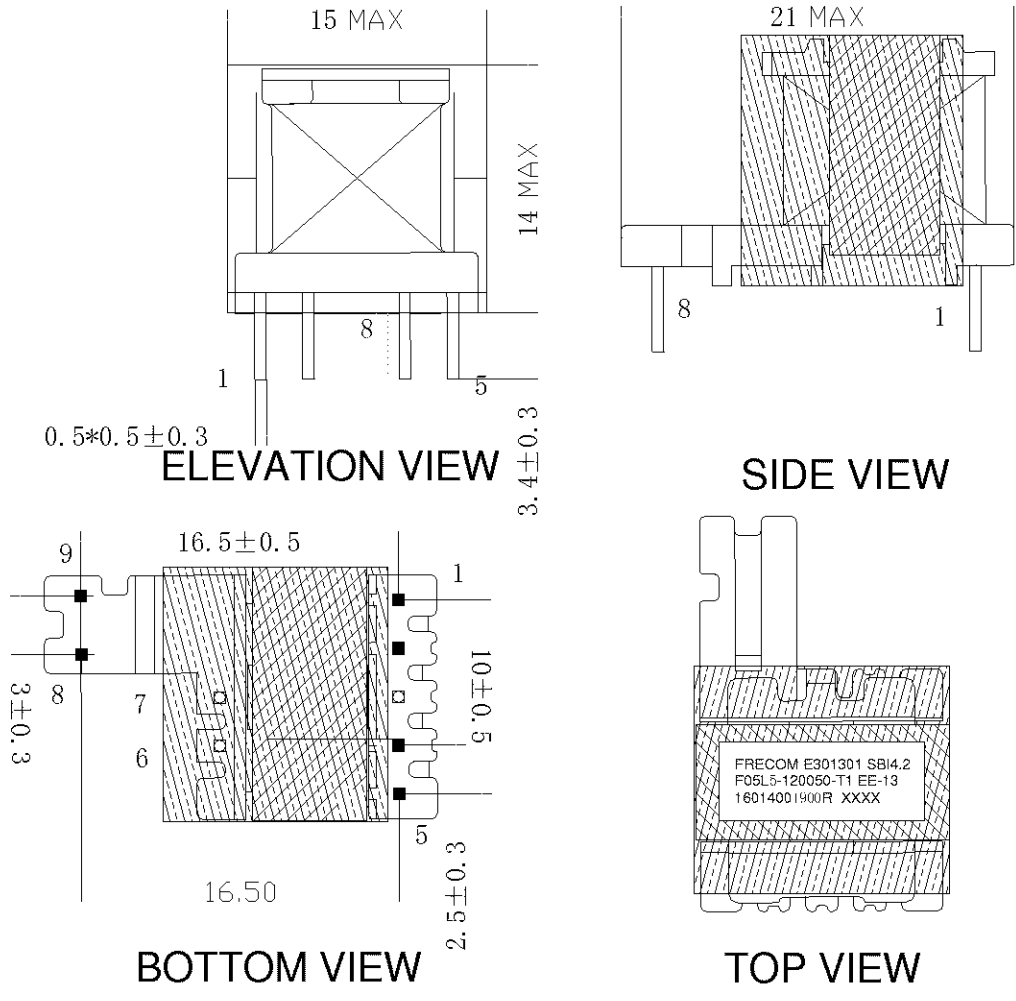
客户料号(Customer Part No.) :

福瑞康料号(Frecom Part No.) : 16014001900R / EE-13

福瑞康 (Frecom) :		
批 准 (Approve)	审 核(Check)	工 程 师(Engineer)
客 户 (Customer) :		
批 准 (Approve)	审 核(Check)	工 程 师(Engineer)

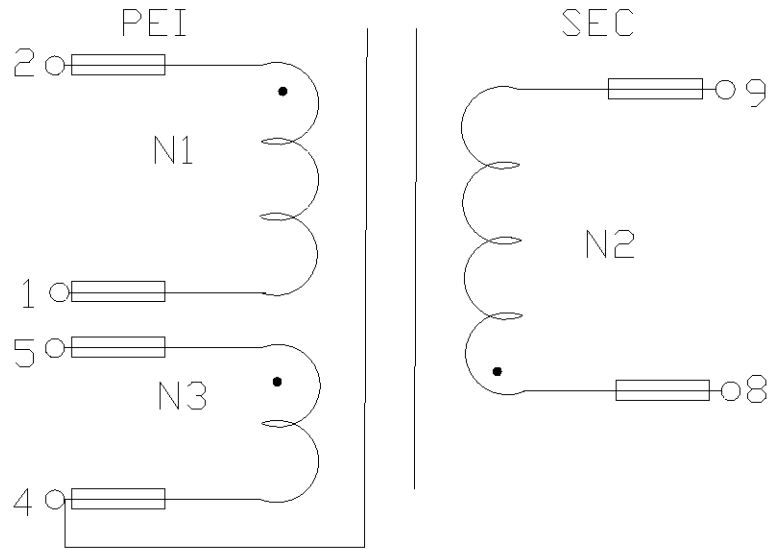
CUSTOMER		DESCRIPTION	EE-13 TRANSFORMER
----------	--	-------------	-------------------

1. OUTLINE DIMENSION: (UNIT:mm)



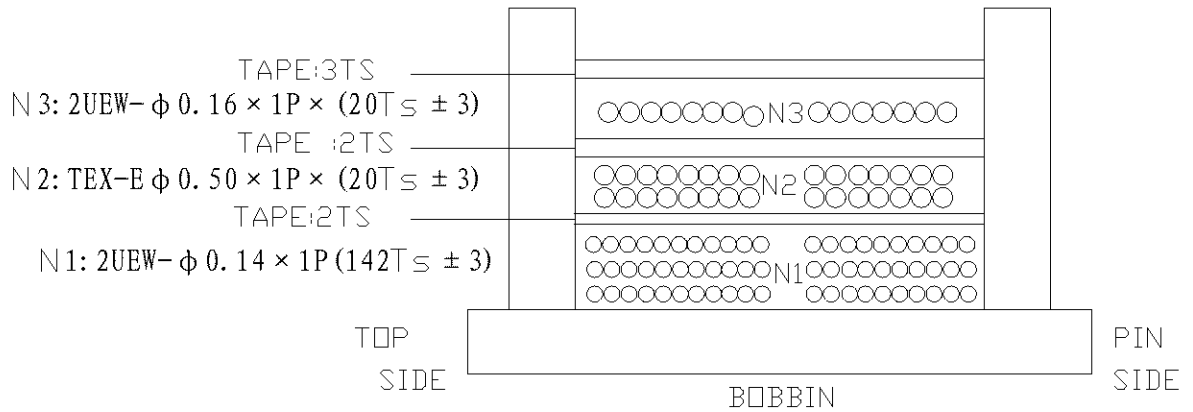
CUSTOMER		DESCRIPTION	EE-13 TRANSFORMER
----------	--	-------------	-------------------

2. SCHEMATIC:



接磁芯
 套管可选

3. WINDING SEQUENCE:




深圳市福瑞康电子有限公司
SHENZHEN FRECOM ELECTRONICS CO., LTD.

CUSTOMER		DESCRIPTION	EE-13 TRANSFORMER	
4、 MATERIAL LIST:				
NO.	ITEM	MATERIAL	SUPPLIER	UL NO.
4-1	FERRITE CORE	EE-13 R2K	JINCHUAN ELECTRONICS CO., LTD	N/A
4-2	BOBBIN	T375J PM-9820	CHANG CHUN PLASTICS CO LTD SUMITOMO BAKELITE CO LTD	E59481 E209189
4-3	COPPER WIRE	POLYURETHANE WR- APPED COPPER WIRE CLASS 130°C	ZHUHAI SUNTEK WIRE CO LTD TAI-I ELECTRIC WIRE & CABLE CO LTD SHEN ZHEN CITY CHENGWEI INDUSTRY CO LTD	E234867 E85640 E227475
4-4	TRIPLE INSULATION WIRE	TEX-E GPX-B TIW-B	FURUKAWA ELECTRIC CO LTD SHANGHAI CHUANYE ELECTRONIC TECHNOLOGY CO LTD SHANGHAI LUCKY TRADE CO LTD	E206440 E243712 E305883
4-5	TAPE	PZ、 CT、 WF P298F	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD CHYUN YIH TAPE CO LTD	E165111 E81174
4-6	VARNISH	V1630FS Black T1148-1	ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC GUANGZHOU TIEGONG ELECTRICAL INSULATING MATERIALS CO LTD	E75225 E235951
4-7	STANNUM	SN-0.7 Cu	YIK SHING TAT INDUSTRIAL CO. LTD	N/A
4-8	FLUX	TF-747	TONG FANG ELECTRONIC NEW-MATERIAL CO LTD	N/A



深圳市福瑞康电子有限公司

ShenZhen Frecom Electronic Co., LTD

中国深圳市光明新区同富裕工业区
富川科技园福瑞康大厦
Frecom Bld, FuChun Technology Zone
TongFuYu Industry GuangMing, District
ShenZhen, P.R.China

电 话：(86)-755-29530776
Telephone: (86)-755-29530776
传 真：(86)-755-29530005
Fax : (86)-755-29530005

承 认 书

Approval Sheet

客 户(Customer) : 001

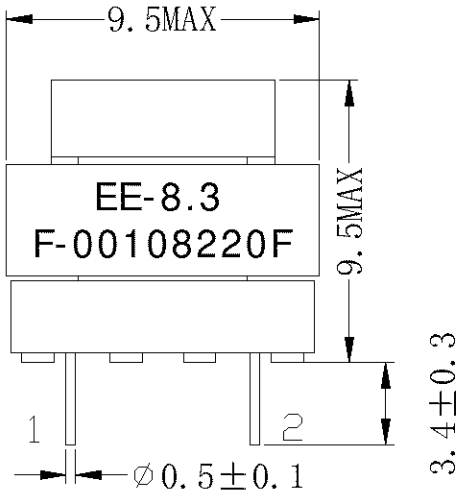
客户料号(Customer Part No.) :

福瑞康料号(Frecom Part No.) : F-00108220F / EE-8.3

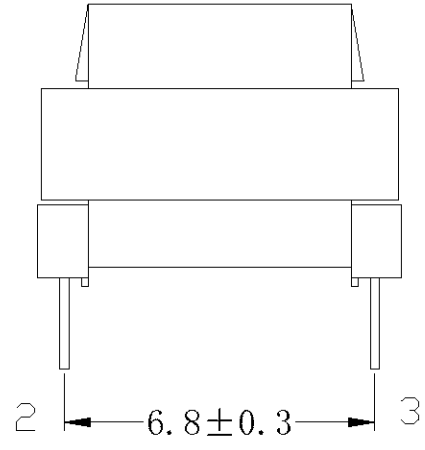
福瑞康 (Frecom) :		
批 准 (Approve)	审 核(Check)	工 程 师(Engineer)
客 户 (Customer) :		
批 准 (Approve)	审 核(Check)	工 程 师(Engineer)

CUSTOMER	001	DESCRIPTION	EE-8.3 TRANSFORMER
----------	-----	-------------	--------------------

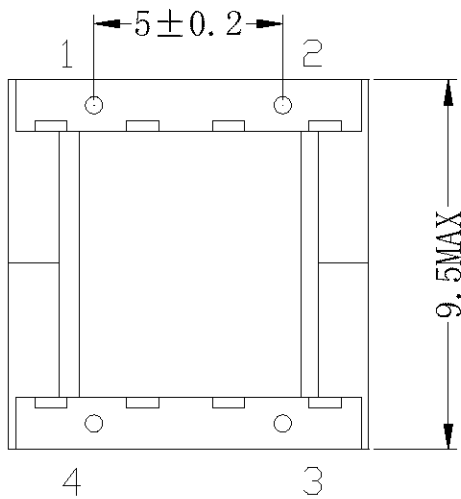
1. OUTLINE DIMENSION: (UNIT:mm)



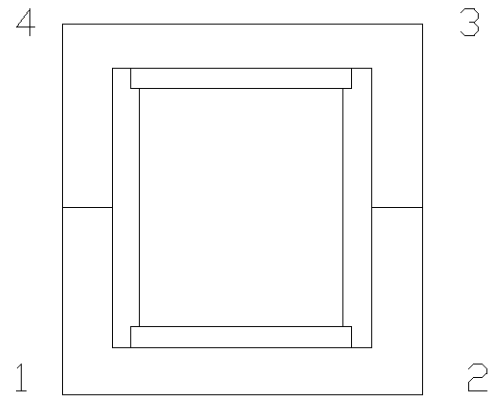
ELEVATION VIEW



SIDE VIEW

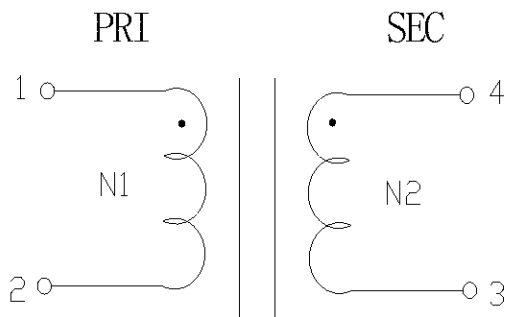


BOTTOM VIEW

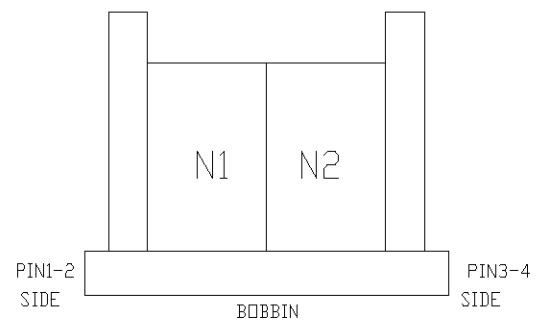


TOP VIEW

2. SCHEMATIC:



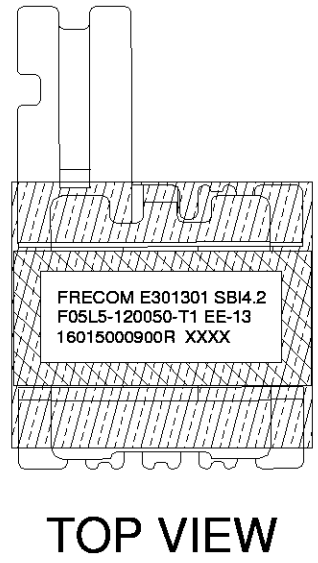
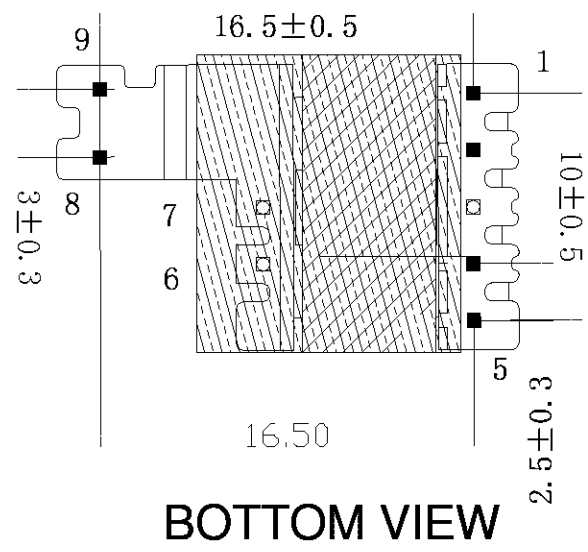
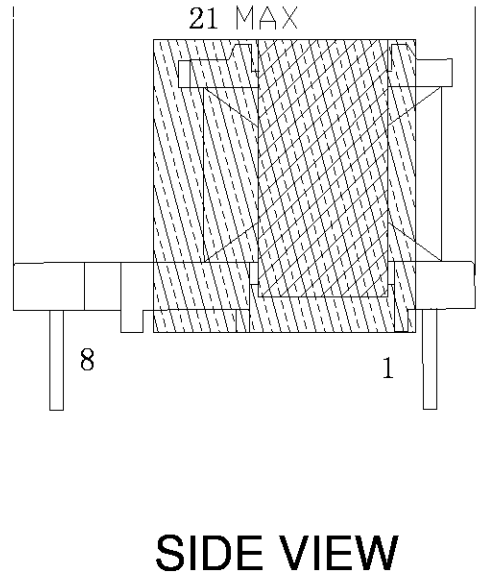
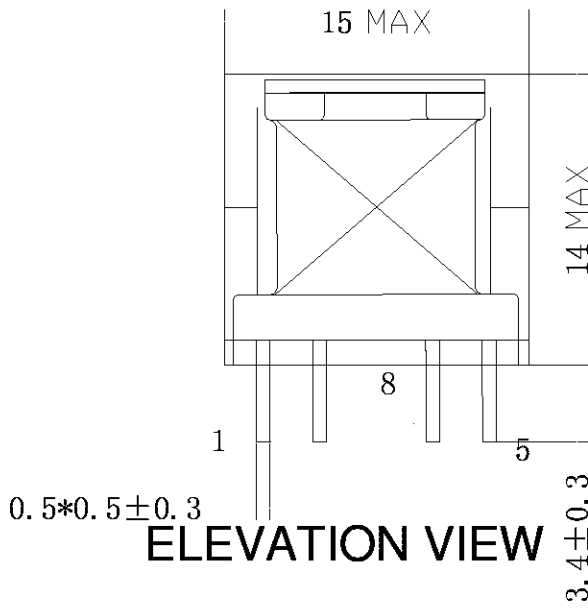
3. WINDING SEQUENCE:



CUSTOMER	001	DESCRIPTION	EE-8.3 TRANSFORMER			
4、Winding process:						
NO	WINDING	WIRE	ORIGIN-TERMINAL	UNMBER	TAPE NUMBER	REMARK
1	N1	2UEW- ϕ 0.11 \times 1P	1-2	135Ts (REF)		
2	N2	2UEW- ϕ 0.11 \times 1P	4-3	135Ts (REF)		
3	TAPE	M/TAPE 5.0mm			2Ts	
5、ELECTRICAL CHECKING: (AT 25°C)						
1. INDUCTANCE: (f=1KHz, 0.3V)						
L(1-2)=(4-3)=35mH MIN						
2. HI-POT: (AC 50HZ)						
WINDING TO WINDING: AC600V/1mA 2S						
WINDING TO CORE: AC600V/1mA 2S						
6、MATERIAL LIST:						
NO.	ITEM	MATERIAL	SUPPLIER	UL NO.		
6-1	FERRITE CORE	EE-8.3A A10	ACME	N/A		
6-2	BOBBIN	T375J	CHANG CHUN PLASTICS CO LTD	E59481 (S)		
6-3	COPPER WIRE	POLYURETHANE WR- APPED COPPER WIRE GLASS 130°C	ZHUHAI SUNTEK WIRE CO.,LTD. TAI-I COPPER (GUANGZHOU) CO., LTD.	E234867 E85640		
6-4	TAPE	PZ	JINGJIANG YAHUA PRESSURE SENSITIVE	E165111		
		SDF-312	XINYU SHENGDAFENG ELECTRIC MATERIAL CO LTD	E317896		
		JY312	SUZHOU JINGYI SPECIAL ADHESIVE TAPE CO LTD	E188295		
6-6	VARNISH	V1380, V1380FC, V1380FCBlack V1630, V1630FS Black	P. D. GEORGE/VIKING	E73071		
6-7	STANNUM	SN-0.7 Cu	YIK SHING TAT INDUSTRIAL CO. LTD			
6-8	FLUX	TF-747	TONG FANG ELECTRONIC NEW-MATERIAL CO LTD			

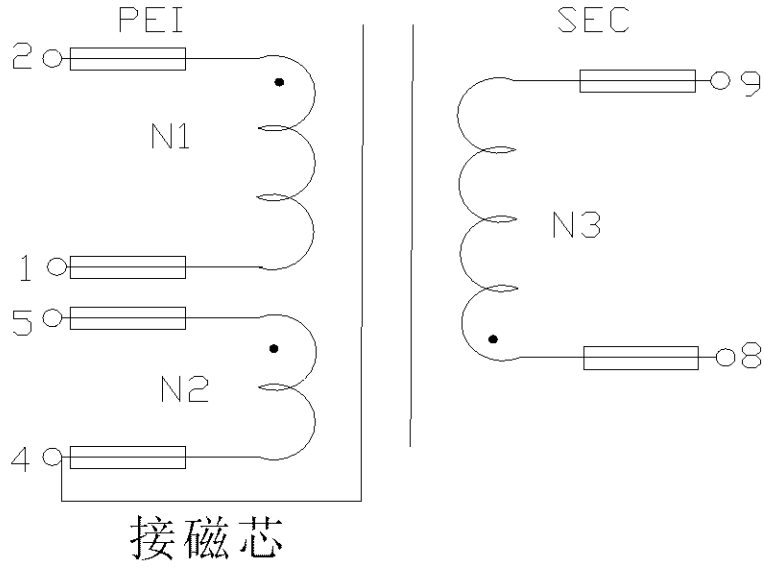
CUSTOMER		DESCRIPTION	EE-13 TRANSFORMER
----------	--	-------------	-------------------

1. OUTLINE DIMENSION: (UNIT:mm)



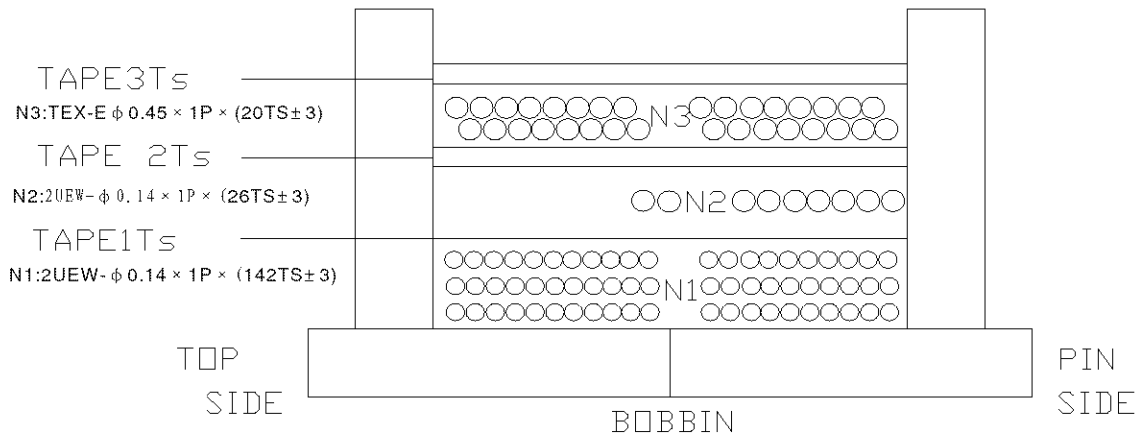
CUSTOMER		DESCRIPTION	EE-13 TRANSFORMER
----------	--	-------------	-------------------

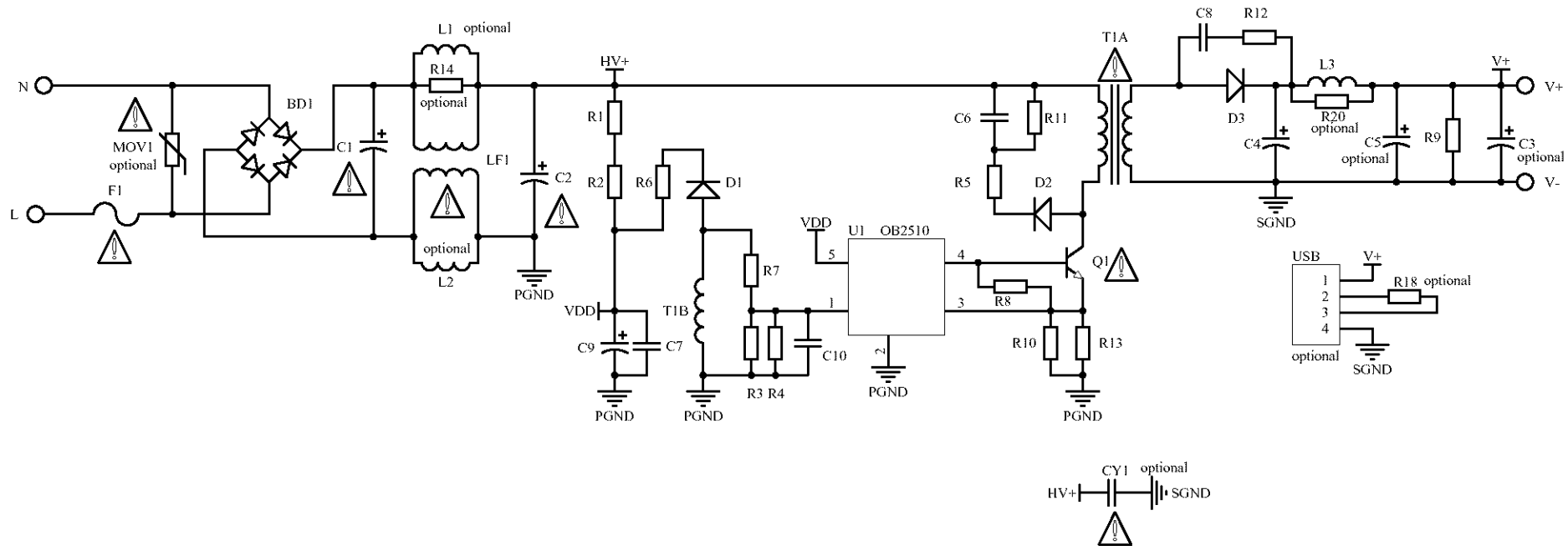
2. SCHEMATIC:



套管可选

3. WINDING SEQUENCE:





Title		深圳市福瑞康电子有限公司	
Size	Number	Revision	
A4	F05L5-XXXXYY	A01	
Date:	2014-11-27	Sheet of	
File:	D:\PCB资料\A\F05L5-XXXXYY.SchDoc	Drawn By:	

File: F05L05 SCH-02 Rev: A01										
Layer Rev: Item										
Top Overlay 1-1										
Bottom Overlay 1-2										
Bottom Layer 1-3										
Top Layer 1-4										

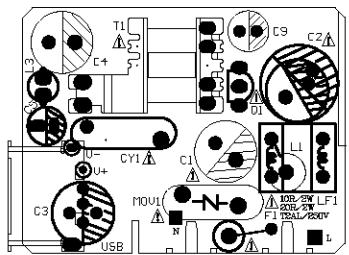
SCH-02

物料编号:
(PART NO.):

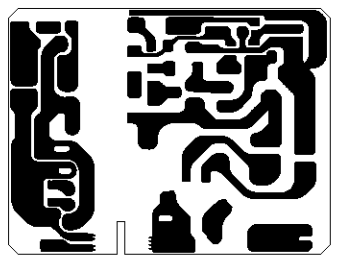
修改记录(MODIFICATION ANNAL)

New create
2014.06.27

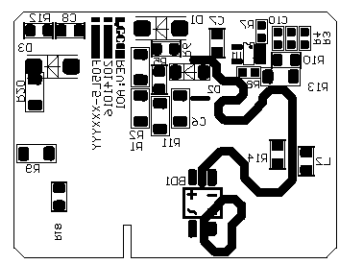
技术要求
TECHNIQUE REQUEST:



Top Overlay



Bottom Layer



Bottom Overlay

深圳市福瑞康电子有限公司 SHENZHEN FRECOM ELECTRONICS CO.,LTD			
机型(MODEL): F05L05-XXXXYY		名称(DESCRIPTION): PCB Artwork	
料号(Part No.):		未标注尺寸公差 NOT INDICATE SIZE TOLB SINCE X ±0.30 XX ±0.20 XXX ±0.10 ANGLE 0.5	
材质(MATERIAL)	CEM-1/1.6mm		
比例 (PROPRORTIONMENT)			
投影(PROJECTION)		单位/UNITS:	A4
绘制 (DRAWED)	Kuang weixing		
审核 (CHECKED)			
批准 (APPROVED)			

SHENZHEN FRECOM ELECTRONICS CO LTD

FRECOM BLDG FUCHUAN TECHNOLOGY ZONE TONGFUYU INDUSTRY
GUANGMING ST BAOAN DISTRICT SHENZHEN, GUANGDONG 518107 CHINA

USER MANUAL

For models: F05L5-xxxxyySPAU,F05L5-xxxxyySPAU-U('xxx' are 3digit numbers form 040 to 130 which represent the output voltage in voltage dividing by 10,for example ,050 represent output voltage is 5Vdc,'yyy' are 3digit numbers form 001 to 100 which represent the output current in Ampere after dividing by 100,for example ,100 represent output current is 1.0A. F05L5-xxxxyySPAU represent the output connect used of the DC wire ,F05L5-xxxxyySPAU-U represent the output connect used of the USB port.

Input Rating: 100-120Vac or 100-240Vac, 50/60Hz, 0.2A

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

1. Maximum ambient temperature around the adaptor must not exceed 45°C.

3. The adaptor is used for office machines and data processing appliances.

It is certified according to the relevant safety standards UL/CUL 60950-1.

4. The output power taken from the supply must not exceed the rating given on the adaptor.

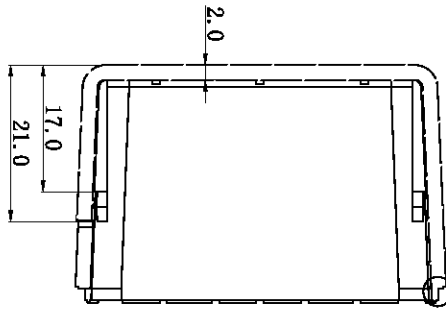
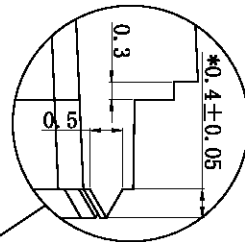
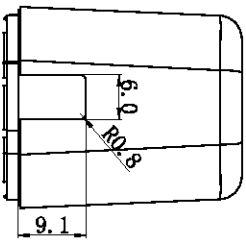
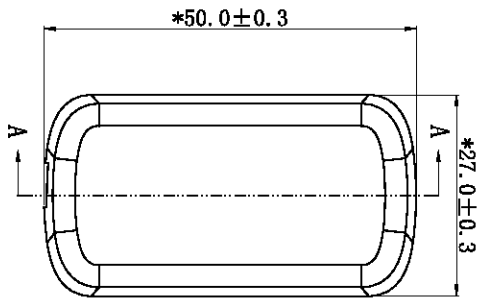
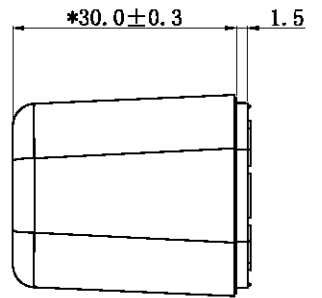
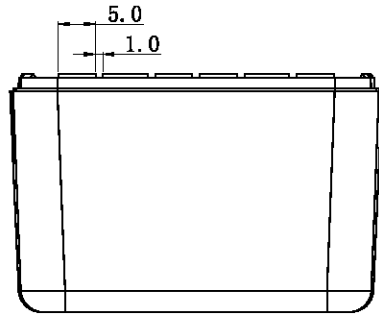
5. The adaptor is not intended to be repaired by service personnel in case of failure or component defect (unit can be thrown away).

6. The disconnection from line voltage is made by the main plug.

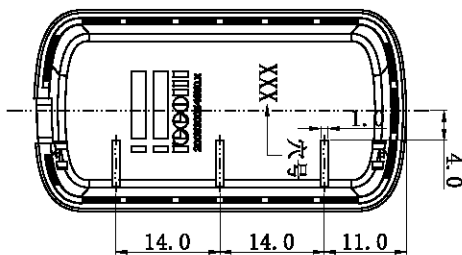
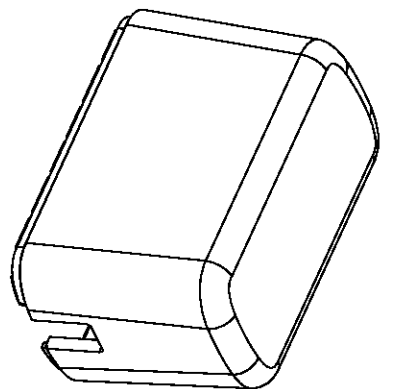
7. The socket outlet must be located close to the machine and be easily accessible.

8. NOT place the adaptor near water, like a spa or pool, or in a position which will allow the splashing or spraying of water onto the adaptor, like in front of an open window where rain water may enter.

9. Clearance was evaluated for operating altitude up to 5000m above sea level.



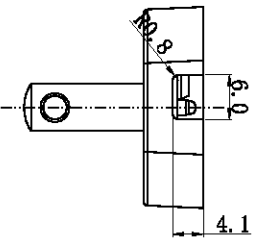
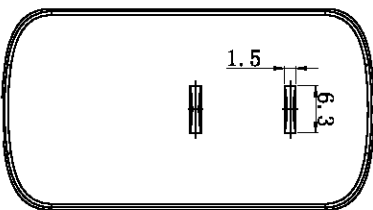
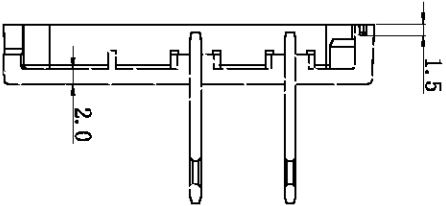
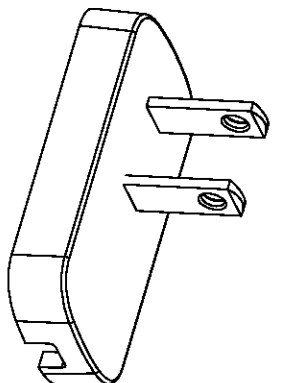
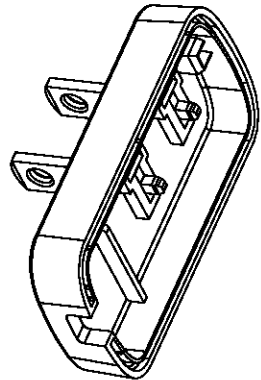
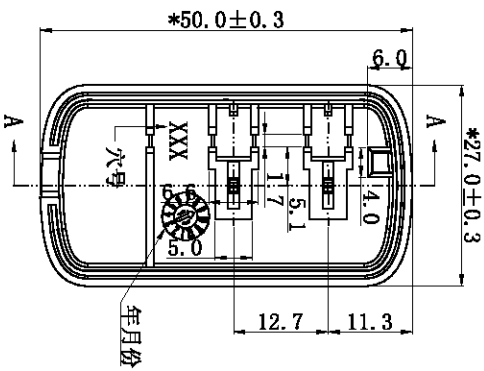
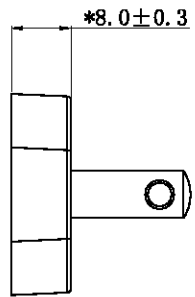
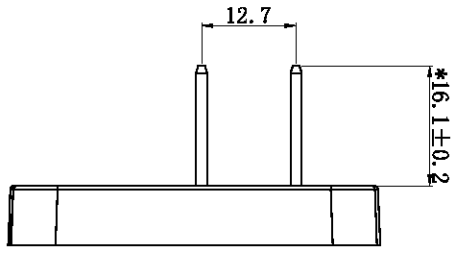
SECTION A-A



物料编号 (PART NO):	GST1CXXXXA0P-Z
修改记录 (MODIFICATION ANNAI)	1. 新发行 2013. 10. 19 REV: A1

- 技术要求**
TECHNIQUE REQUEST:
1. 材质: 纯PC料。
 2. 胶料颜色: 黑色。
 3. 防火等级: UL94V-0。
 4. 成品外观不能有缩水、变形、溢色、裂纹、料花、少胶、批锋、焦料麻点等明显不良现象。
 5. 上下盖配合后不能偏位。
 6. 模具前模需加硬处理。
 7. 模具编号: FM-S-13-164。
 8. 模具编号: FM-S-13-164。
 9. 带"*"之尺寸为重点管控尺寸。

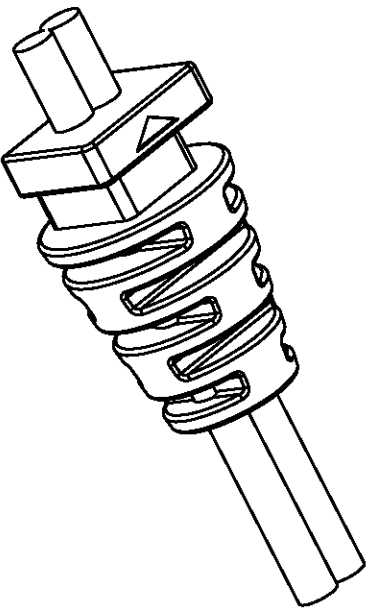
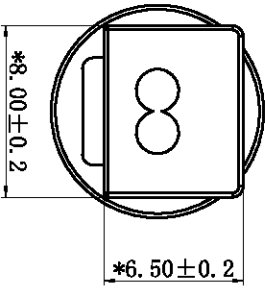
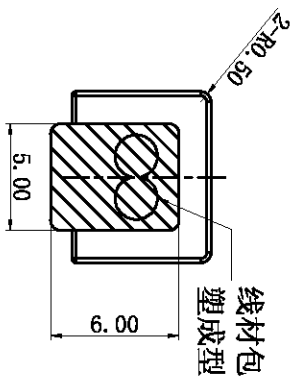
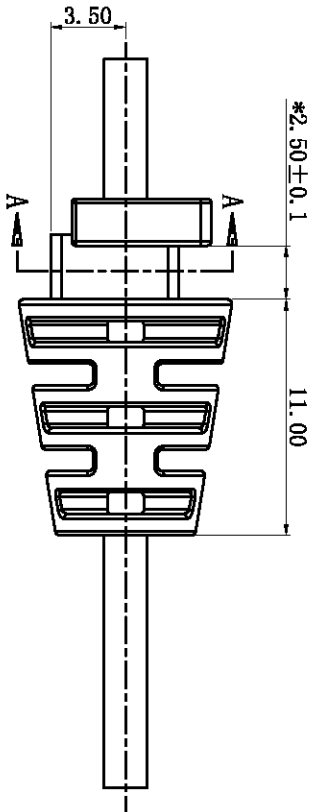
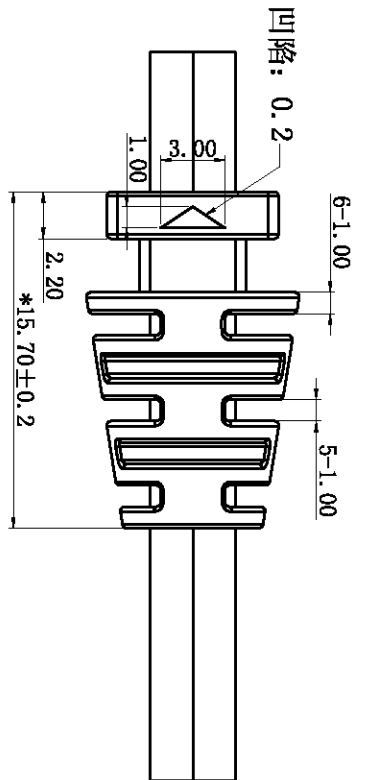
深圳市福瑞康电子有限公司 SHENZHEN FRECOM ELECTRONICS CO.,LTD	
机型号 (MODEL):	名称 (DESCRIPTION):
新5V/A立式USB美规/国标	上盖/TOP CASE
料号 (Part No.):	未标注尺寸公差 NOT INDICATED SIZE TOLERANCE
材质 (MATERIAL)	PC
比例 (PROPORTIONMENT)	FILL
投影 (PROJECTION)	单位/UNITS: A4
绘制 (DRAWED)	章洁平 2013. 10. 19
审核 (CHECKED)	
批准 (APPROVED)	



物料编号 (PART NO):	CSB1UXXXXA0P-Z
修改记录 (MODIFICATION ANNAI)	1. 新发行 2013. 10. 19 REV: A1

- 技术要求**
TECHNIQUE REQUEST:
1. 材质: 纯PC料。
 2. 胶料颜色: 黑色。
 3. 防火等级: UL94V-0。
 4. 成品外观不能有缩水、变形、溢色、裂纹、料花、少胶、批锋、焦料麻点等明显不良现象。
 5. 上下盖配合后不能偏位。
 6. 模具前模蕊加硬处理。
 7. 模具编号: FM-S-13-164。
 8. 带"*"之尺寸为重点管控尺寸。

<p>深圳市福瑞康电子有限公司 SHENZHEN FREECOM ELECTRONICS CO., LTD</p>		名称 (DESCRIPTION):	新5V/1A立式USB美规 下盖/BOTTOM CASE
料号 (Part No.)	PC	材料 (MATERIAL)	PC
比例 (PROPORTIONMENT)	FILL	投影 (PROJECTION)	章浩平 2013. 10. 19
绘制 (DRAWED)	审核 (CHECKED)	批准 (APPROVED)	
未标注尺寸公差 NOT INDICATED SIZE TOLERANCE XXX ±0.30 XXX ±0.20 XXX ±0.10 ANGLE 0.5°		单位/UNITS:	A4



物料编号
(PART NO):

修改记录 (MODIFICATION ANNAI)

1. 新发行 2012.04.24
REV:01

技术要求
TECHNIQUE REQUEST:

1. 材质: PVC料。
2. 胶料颜色: 黑/白色。
3. 成品外观不能有缩水, 变形, 褪色, 裂纹, 料花, 少胶, 批锋, 焦料麻点等注塑不良现象。
4. 与上、下盖及装饰条配合后不能偏位。
5. SR需要两种卡口, 可以适用: U12468 24#, 26# U11185 24#, 22# ANG线型。
6. 带*"-尺寸为重点管控尺寸。

<p>深圳市福瑞康电子有限公司 SHENZHEN FRECOM ELECTRONICS CO.,LTD</p>		<p>名称 (DESCRIPTION): 线材SR</p>	
<p>料号 (Part No.) 新5W Series (B模结构)</p>		<p>未标注尺寸公差 NOT INDICATED SIZE TOLERANCE</p>	
材质 (MATERIAL)	PVC	X.X	+0.30
比例 (PROPORTIONMENT)	FILL	X.XX	+0.20
		ANGLE	+0.10
			0.5°
投影 (PROJECTION)		单位/UNITS:	A4
绘制 (DRAWED)	代翔	2012.04.24	
审核 (CHECKED)			
批准 (APPROVED)			

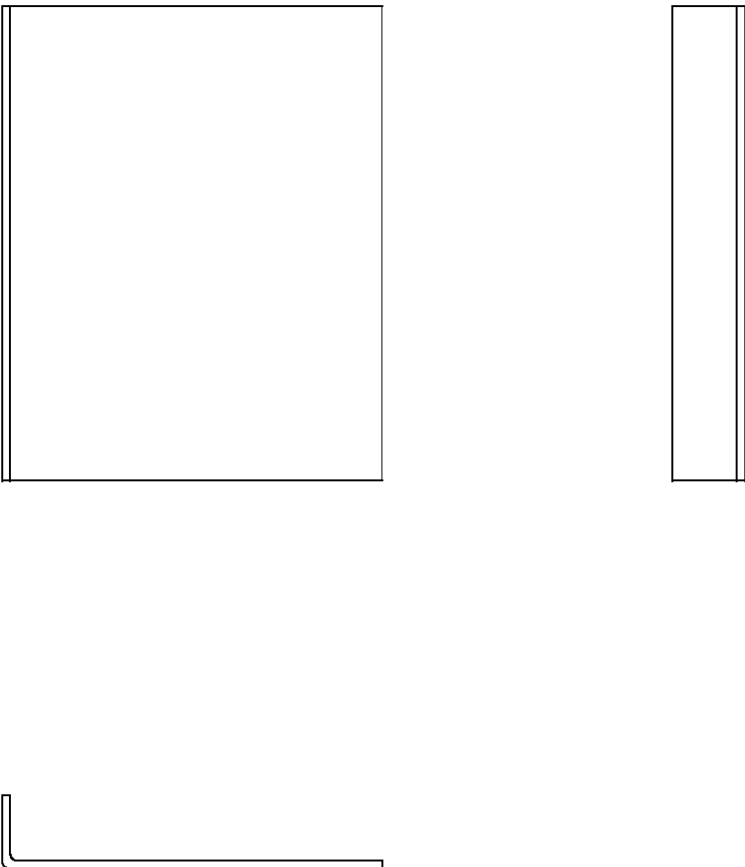
物料编号
(PART NO):

修改记录 (MODIFICATION ANNAI)

1. 新发行 2014. 06. 26
REV: A1

技术要求:

1. 不允许表面有划伤, 脏污等表面缺陷;
2. 材料厚度为0.25;
3. 要求耐温105度;
4. 颜色为乳白色;
5. 防火等级94V-2;



深圳市福瑞康电子有限公司
SHENZHEN FRECOM ELECTRONICS CO.,LTD
FOCOM

机型 (MODEL):

FSBL4-XXXX

名称 (DESCRIPTION):

麦粒片/Mylar

料号 (Part No.)

FXXXXSAR

未标注尺寸公差
NOT INDICATE SIZE TOLERANCE

材质 (MATERIAL)

PET

XX ±0.30
XXX ±0.20
ANGIE 0.5°

比例 (PROPORTIONMENT)

2: 1

ANGLE 0.5°

投影 (PROJECTION)



单位/UNITS: mm

绘制 (DRAWED)

胡明华 2014. 06. 26

审核 (CHECKED)

批准 (APPROVED)

备注: 带*为重点管控尺寸

Type: Switching Mode Power Adaptor

Model: F05L5-xxxxyyySPAU,F05L5-xxxxyyySPAU-U

('xxx' are 3digit numbers form 040 to 130 which represent the output voltage in voltage dividing by 10,for example ,050 represent output voltage is 5Vdc,'yyy' are 3digit numbers form 001 to 100 which represent the output current in Ampere after dividing by 100,for example ,100 represent output current is 1.0A. F05L5-xxxxyyySPAU represent the output connect used of the DC wire ,F05L5-xxxxyyySPAU-U represent the output connect used of the USB port.


Rating: I/P: 100-120Vac or 100-240Vac, 50/60Hz, 0.2A



Maximum operate temperature: 45 degree C

Maximum operate altitude: 5000m

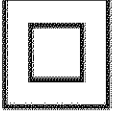
Model List:

Model Name	Input	Output voltage (V)	Output current (A)	Max. output power (W)	Transformer
F05L5-xxxxyyySPAU (xxx=040-070,yyy=001-100)	100-120Vac or 100-240Vac 0.2 A	4.0-7.0	0.01-1.0	5.0	F05L5-050100-T1 EE-13
F05L5-xxxxyyySPAU (xxx=050-080,yyy=001-080)	100-120Vac or 100-240Vac 0.2 A	5.0-8.0	0.01-0.8	4.0	F05L5-060060-T1 EE-13
F05L5-xxxxyyySPAU (xxx=110-130,yyy=001-050)	100-120Vac or 100-240Vac 0.2 A	11.0-13.0	0.01-0.5	6.0	F05L5-120050-T1 EE-13


Switching Mode Power Adaptor
 Model: F05L5-050100SPAU L. P. S.
 Input: 100-240V ~ 50/60Hz 0.2A
 Output: 5V $\overline{\text{---}}$ 1A \ominus --- \oplus
 I. T. E. Power Supply 






US LISTED
 29WX
 E257831

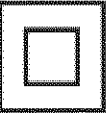


SHENZHEN FRECOM ELECTRONICS CO., LTD.
 MADE IN CHINA XXXXXXXXXXXXR


Switching Mode Power Adaptor
 Model: F05L5-050100SPAU L. P. S.
 Input: 100-120V ~ 50/60Hz 0.2A
 Output: 5V $\overline{\text{---}}$ 1A \ominus --- \oplus
 I. T. E. Power Supply 






US LISTED
 29WX
 E257831

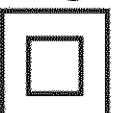


SHENZHEN FRECOM ELECTRONICS CO., LTD.
 MADE IN CHINA XXXXXXXXXXXXR


Switching Mode Power Adaptor
 Model: F05L5-130047SPAU L. P. S.
 Input: 100-240V ~ 50/60Hz 0.2A
 Output: 13V $\overline{\text{---}}$ 0.47A \ominus --- \oplus 






US LISTED
 29WX
 E257831

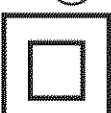


SHENZHEN FRECOM ELECTRONICS CO., LTD.
 MADE IN CHINA XXXXXXXXXXXXR


Switching Mode Power Adaptor
 Model: F05L5-130047SPAU L. P. S.
 Input: 100-120V ~ 50/60Hz 0.2A
 Output: 13V $\overline{\text{---}}$ 0.47A \ominus --- \oplus 






US LISTED
 29WX
 E257831

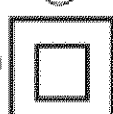


SHENZHEN FRECOM ELECTRONICS CO., LTD.
 MADE IN CHINA XXXXXXXXXXXXR


Switching Mode Power Adaptor
 Model: F05L5-050100SPAU-U L. P. S.
 Input: 100-240V ~ 50/60Hz 0.2A
 Output: 5V $\overline{\text{---}}$ 1A
 I. T. E. Power Supply 

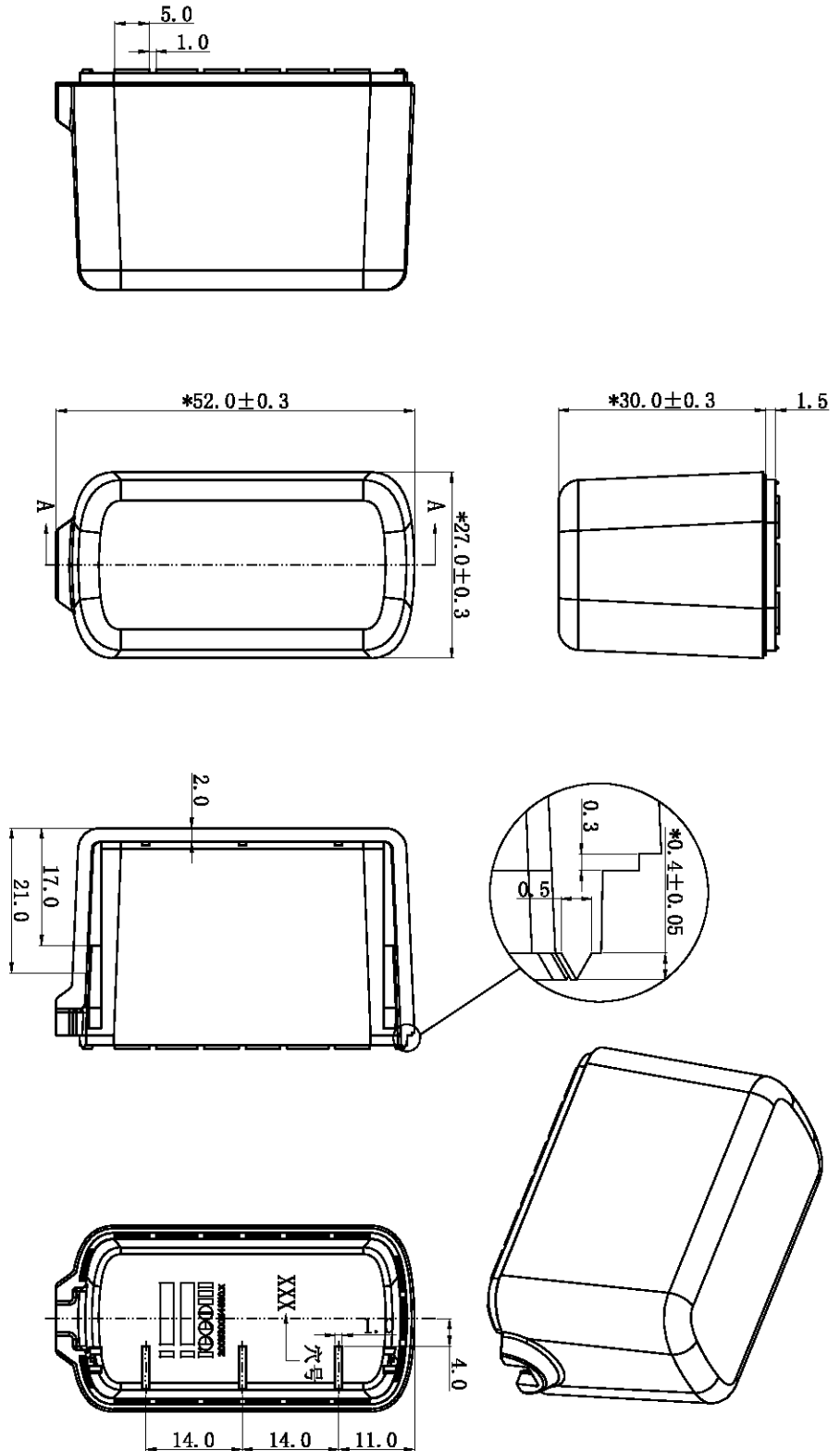



US LISTED
 29WX
 E257831



SHENZHEN FRECOM ELECTRONICS CO., LTD.
 XXXXXXXXXXXXR MADE IN CHINA

1914




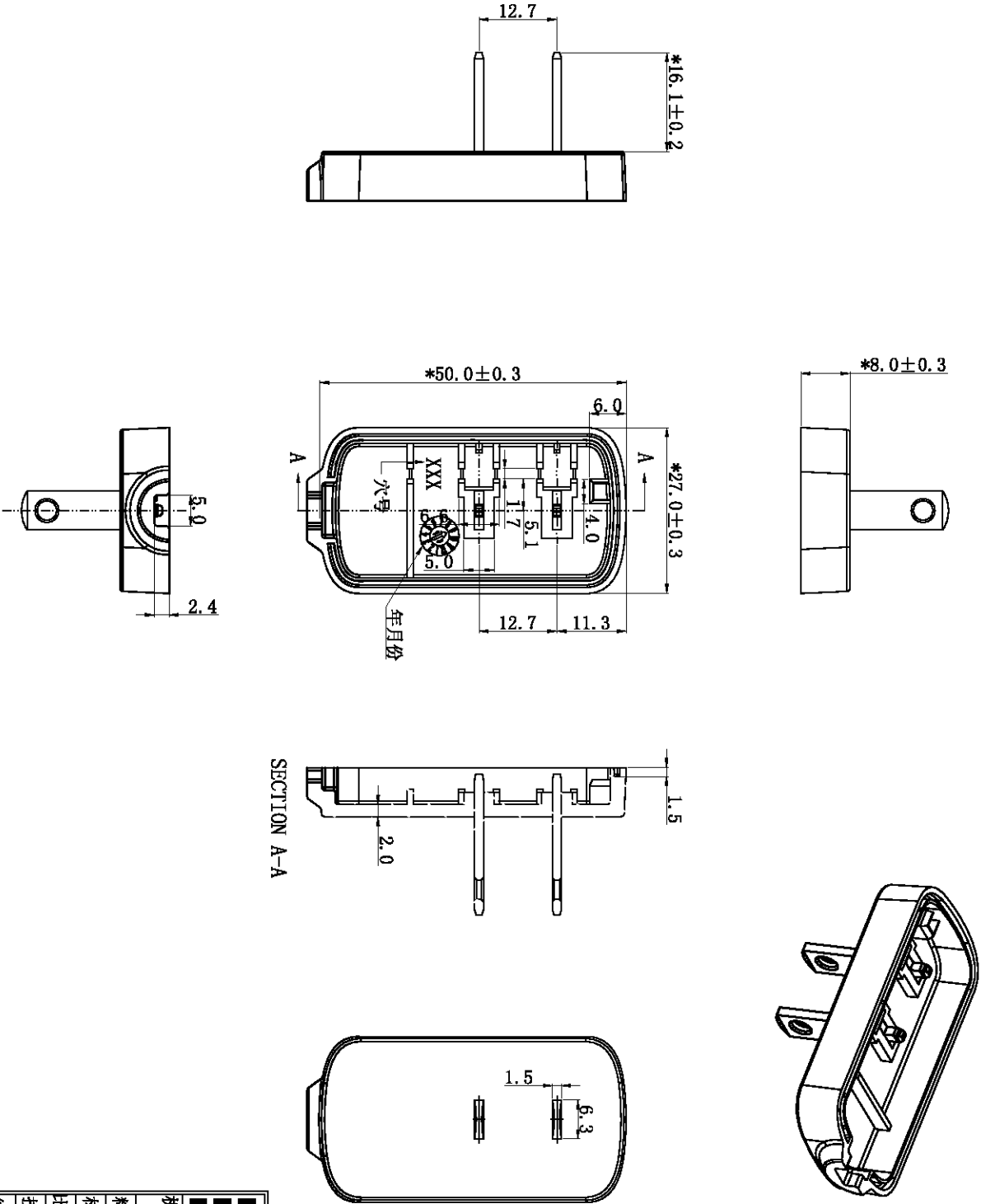
SECTION A-A

<p>深圳市福瑞康电子有限公司 SHENZHEN FREECOM ELECTRONICS CO.,LTD</p>		<p>名称 (DESCRIPTION): 新5V/A立式美规/国标 上盖/TOP CASE</p>	
料号 (Part No.)		料号 (Part No.)	
材质 (MATERIAL)	PC	未标注尺寸公差 NOT INDICATED SIZE TOLERANCE	
比例 (PROPORTIONMENT)	FULL	X.XX ±0.30	
投影 (PROJECTION)		X.XX ±0.20	
绘制 (DRAWED)	章洁平 2013.10.19	X.XX ±0.10	
审核 (CHECKED)		ANGLE 0.5°	
批准 (APPROVED)		单位/UNITS:	A4

物料编号 (PART NO):	CST1CXXXXA0P-Z
修改记录 (MODIFICATION ANNAI)	1. 新发行 2013.10.19 REV: A1

技术要求
TECHNIQUE REQUEST:

1. 材质: 纯PC料。
2. 胶料颜色: 黑色。
3. 防火等级: UL94V-0。
4. 成品外观不能有缩水、变形、溢色、裂纹、料花、少胶、批峰、焦料麻点等明显不良现象。
5. 上下盖配合后不能偏位。
6. 模具前模需加硬处理。
7. 模具编号: FM-S-15-XXX。
8. 带**之尺寸为重点管控尺寸。



物料编号
(PART NO):

CSB1UXXXXA0P-Z

修改记录 (MODIFICATION ANNAI)

1. 新发行 2013. 10. 19
REV: A1

技术要求
TECHNIQUE REQUEST:

1. 材质: 纯PC料。
2. 胶料颜色: 黑色。
3. 防火等级: UL94V-0。
4. 成品外观不能有缩水, 变形, 溢色, 裂纹, 料花, 少胶, 批锋, 焦料麻点等明显不良现象。
5. 上下盖配合后不能偏位。
6. 模具前模芯加硬处理。
7. 模具编号: FM-S-15-XXX。
8. 模具编号: FM-S-15-XXX。
9. 带*之尺寸为重点管控尺寸。

<p>深圳市福瑞康电子有限公司 SHENZHEN FREECOM ELECTRONICS CO., LTD</p>		<p>名称 (DESCRIPTION): 新5V/1A立式美规 下盖/BOTTOM CASE</p>	
料号 (Part No.)	PC	材料 (MATERIAL)	未标注尺寸公差 NOT INDICATED SIZE TOLERANCE
比例 (PROPORTIONMENT)	FILL	投影 (PROJECTION)	章洁平 2013. 10. 19
绘制 (DRAWED)		审核 (CHECKED)	
批准 (APPROVED)			

Test Record No. 1

The manufacturer submitted representative production samples, Models F05L5-050080SPAU, F05L5-050100SPAU, F05L5-130047SPAU, F05L5-050080SPAU-U, F05L5-050100SPAU-U, and F05L5-130047SPAU-U for reviewing and testing with the standard UL 60950-1, 2nd Edition, 2014-10-14 (Information Technology Equipment - Safety - Part 1: General Requirements) and CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment - Safety - Part 1: General Requirements), therefore, such product is judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

All tests were conducted on Models F05L5-050080SPAU, F05L5-050100SPAU, F05L5-130047SPAU, F05L5-050080SPAU-U, F05L5-050100SPAU-U and F05L5-130047SPAU-U also represents other Models in the Model List.

All the tests were conducted in DongGuan Anci Electronic Technology Co. Ltd. and witnessed by a UL representative under WTDP.

The following tests were conducted:

Test	Testing Location/Comments
End Product Reference Page	
General Guidelines	
Power Supply Reference Page	
Guide Information Page - Maximum Output Voltage, Current, and Volt Ampere Measurement (1.2.2.1)	
Input: Single-Phase (1.6.2)	
Energy Hazard Measurements (2.1.1.5, 2.1.2, 1.2.8.10)	
SELV Reliability Test Including Hazardous Voltage Measurements (2.2.2, 2.2.3, 2.2.4, Part 22 6.1)	
Limited Current Circuit Measurement (2.4.1, 2.4.2)	
Limited Power Source Measurements (2.5)	
Humidity (2.9.1, 2.9.2, 5.2.2)	
Determination of Working Voltage; Working Voltage Measurement (2.10.2)	
Transformer and Wire /Insulation Electric Strength (2.10.5.13)	
Strain Relief (3.2.6, 4.2.1, 4.2.7)	
Steady Force (4.2.1 - 4.2.4)	
Drop (4.2.6, 4.2.1)	
Stress Relief (4.2.7, 4.2.1)	
Direct Plug-In Equipment-Moment (4.3.6)	WEIGHT AND MOMENT DETERMINATION: (DIRECT PLUG-IN UNIT)
Direct Plug-In Blade Securement (4.3.6)	
Direct Plug-In Security of Input Contacts (4.3.6)	
Direct Plug-In Resistance to Crushing (4.3.6)	
Direct Plug-In Rod Pressure (4.3.6)	
Heating (4.5.1, 1.4.12, 1.4.13)	
Ball Pressure (4.5.5, 4.5)	
Touch Current (Single-Phase; TN/TT System) (5.1, Annex D)	
Electric Strength (5.2.2)	
Component Failure (5.3.1, 5.3.4, 5.3.7)	
Transformer Abnormal Operation (5.3.3, 5.3.7b, Annex C.1)	
Power Supply Output Short-Circuit/Overload (5.3.7)	

Test results are valid only for the tested equipment. These tests are considered representative of the products covered by this Test Report. The test methods and results of the above tests have been reviewed and found to be in accordance with the requirements in the Standard(s) referenced at the beginning of this Test Report.

The following supplements are provided as a part of this Test Record. NOTE: These supplements are only available to the Applicant via the CDA system.

<u>Type</u>	<u>Supplement Id</u>	<u>Description</u>
Attachment	2-01	CRD
Datasheet	2-02	Datasheet

Test Record No. 2

Client requests to alternate Transformer (Model 16015000900R) for F05L5-xxxxyySPAU models which output voltage 11.0-13.0Vdc in this report.

Tests performed on Model F05L5-130047SPAU were considered to be representative of other models.

Only limited tests were considered necessary based on engineering judgement and additional tests were conducted in Test record 1.

Unless otherwise noted in the above list of tests, all tests were conducted by Keyway Testing Technology Co., Ltd., under WTDP program.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

The following tests were conducted:

Test	Testing Location/Comments
End Product Reference Page	
Power Supply Reference Page	
Guide Information Page - Maximum Output Voltage, Current, and Volt Ampere Measurement (1.2.2.1)	
Input: Single-Phase (1.6.2)	
SELV Reliability Test Including Hazardous Voltage Measurements (2.2.2, 2.2.3, 2.2.4, Part 22 6.1)	
Limited Power Source Measurements (2.5)	
Humidity (2.9.1, 2.9.2, 5.2.2)	
Determination of Working Voltage; Working Voltage Measurement (2.10.2)	
Heating (4.5.1, 1.4.12, 1.4.13)	
Electric Strength (5.2.2)	
Transformer Abnormal Operation (5.3.3, 5.3.7b, Annex C.1)	
Power Supply Output Short-Circuit/Overload (5.3.7)	

Test results are valid only for the tested equipment. These tests are considered representative of the products covered by this Test Report. The test methods and results of the above tests have been reviewed and found to be in accordance with the requirements in the Standard(s) referenced at the beginning of this Test Report.

The following supplements are provided as a part of this Test Record. NOTE: These supplements are only available to the Applicant via the CDA system.

Type	Supplement Id	Description
Attachment	2-03	CRD
Datasheet	2-04	2-Datasheet-1

Project No. 4786753724 File E257831 Page 1
 Compliance Review Conducted
 by: KinSang Tang Sang Date 2015-01-28
 Printed Name Signature

CONSTRUCTION COMPLIANCE REVIEW RECORD

Sample Identification -

Sample Card No.	Date Received	Sample No.	Manufacturer, Product Identification and Ratings
-	-	-	Conduct construction review at client's facilities.
-	-	-	

Measurement Instrument Information -

Inst. ID No.	Instrument Type	Function/Range	Last Cal. Date	Next Cal. Date
AN-083	Display Caliper	0.01mm□150mm	2014-04-02	2015-04-01

The following additional information is required when using client's or rented equipment, or when a UL ID Number for an instrument number is not used. The Inst. ID No. below corresponds to the Inst. ID No. above.

Inst. ID No.	Make/Model/Serial Number/Asset No.
AN-083	HYT-111-251
-	-
-	-

Measurement instrument information is recorded on UL's Laboratory Project Management (LPM) database. (This statement may be selected only if CRDs are completed at a UL facility)

CONSTRUCTION COMPLIANCE REVIEW:

The sample was reviewed for compliance with the construction requirements in the standard indicated below and a complete record including measurements to support compliance with those requirements is detailed in Report Reference No. E257831-A19.

CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment - Safety - Part 1: General Requirements)	2nd Edition / Amendment 1 and 2/ Edition/ Revision Date	2014-10
---	---	---------

The following Construction Requirements were not covered by the above-mentioned Report.

Project No. 4786939993 File E257831 Page 1
 Compliance Review
 Conducted by: Candy Guo Candy Guo Date 2015-05-29
 Printed Name Signature

CONSTRUCTION COMPLIANCE REVIEW RECORD

Sample Identification -

Sample Card No.	Date Received	Sample No.	Manufacturer, Product Identification and Ratings
20150518-01001	2015-05-18	A01	Manufacturer: Shenzhen Frecom Electronics Co Ltd Product: Switching Mode Power Adaptor Model: F05L5-130047SPAU Ratings: Input: 100-120Vac or 100-240Vac, 50/60Hz, 0.2A Output: 13.0Vdc, 0.47A
20150518-02001	2015-05-18	TR1	Manufacturer: Shenzhen Frecom Electronics Co Ltd Product: Transformer Model: 16015000900R (Class B)

Indications of compliance apply to all samples identified with specific indications of compliance included for construction differences of the different samples.

Measurement Instrument Information -

Inst. ID No.	Instrument Type	Function/Range	Last Cal. Date	Next Cal. Date
KWS-008	Digital Caliper	0~190mm	2015-04-25	2016-04-24

UL measurement equipment information is recorded on Meter Use in UL's Laboratory Project Management (LPM) database.

Measurement instrument information is recorded on UL's Laboratory Project Management (LPM) database. (This statement may be selected only if CRD's are completed at UL facility)

The following additional information is required when using client's or rented equipment, or when a UL ID Number for an instrument number is not used. The Inst. ID No. below corresponds to the Inst. ID No. above.

Inst. ID No.	Make/Model/Serial Number/Asset No.
KWS-008	UPM / 111-021 / 101201

Project No. 4786939993 File E257831 Page 2
Compliance
Review
Conducted by: Candy Guo Candy Guo Date 2015-05-29
Printed Name Signature

CONSTRUCTION COMPLIANCE REVIEW:

The sample was reviewed for compliance with the construction requirements in the following Standard and compliance with applicable construction requirements is noted below.

	CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment - Safety -	Edition/	2nd Edition/
Standard	<u>Part 1: General Requirements)</u>	<u>Revision Date</u>	<u>2014-10</u>