| 1.0 Reference and Address | | | |
|---|---|---|---|
| Report Number | 151224139GZU-001 | Original Issued: 8-Jan-2016 | Revised: 21-Jul-2017 |
| Standard(s) | Information Technology Equipment Safety Part 1: General Requirements >Valid without technical revision: 01Jan2022< [UL 60950-1:2007 Ed.2 +R:14Oct2014]<br><br>Information Technology Equipment Safety Part 1: General Requirements (R2016) >Valid without technical revision: 01Jan2022< [CSA C22.2#60950-1:2007 Ed.2 +A1;A2]<br><br>Audio, Video And Similar Electronic Apparatus - Safety Requirements >Valid without technical revision: 01Jan2022< [UL 60065:2015 Ed.8]<br><br>Audio, Video And Similar Electronic Apparatus - Safety Requirements [CSA C22.2#60065:2016 Ed.2] | | |

| | | | |
|---|---|---|---|
| Applicant | Aquil Star Precision Industrial (Shenzhen) Co., Ltd. | Manufacturer | **Aquil Star Precision Industrial (Shenzhen) Co., Ltd.** |
| Address | Building A and B, The No. 4 of Tengfeng Third Road, Fenghuang Third Industry, Fuyong Town, Baoan Zone, SHENZHEN CITY Guangdong Province 518103 | Address | Building A and B, The No. 4 of Tengfeng Third Road, Fenghuang Third Industry, Fuyong Town, Baoan Zone, SHENZHEN CITY Guangdong Province 518103 |
| Country | China | Country | China |
| Contact | Chen Yan | Contact | Chen Yan |
| Phone | 0755-88827880 | Phone | 0755-88827880 |
| FAX | 0755-27306768 | FAX | 0755-27306768 |
| Email | chenyan@aquilstar.cn | Email | chenyan@aquilstar.cn |

| **2.0 Product Description** | |
|---|---|
| Product | SWITCHING ADAPTER |
| Brand name | NA |
| Description | The product covered by this report is a SWITCHING ADAPTER for indoor use only. |
| Models | ASSA67 followed by A or W; followed by -; followed by 090 to 360; followed by 010 to 250. |
| Model Similarity | ASSA67 followed by A or W; followed by -; followed by 090 to 360; followed by 010 to 250.<br>("A" denotes integral US plug; or “W” denotes detachable plug.<br>"090 to 360" represents output voltage from "090" (9.0Vdc) to "360" (36.0Vdc), increments steps of 0.1Vdc;<br>"010 to 250" represents output current from "010" (100mA) to "250" (2500mA), increments steps of 10mA;)<br><br>All the models are the same except model name, rating and some components depending on output power. It has two kinds of constructions: one is inregral plug and another is detachable plug. |
| Ratings | Input: 100-240V~, 50/60Hz, 0.8A<br>Output: 9-36Vdc, 0.1-2.5A, 24.7W max. |
| Other Ratings | Ta=45°C |

## 3.0 Product Photographs

**Photo 1** - External view of the unit(for inregral plug model)

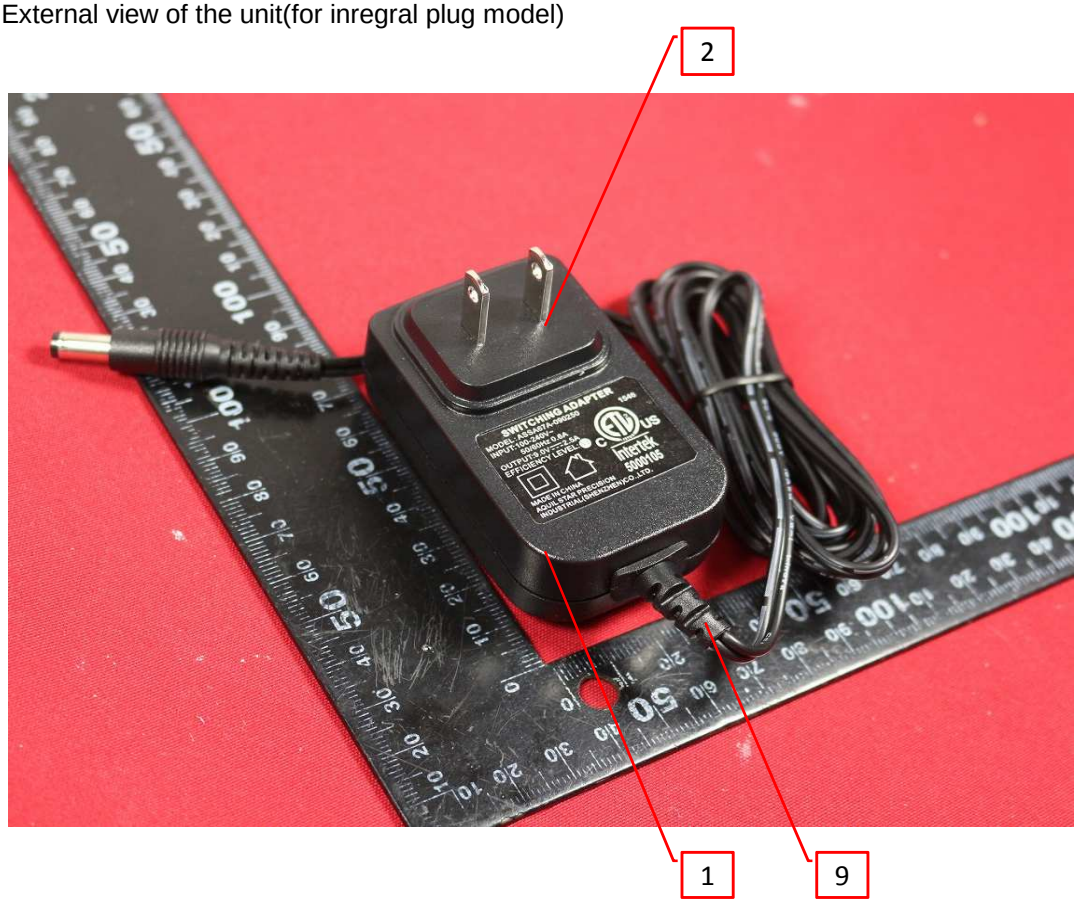



**Photo 2** - External view of the unit(for inregral plug model)

## 3.0 Product Photographs

**Photo 3** - External view of the unit(for inregral plug model)

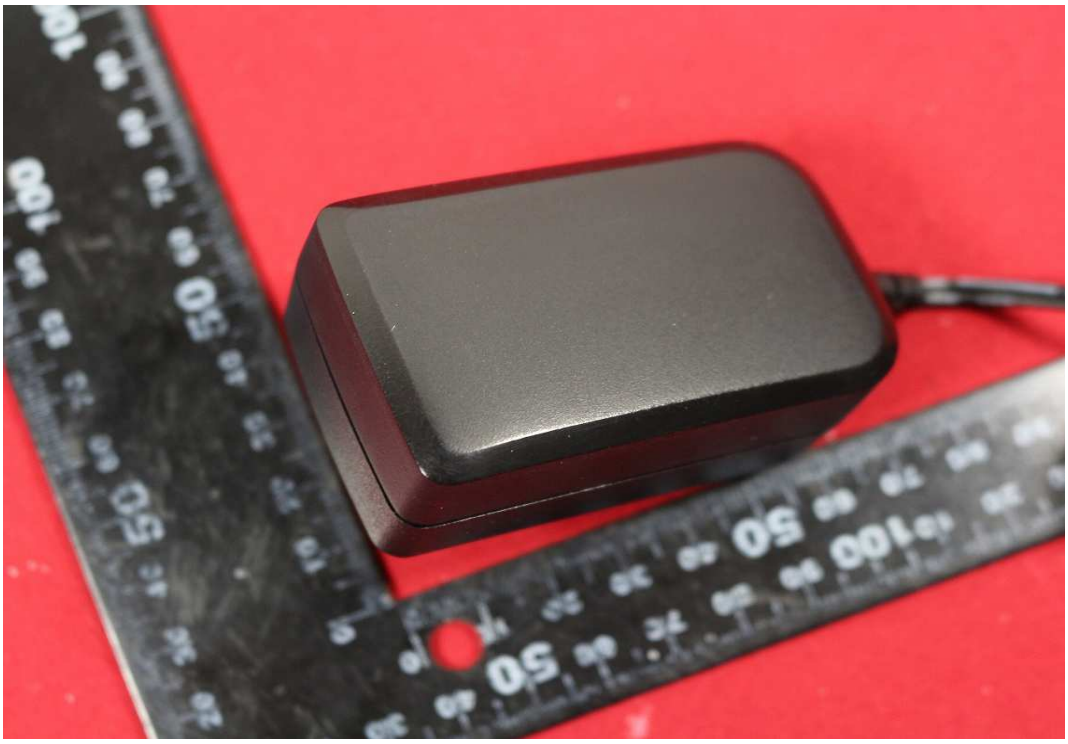
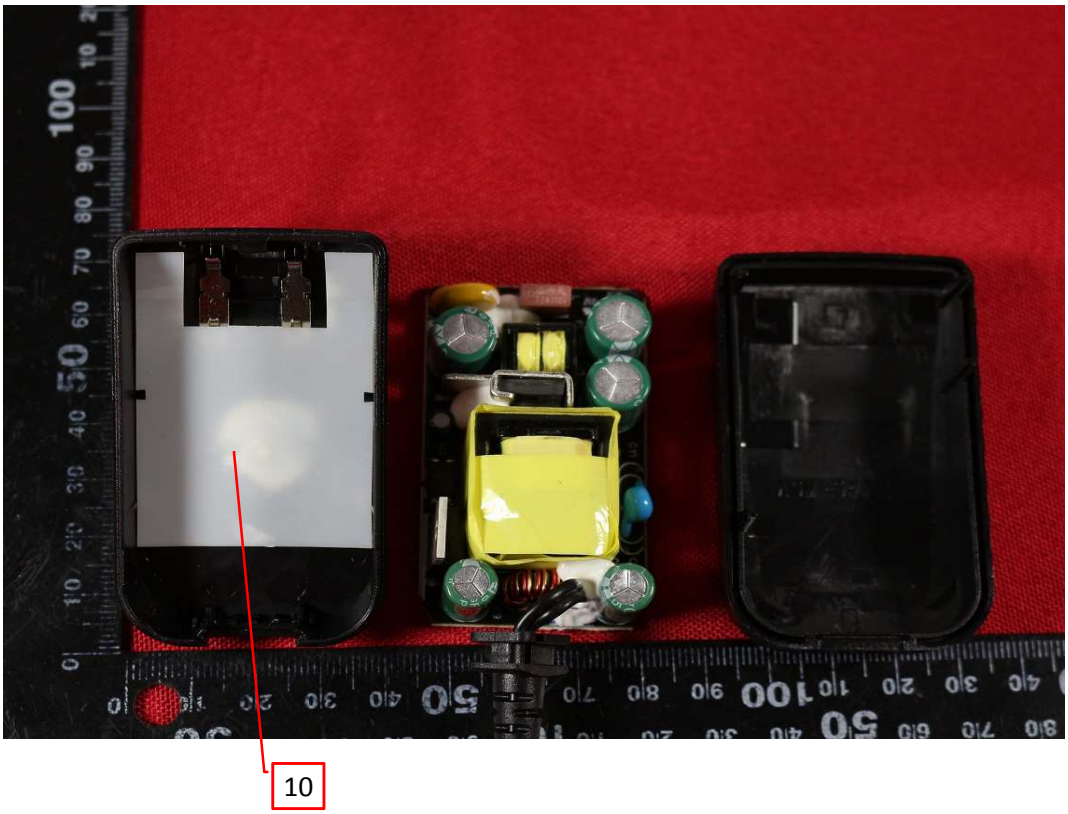


**Photo 4** - Internal view of the unit(for inregral plug model)



## 3.0 Product Photographs

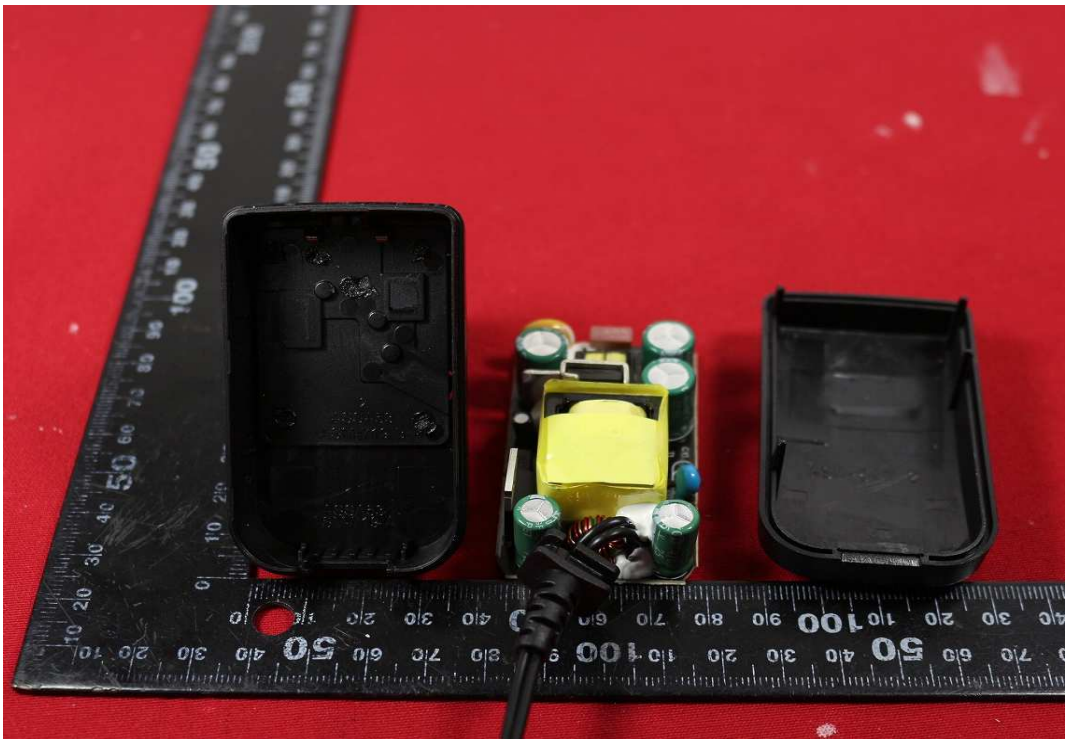
**Photo 5** - External view of the unit(for detachable plug model)

**Photo 6** - External view of the unit(for detachable plug model)

## 3.0 Product Photographs

**Photo 7** - External view of the unit(for detachable plug model)

**Photo 8** - Internal view of the unit(for detachable plug model)



## 3.0 Product Photographs

**Photo 9** - Component side view

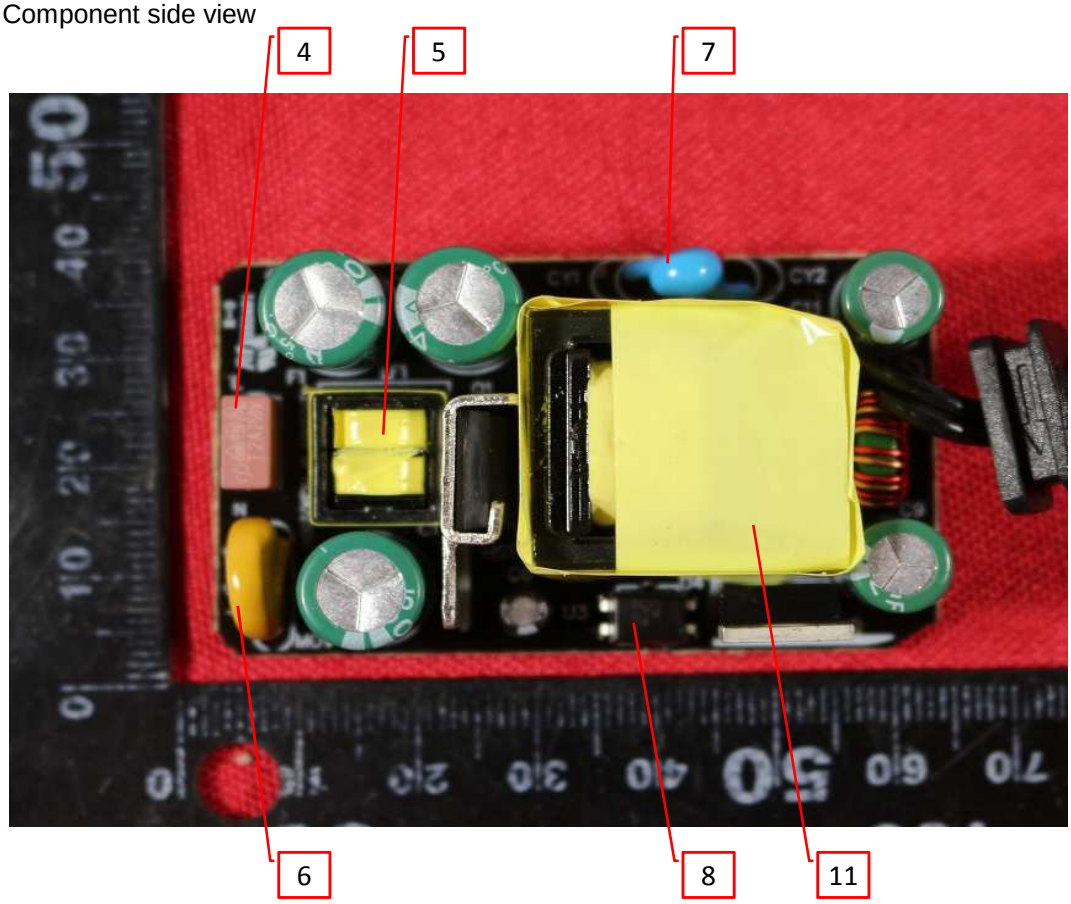
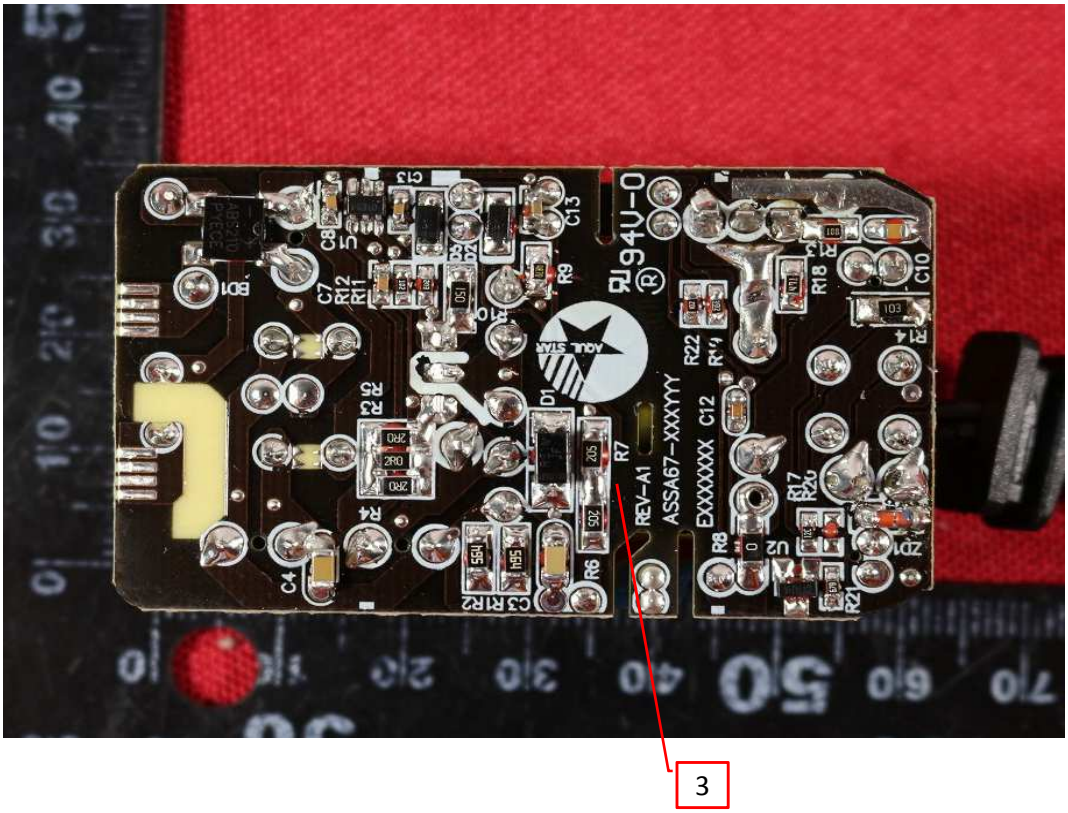



**Photo 10** - Soldering side view



## 3.0 Product Photographs

**Photo 11** - Transformer view

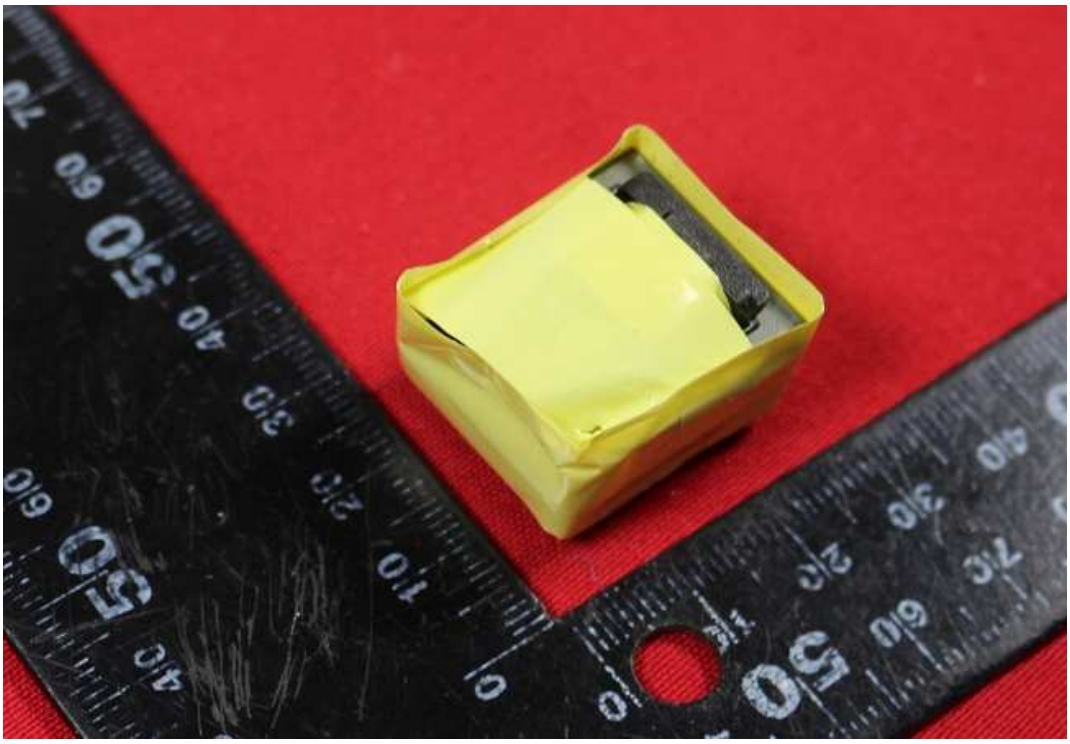
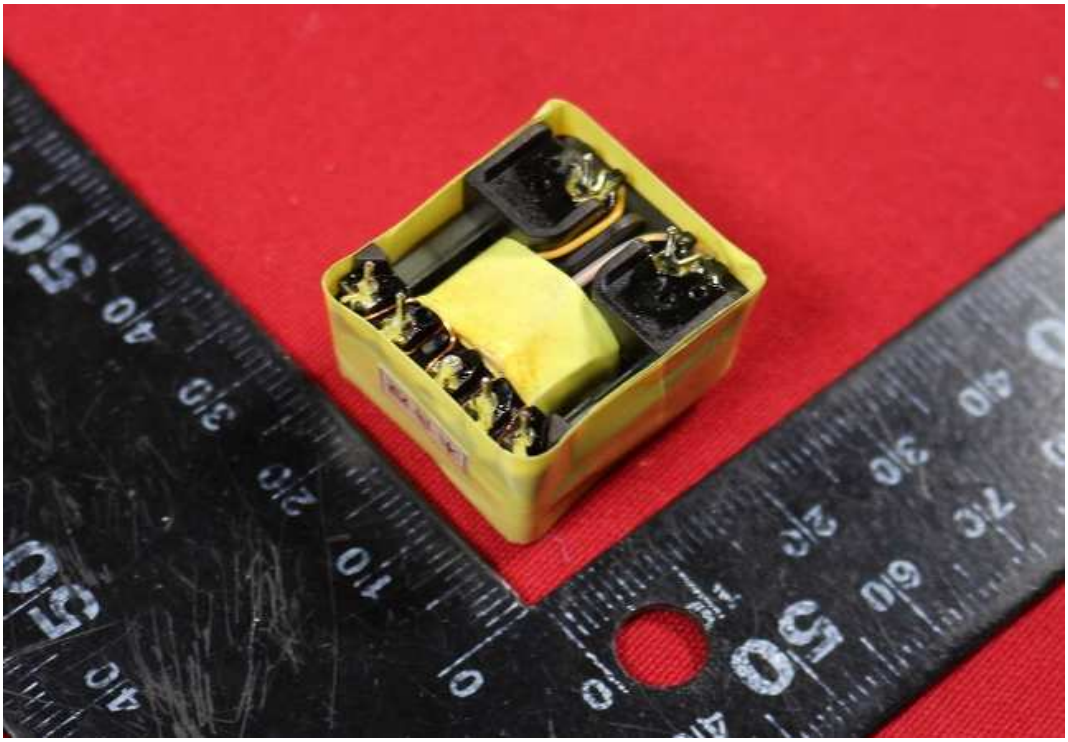


**Photo 12** - Transformer view



## 3.0 Product Photographs

**Photo 13** - Transformer view

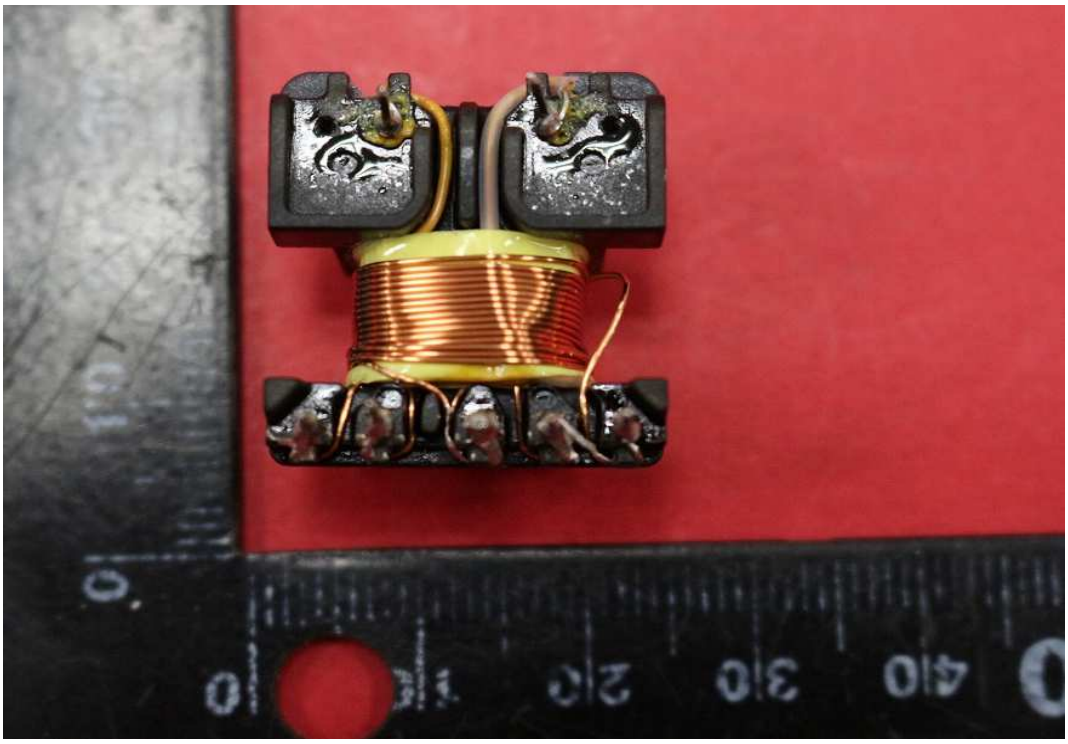
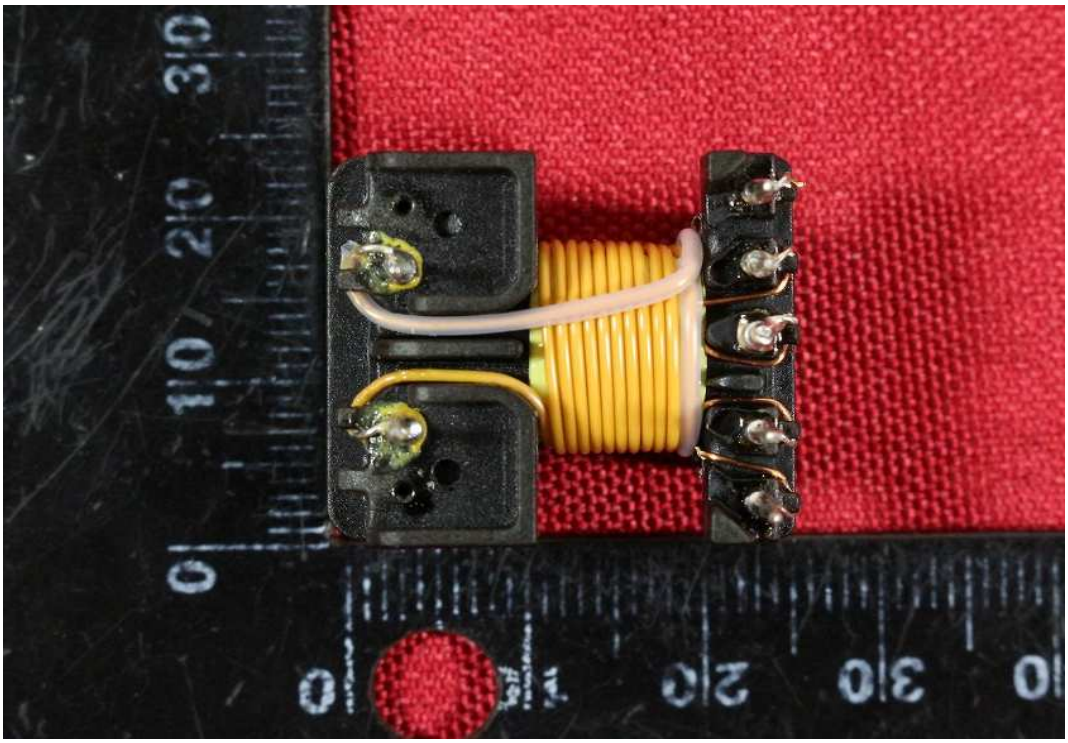


**Photo 14** - Transformer view (for ASSA67-A , ASSA67-B, ASSA67-B1 and ASSA67-C)



## 3.0 Product Photographs

**Photo 15** - Transformer view (Alternative for ASSA67-C only)

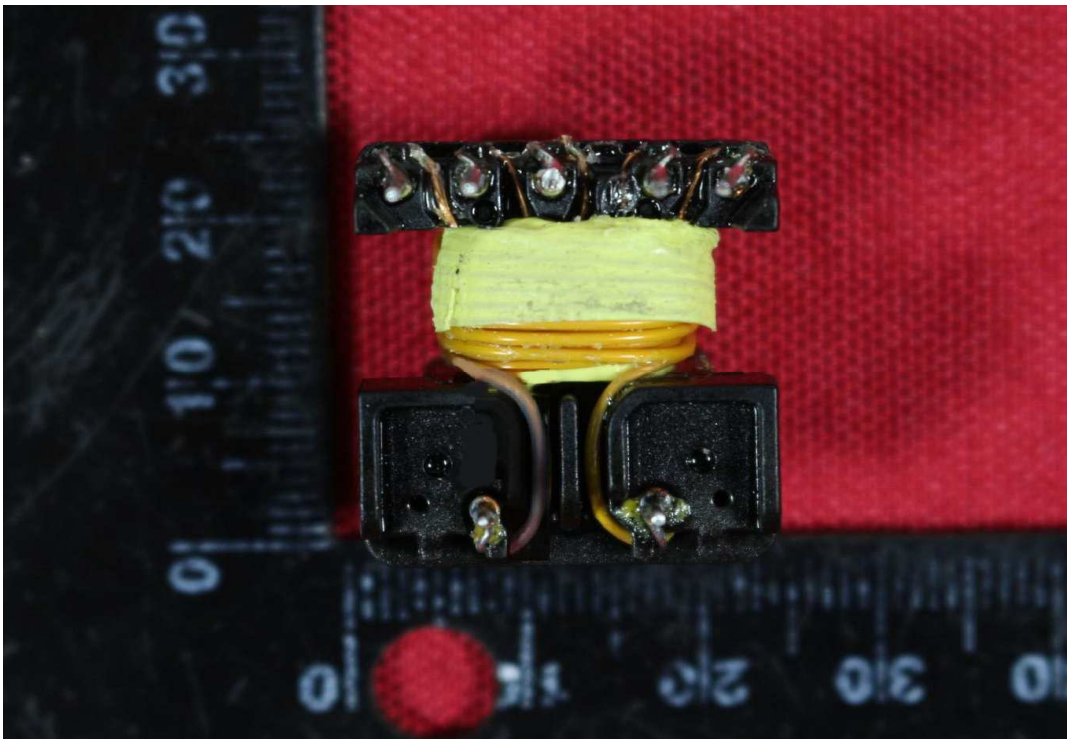


**Photo 16** - Transformer view

## 3.0 Product Photographs

**Photo 17** - Transformer view

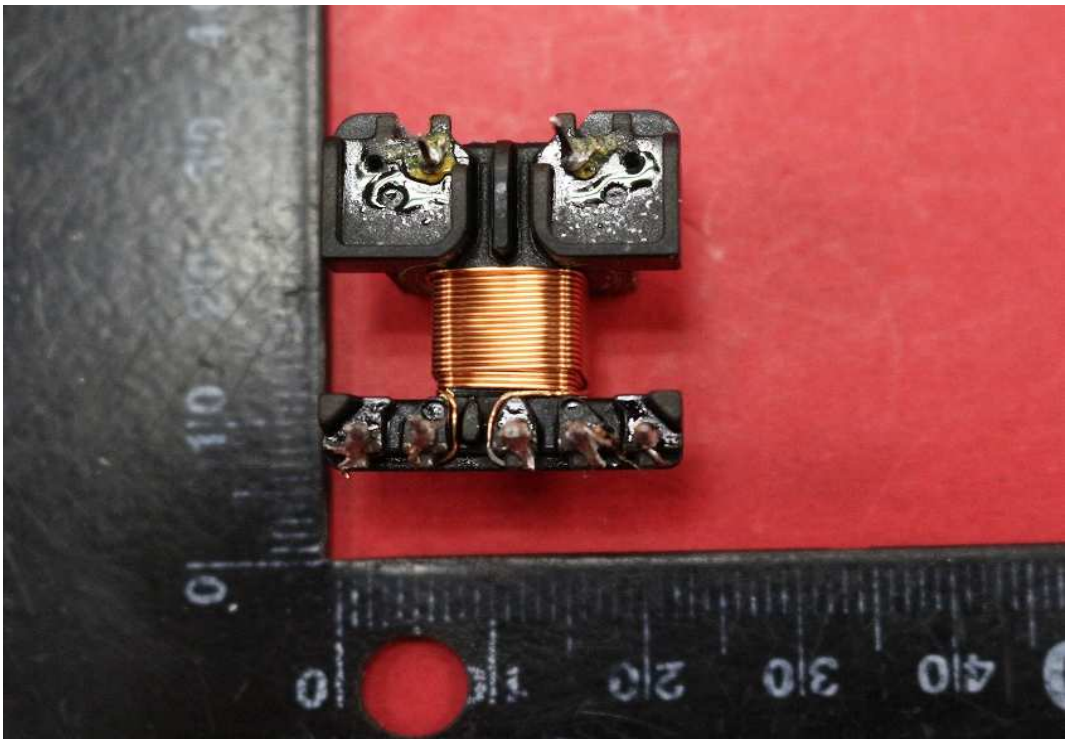
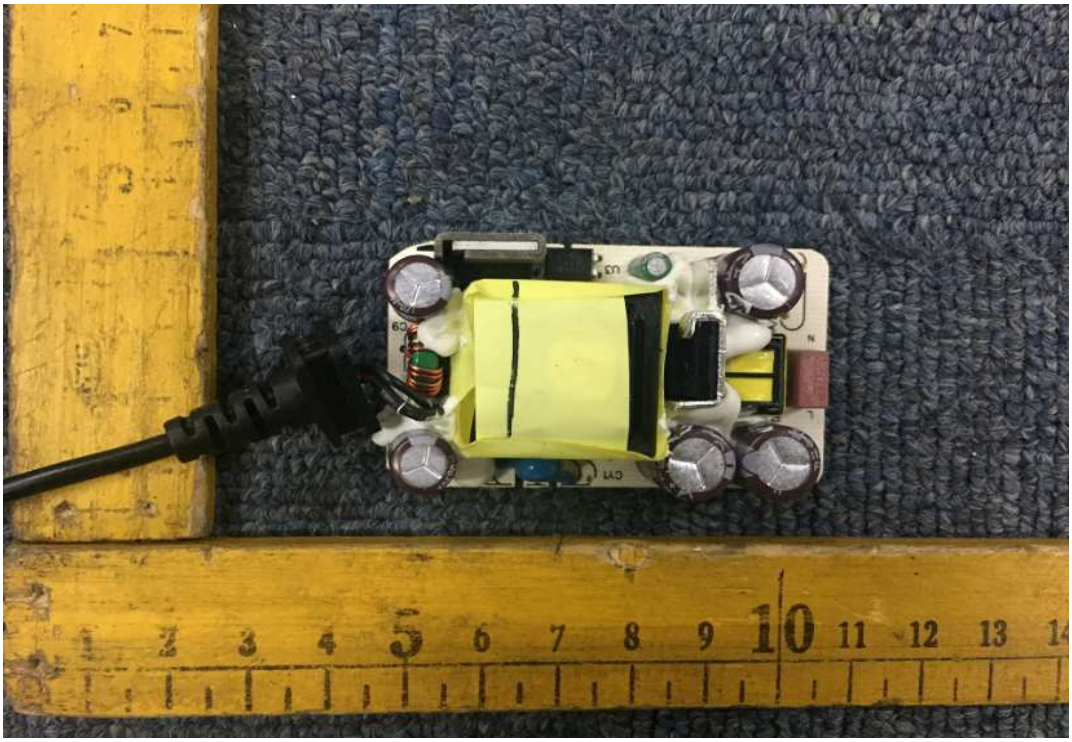


**Photo 18** - External view of the unit for top enclosure(alternative )(for inregral plug model and detachable plug model)

## 3.0 Product Photographs

**Photo 19** - External view of the unit for top enclosure(alternative )(for inregral plug model and detachable plug model)

**Photo 20 -** Component side view(with heat sink (HS2))



| 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 | Enclosure | SABIC INNOVATIVE PLASTICS US L L C | 940(f1) | PC, V-0, 120°C, min. thickness 1.5mm | cURus |
| | | | SABIC INNOVATIVE PLASTICS B V | 945 (GG) | PC, V-0, min. thickness 1.5 mm, 130 °C | cURus |
| | | | SABIC JAPAN L L C | 945 (GG) | V-0, min. 1.5mm thickness,130 °C | cURus |
| | | | LG CHEM LTD | LUPOY EF-1006F(m) | V-0, min. 1.5mm thickness,120 °C | cURus |
| 1 | 2 | Pin holder | SABIC INNOVATIVE PLASTICS US L L C | 940(f1) | V-0, 120°C | cURus |
| 10 | 3 | PCB | SHANDONG JINBAO ELECTRONICS CO LTD | ZD-95(G)F1 | V-0, 130°C, min. thickness 1.2mm | UR |
| | | | Various | Various | | UR |
| 9 | 4 | Fuse (F1) | XC ELECTRONICS (SHENZHEN) CORP LTD | 5TE | T2A250V or T6.3A250V, 8.4 x 4.0 x 7.7 mm | cURus |
| | | | NG HU BLUELIGHT ELECTRONIC CO LTD | 6ET | T2A250V or T6.3A250V, , 8.5 x 8.0 x 4.0 mm | cURus |
| | | | SHENZHEN LANSON ELECTRONICS CO LTD | SMT | T2A250V or T6.3A250V, , 8.4 x 4.0 x 7.7 mm | cURus |
| | | | Various | Various | T2A250V or T6.3A250V, , 8.4 x 4.0 x 7.7 or 8.5 x 8.0 x 4.0 mm | cURus |
| 9 | 5 | Line filter (LF1) (optional) | ZEAL ELECTRONIC CO.,LTD | EE10 | Min. 10mH, 130°C | NR |
| 9 | 5a | Bobbin | CHANG CHUN PLASTICS CO LTD | T375J | Phenolic, V-0, 150°C | cURus |
| 9 | 5b | Magnet Wire | PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD | UEW/U@ | 130°C | cURus |
| 9 | 5c | Insulation tape | JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD | CT-280B | 130°C | cURus |

| 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] |
| 9 | 6 | Varistor (MOV) (optional) | JOYIN CO LTD | JVT10S471K, JVT14S471K | Min. 300Vac, 125°C | cURus |
| | | | THINKING ELECTRONIC INDUSTRIAL CO LTD | TVR14471, TVR10471K | Min. 300Vac, 125°C | cURus |
| | | | CENTRA SCIENCE CORP | CNR-10D471K, CNR-14D471K | Min. 300Vac, 125°C | cURus |
| 9 | 7 | Y- capacitor (CY3) (optional) | JYH CHUNG ELECTRONICS CO LTD | JD | Max. 2200pF, min. 250Vac, 125° C, Y1 type | cURus |
| | | | SHAANXI HUAXING ELECTRONIC DEVELOPMENT CO LTD | CT7Y1 Series | Max. 2200pF, min. 250Vac, 125° C, Y1 type | cURus |
| | | | HSUAN TAI ELECTRONIC CO LTD | CY | Max. 2200pF, min. 250Vac, 125° C, Y1 type | cURus |
| | | | WALSIN TECHNOLOGY CORP | AH | Max. 2200pF, min. 250Vac, 125° C, Y1 type | cURus |
| | | | SHENZHEN HAOTIAN ELECTRONIC CO LTD | HT | Max. 2200pF, min. 250Vac, 125° C, Y1 type | cURus |
| | | | XIANGTAI ELECTRONIC (SHENZHEN) CO LTD | YO-series | Max. 2200pF, min. 250Vac, 125° C, Y1 type | cURus |
| 9 | 8 | Optocoupler (U3) | COSMO ELECTRONICS CORP | K1010, KPC817 | Double protection, Insulation voltage minimum 5000 Vac, rated 115 °C | cURus |
| | | | LITE-ON TECHNOLOGY CORP | LTV-817 | Double protection, Insulation voltage minimum 5000 Vac, rated 110 °C | cURus |
| | | | EVERLIGHT ELECTRONICS CO LTD | EL817 | Double protection, Insulation voltage minimum 5000 Vac, rated 110 °C | cURus |
| | | | Shenzhen Orient Components Co., Ltd | ORPC-817 | Double protection, Insulation voltage minimum 5000 Vac, rated 110 °C | cURus |
| | | | CT Micro International Corporation | CT817 | Double protection, Insulation voltage minimum 5000 Vac, rated 110 °C | cURus |
| 1 | 9 | Output cord | SHENZHEN DONG JU WIRE & CABLE CO LTD | 2468, 2464, 1185 | VW-1, Min. 80ºC, Min. 36 V, min. 26AWG | cURus |
| | | | Various | 2468, 2464, 1185 | VW-1, Min. 80ºC, Min. 36 V, min. 26AWG | cURus |
| | | | Various | 2725, 21104 | VW-1, Min. 80ºC, Min. 30 V, min. 26AWG (only for output voltage less than 30Vdc models) | cURus |

| 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 | 10 | Insulation sheet (only for model ASSA67A-xxxyyy) | CHENGDU KANGLONGXIN PLASTICS CO LTD | KLX PP WT-10 | PP, VTM-0 or V-0, min.110°C, min. thickness 0.25mm | cURus |
| 9 | 11 | Transformer (T1) | SHENZHEN ANPINYUAN TECHNOLOGY CO LTD | ASSA67-A, ASSA67-B, ASSA67-B1, ASSA67-C | Class B, see Section 7.0 Illustrations 4-4b for details. | NR |
| | | | Shenzhen TOHO Electronic Technology Co.,Ltd | ASSA67-A, ASSA67-B, ASSA67-B1, ASSA67-C | Class B, see Section 7.0 Illustrations 4-4b for details. | NR |
| | | | ZEAL ELECTRONIC FACTORY TIESONG QINGXI | ASSA67-A, ASSA67-B, ASSA67-B1, ASSA67-C | Class B, see Section 7.0 Illustrations 4-4b for details. | NR |
| 9 | 11a | Insulation tape | JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD | PZ* (b) | 130ºC | UR |
| | | | XINYU SHENGDAFENG ELECTRIC MATERIAL CO LTD | SDF-312 | 130ºC | UR |
| | | | CHANG SHU LIANG YI TAPE INDUSTRY CO LTD | LY-XX (a)(b | 130ºC | UR |
| | | | SUZHOU MAILADUONA ELECTRIC MATERIAL CO LTD | JY312# | 130ºC | UR |
| | | | JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD | CT-280B | 130ºC | UR |
| 9 | 11b | Bobbin | CHANG CHUN PLASTICS CO LTD | T375J | V-0, 150°C, thickness: 0.5mm min. | cURus |
| | | | SUMITOMO BAKELITE CO LTD | PM-9630, PM-9820 | V-0, 150°C, thickness: 0.4mm min. | cURus |
| 9 | 11c | Magnet Wire | SHANTOU SHENGANG ELECTRICAL INDUSTRIAL CO LTD | xUEW/130, QA-x/130 | 130°C | UR |
| | | | Various | Various | | UR |

**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] |
|---|---|---|---|---|---|---|
| 9 | 11d | Teflon Tube | DONGGUAN LING FREE HARDWARE PLASTICS PRODUCT CO LTD | LING FREE PTFE TUBE | 300V min., 200ºC | UR |
| | | | ZHUHAI CHANGXIAN NEW MATERIALS TECHNOLOGY CO LTD | E962 | 300V min., 200ºC | UR |
| 9 | 11e | Triple insulation wire | E&B TECHNOLOGY CO LTD | E&B-XXXB | Reinforced, 130ºC | UR |
| | | | SHENZHEN YIMIJIA TECHNOLOGY CO LTD | YMJTIW-B | Reinforced, 130ºC | UR |
| | | | GUANGZHOU WANBAO ELECTRONIC MATERIAL CO LTD | DTM-B | Reinforced, 130ºC | UR |
| | | | HUIZHOU YA CHUANG YU TECHNOLOGY CO LTD | TIW-B | Reinforced, 130ºC | UR |
| 9 | 11f | Varnish | SHENZHEN XINGSHIDA SCIEN TECH PROD CO LTD | SD-1182 | 130ºC | UR |
| | | | ZHUHAI CHANGXIAN NEW MATERIALS TECHNOLOGY CO LTD | E962 | 130ºC | UR |
| | | | JOHN C DOLPH CO | BC-346A | 130ºC | UR |

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.

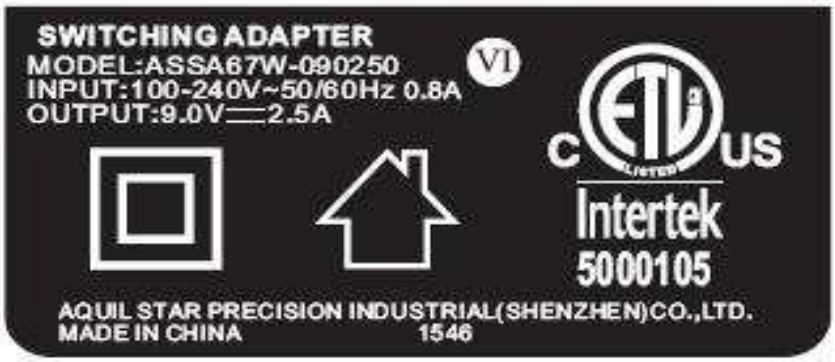
Construction Details - For specific construction details, reference should be made to the photographs and descriptions. All dimensions are approximate unless specified as exact or within a tolerance. In addition to the specific construction details described in this Report, the following general requirements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

1. Spacing - see Illustration 6 - Spacing for details.
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 double insulated.
6. Polarized Connection - This product is provided with a non-polarized power supply connection.
7. 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.
8. Schematics - Refer to Illustration No 2. or schematics requiring verification during Field Representative Inspection Audits
9. Markings - See Illustration No.1 - Marking
10. Cautionary Markings - The following are required:Refer to Illustration No.1, shown the molded caution content both in English and French.
11. Installation, Operating and Safety Instructions - Instructions for installation and use of this product are provided by the manufacturer. Refer to Illustration No.5-5a for details. The use manual in French must provide when the unit sell to Canda.

## 7.0 Illustrations

**Illustration 1** - Marking (representative)


**For integral plug**

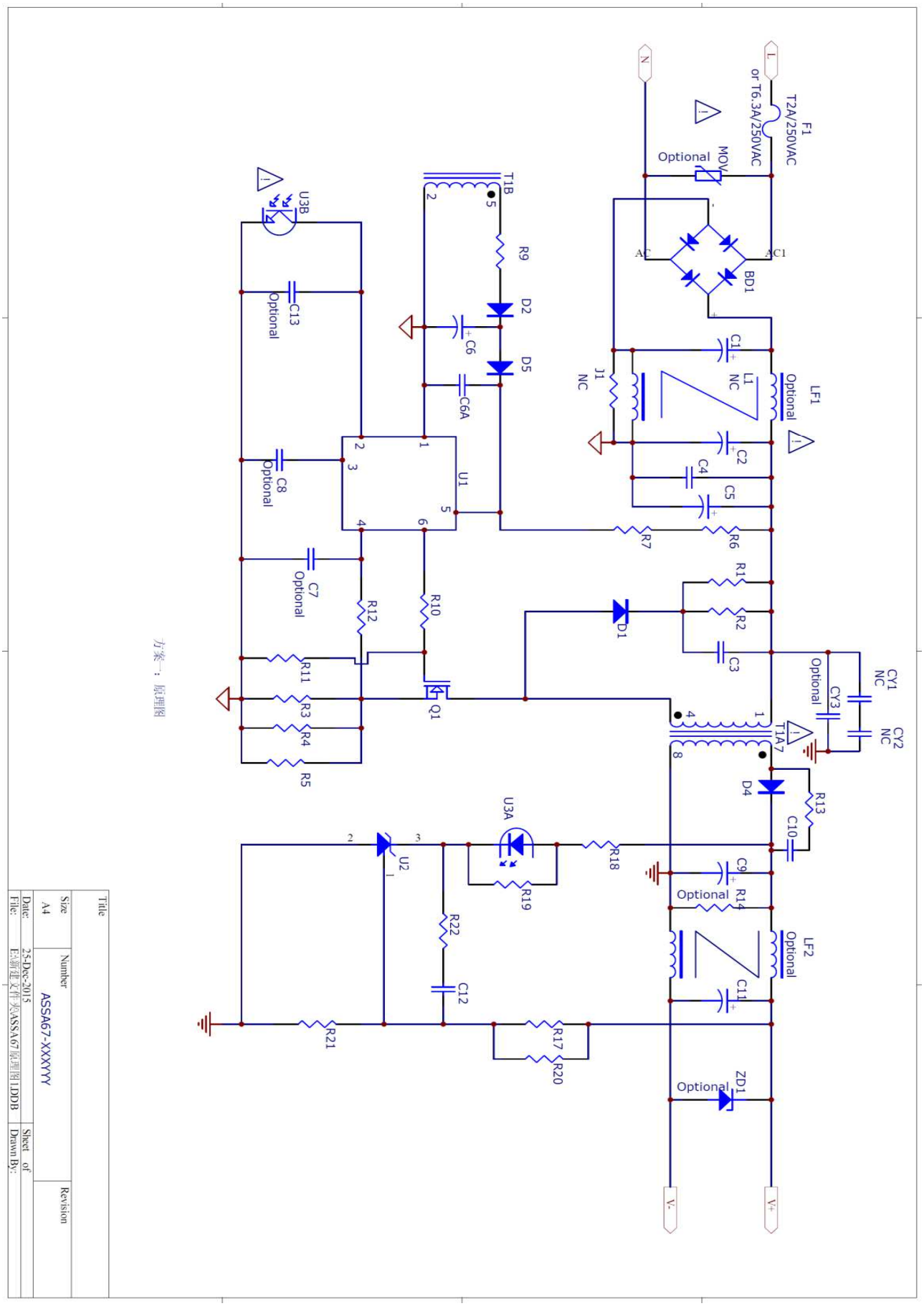



**For detachable plug**

Note:
1. The above markings are the minimum requirements required by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.
2. Since space on label is too small, the "CONFORMS TO UL STD. 60950-1& 60065" and "CERTIFIED TO CSA STD. C22.2 NO. 60950-1 & 60065" will be marked in user manual.
3.The other models(refer to 2.0) have the same labels except the model number and rating.

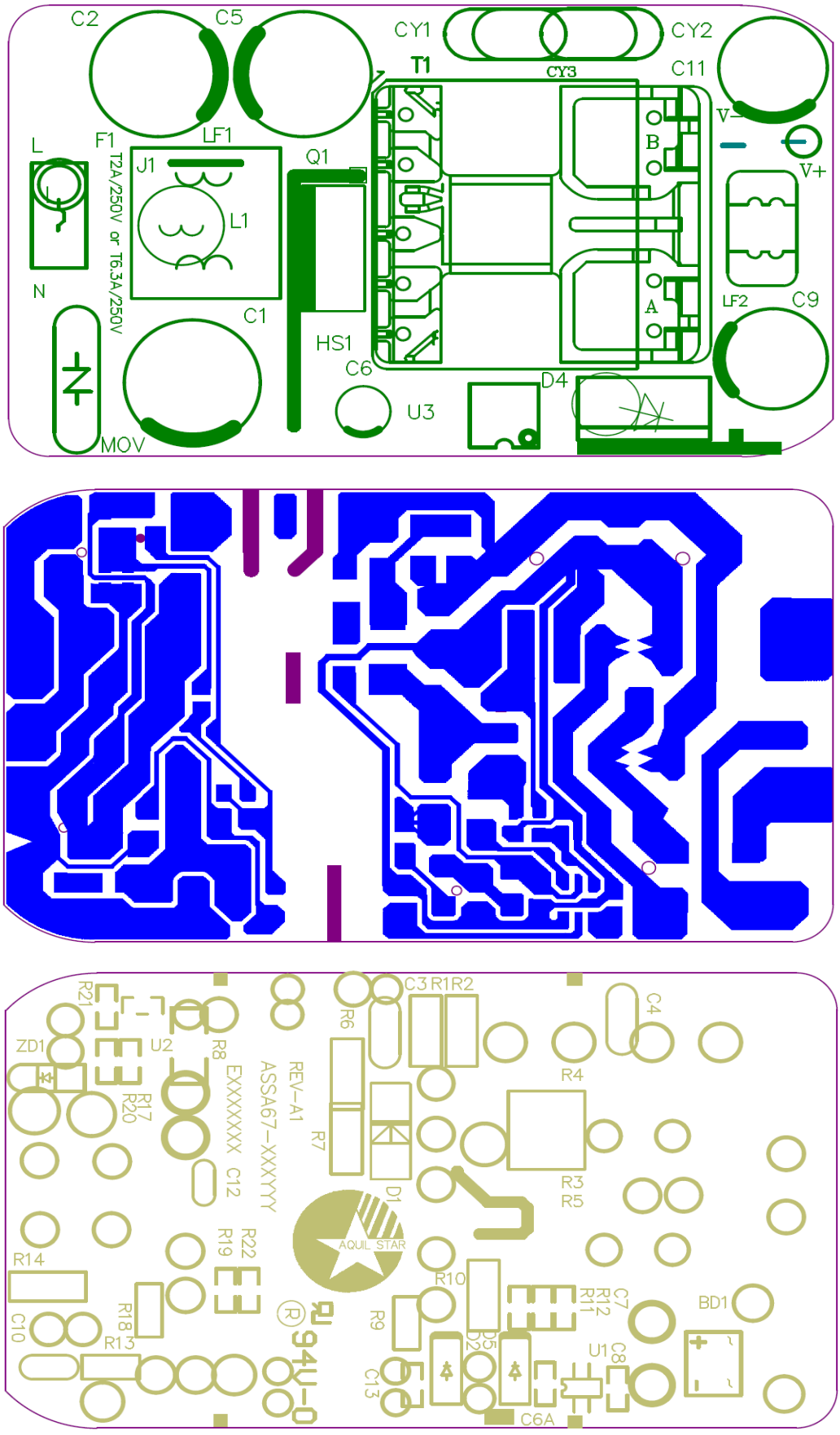
## 7.0 Illustrations

**Illustration 2** - Circuit diagram



## 7.0 Illustrations

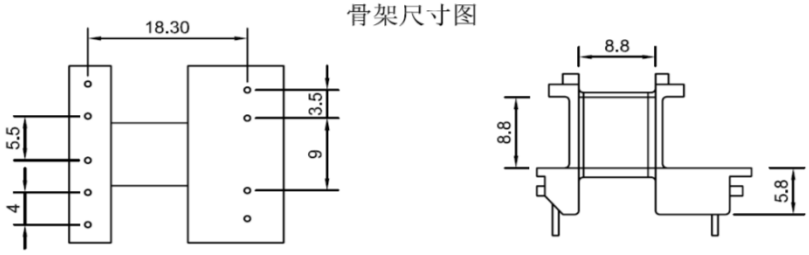
**Illustration 3** - PCB layout



## 7.0 Illustrations

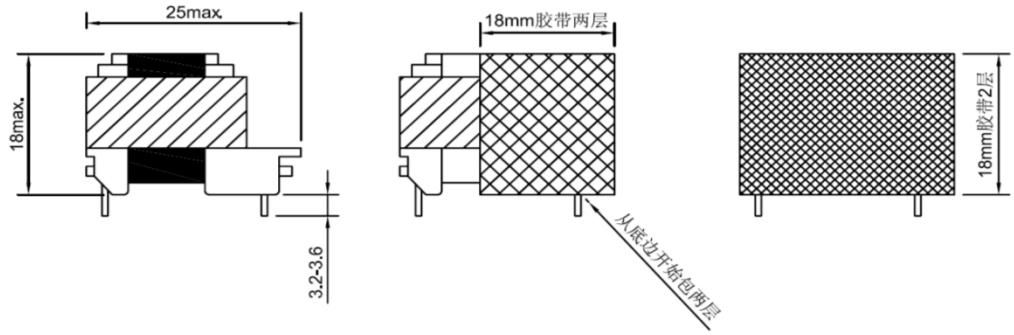
**Illustration 4** - Transformer spec (9.0-15.0V) model:ASSA67-A

骨架尺寸图



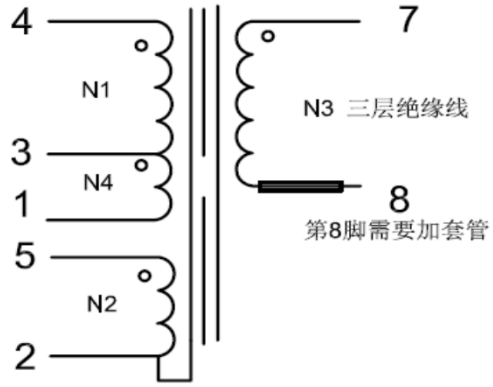

底视图

成品图




Product NO.: ASSA67-A DSX YYWWXXX Year/Week/Factory code:

Note:
YY represent the year,for excample "10";
WW represent the weekness,for excample"20";
XXX represent the factory code,for excample "AS"



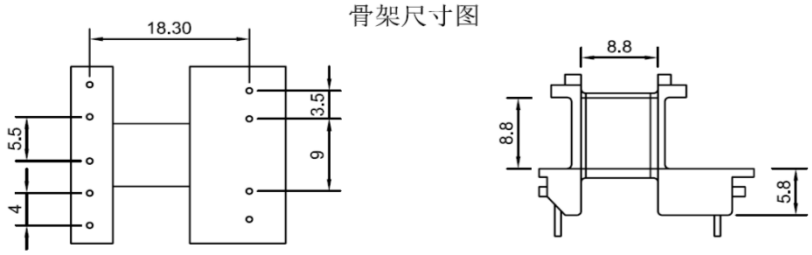

| |
|---|
| N4： 3-1 直径0.37mm*1漆包线绕17T |
| N3： 7-8 0.65*1三层绝缘线绕8T |
| N2： 5-2 0.37mm*1漆包线居中疏绕12T |
| N1： 4-3 直径0.37mm*1漆包线绕38T |
| BOBBIN |

WINDING SEQUENCE
EE22(5+4)卧式脚距18.3mm

## 7.0 Illustrations

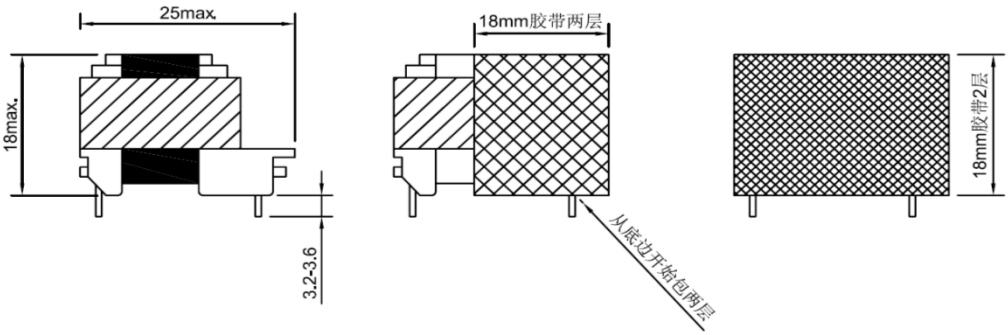
**Illustration 4a** - Transformer spec (15.1-18.9, 19.1-24.0V) model:ASSA67-B

骨架尺寸图



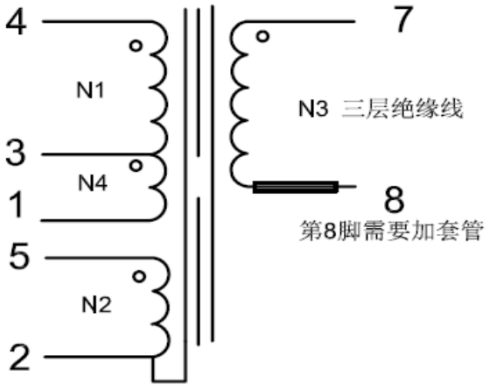

底视图

成品图




Product NO.: ASSA67-B DSX YYWWXXX Year/Week/Factory code:

Note:
YY represent the year,for excample "10";
WW represent the weekness,for excample"20";
XXX represent the factory code,for excample "AS"



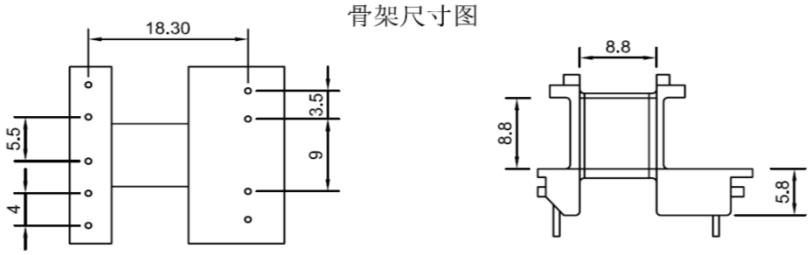

| |
|---|
| N4：3-1 直径0.37mm*1漆包线绕17T |
| N3：7-8 0.45*1三层绝缘线绕12T |
| N2：5-2 0.37mm*1漆包线居中疏绕12T |
| N1：4-3 直径0.37mm*1漆包线绕38T |
| BOBBIN |

WINDING SEQUENCE
EE22(5+4)卧式脚距18.3mm

## 7.0 Illustrations

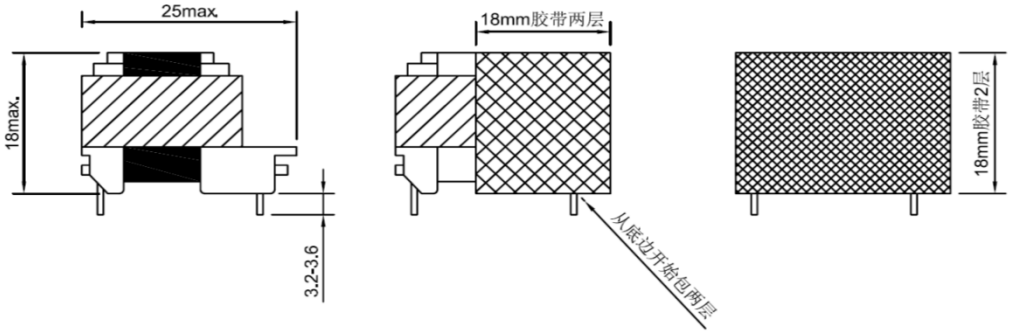
**Illustration 4b** - Transformer spec (24.1-36.0V) model:ASSA67-C

骨架尺寸图



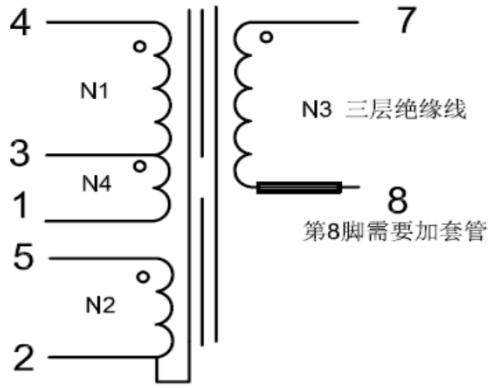

底视图

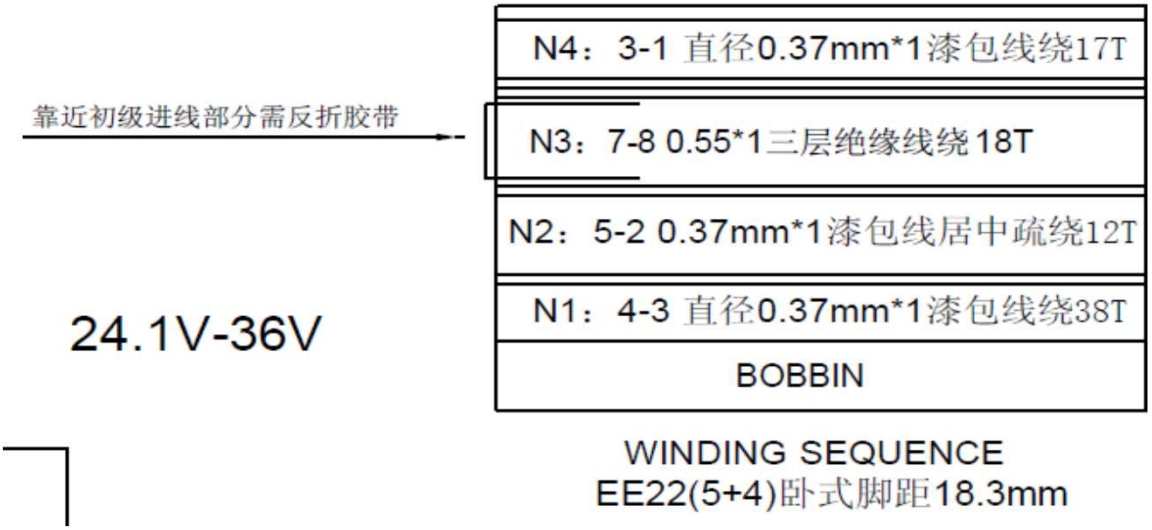
成品图




Product NO.: ASSA67-C DSX YYWWXXX Year/Week/Factory code:

Note:
YY represent the year,for excample "10";
WW represent the weekness,for excample"20";
XXX represent the factory code,for excample "AS"



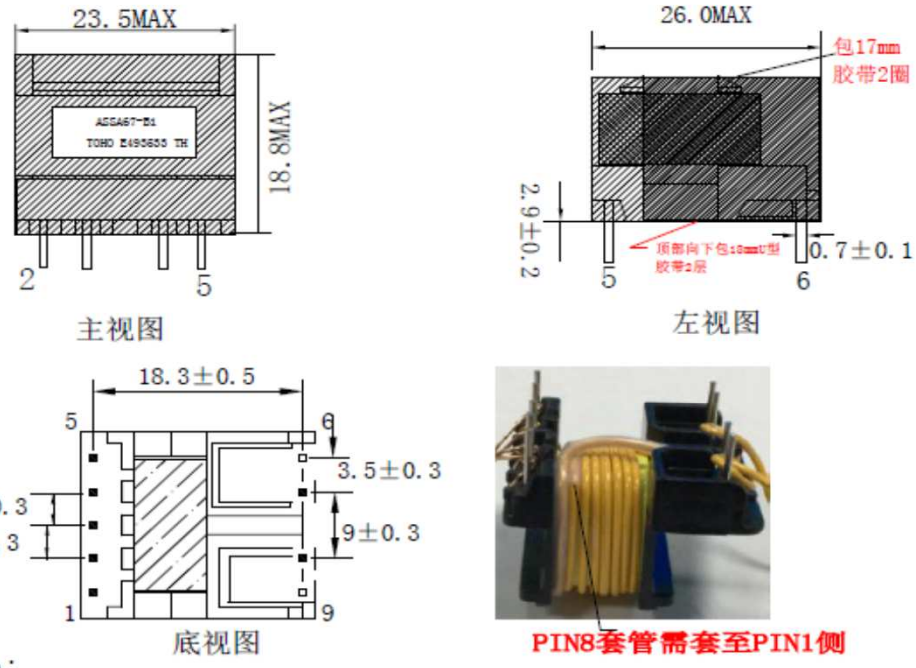




WINDING SEQUENCE
EE22(5+4)卧式脚距18.3mm

## 7.0 Illustrations

**Illustration 4c** - Transformer spec (19.0V) model:ASSA67-B1

1、OUTLINE DIMENSION(UNIT:mm)



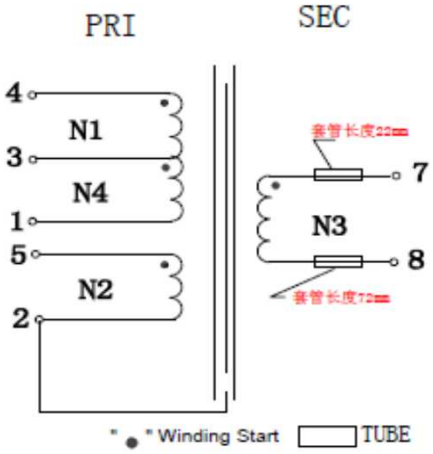



PIN8套管需套至PIN1侧

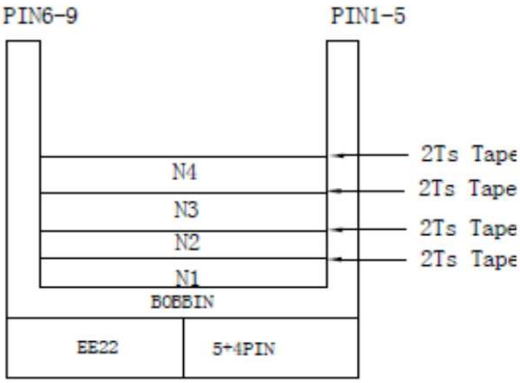
*Note:

1. PIN6、9拔除，成品PIN3剪去2/3.
2. 装夹方向为PIN6-9脚朝机台，顺时针绕线（CNC绕线机为准），除PIN3外引脚引线须绕过骨架侧面凸点，成品先在变压器靠次级侧顶部向下包18mmU型胶带2层，再沿磁芯方向包17mm胶带2圈.
3. N3进出线需加套管，PIN8套管需伸长并跨过PIN1.
4. 磁芯研磨气隙，PIN2用0.37镀锡引线与磁芯可靠接地用8mm胶带包3圈固定。

2、SCHEMATIC




3、WINDING CONSTRUCTION



## 7.0 Illustrations

**Illustration 5** - User manual (partial, representative)

**INSTRUCTION MANUAL**

Please keep observed safety notes before use
Model: ASSA67A-090250
Input: Input: 100-240Vac, 50/60Hz, 0.8A, Class II
Output: 9Vdc, 2.5A

# Important Safety Instructions

Read these instructions – All the safety and operating instructions should be read before this product is operated.
Keep these instructions – The safety and operating instructions should be retained for future reference.
Heed all warnings – All warnings on the appliance and in the operating instructions should be adhered to.
Follow all instructions – All operating and use instructions should be followed.
Do not use this apparatus near water – The appliance should not be used near water or moisture –for
example, in a wet basement or near a swimming pool, and the like.
Clean only with dry cloth.
Do not block any ventilation openings. Install in accordance with the manufacture's instructions.
Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
Do not defeat the safety purpose of the polarized or grounding plug. A polarized plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the apparatus.
Only use attachments/accessories specified by the manufacturer.
Unplug the apparatus during lightning storms or when unused for long periods of time.
Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
Please keep the unit in a well-ventilated environment.
WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing and that objects filled with liquids, such as vases, shall not be placed on apparatus.
WARNING: The wall socket plug is used as disconnect device, the disconnect device shall remain readily operable.

## 7.0 Illustrations

**Illustration 5a** - User manual (partial, representative)


- This lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of non-insulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock.
- Warning: To reduce the risk of electric shock, do not remove cover (or back) as there are no user -serviceable parts inside. Refer servicing to qualified personnel.
- The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the appliance.

 This equipment is a Class II or double insulated electrical appliance. It has been designed in such a way that it does not require a safety connection to electrical earth.

**Caution**

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to the persons.

**The product CONFORMS TO UL STD. 60950-1 & 60065 and CERTIFIED TO CSA STD. C22.2 NO. 60950-1 & 60065.**

**Manufacturer name:** Aquil Star Precision Industrial (Shenzhen) Co., Ltd.
**Manufacturer address:** Building A and B, The No. 4 of Tengfeng Third Road, Fenghuang Third Industry, Fuyong Town, Baoan Zone, SHENZHEN CITY Guangdong Province 518103. China

## 7.0 Illustrations

**Illustration 6** - Spacing

| Table: Clearances and Creepage Distances Measurement | | | | | | |
|---|---|---|---|---|---|---|
| clearance and creepage distance at/of: | Up (V) | U r.m.s. (V) | required cl (mm) | cl (mm) | required dcr (mm) | dcr (mm) |
| L / N before fuse (BI) | 340 | 240 | 2.0 | 4.5 | 2.5 | 4.5 |
| Two poles of fuse (BI) | 340 | 240 | 2.0 | 3.0 | 2.5 | 3.0 |
| Live parts to accessible enclosure (RI) | 340 | 240 | 4.0 | 5.5 | 4.8 | 5.5 |
| Primary to secondary on PCB trace (RI) | 496 | 258 | 4.4 | 5.5 | 5.2 | 6.0 |
| Primary to secondary on PCB trace under CY3 (RI) | 340 | 240 | 4.0 | 4.2 | 4.8 | 6.0 |
| Core to secondary parts (RI) | 496 | 258 | 4.4 | 6.0 | 5.2 | 6.0 |
| Primary winding to secondary winding (RI) | 496 | 258 | 4.4 | 6.0 | 5.2 | 6.0 |
| Secondary winding to core (RI) | 496 | 258 | 4.4 | 6.0 | 5.2 | 6.0 |
| Remarks:<br>1) FI: function insulation BI: Basic insulation SI: Supplementary insulation RI: Reinforced insulation<br>2) The core of transformer (T1) is considered as primary parts, the triple insulation wire is used as secondary winding of transformer. | | | | | | |

**Illustration 7** - model list

| Model No. | Output voltage (Vdc) | Output current (A) | Max. outpu power (W) | Transformer |
|---|---|---|---|---|
| ASSA67 followed by A or W; followed by -; followed by 090 to 098; followed by 010 to 250. | 9.0-9.8 | 0.10-2.5 | 22.5 | ASSA67-A |
| ASSA67 followed by A or W; followed by -; followed by 099 to 150; followed by 010 to 240. | 9.9-15.0 | 0.10-2.4 | 24 | ASSA67-A |
| ASSA67 followed by A or W; followed by -; followed by 151 to 189; followed by 010 to 159 and ASSA67 followed by A or W; followed by -; followed by 191 to 240; followed by 010 to 159. | 15.1-18.9 and 19.1-24.0 | 0.10-1.59 | 24 | ASSA67-B |
| ASSA67 followed by A or W; followed by -; followed by 190; followed by 130. | 19 | 1.3 | 24.7 | ASSA67-B1 |
| ASSA67 followed by A or W; followed by -; followed by 241 to 360; followed by 010 to 099. | 24.1-36.0 | 0.10-0.99 | 24 | ASSA67-C |

| **8.0 Test Summary** | | | | | |
|---|---|---|---|---|---|
| Evaluation Period | 24-Dec-2015 to 5-Jan-2016 | | | Project No. | 151224139GZU |
| Sample Rec. Date | 24-Dec-2015 | Condition | Prototype | Sample ID. | S151224139-001~030 |
| Test Location | ATT Product Service Co.,Ltd<br>Address: No.3 ChangLianShan Industrial Park, ChangAn Town, DongGuan City, GuangDong, China | | | | |
| Test Procedure | Testing at Manufacturers Premises (TMP) - Level 1 | | | | |

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 60950-1 Issued: 2007/03/27 Ed: 2 Rev: 2014/10/14<br>CSA C22.2#60950-1 Issued: 2007/03/27 Ed: 2 (R2012) Amd. 1: 2011, Amd. 2: 2014<br>Clause |
|---|---|
| Input Test | 1.6.2 |
| Marking Durability Test | 1.7.11 |
| Finger Test | 2.1.1.1 b |
| Pin Test | 2.1.1.1 c |
| Energy Hazards Test | 2.1.1.5 |
| Voltage under Normal Conditions Test | 2.2.2 |
| Voltage under Fault Conditions Test | 2.2.3 |
| Limited Power Sources Test | 2.5 |
| Humidity Condition Test | 2.9.2 |
| Determination of Working Voltage Test | 2.10.2 |
| Clearances and Creepage Distances Measurement | 2.10.3 & 2.10.4 |
| Solid Insulation Measurement | 2.10.5.1 & 2.10.5.2 |
| Cord Anchorages and Strain Relief Test | 3.2.6 |
| Mechanical Strength – 10 N Force Test | 4.2.2 |
| Mechanical Strength – 250 N Force Test | 4.2.4 |
| Mechanical Strength – Drop Test | 4.2.6 |
| Mechanical Strength – Stress Relief Test | 4.2.7 |
| Strain on Socket-outlet Test | 4.3.6 |
| Normal Operating Test | 4.5.2 |
| Ball Pressure Test | 4.5.5 |
| Touch Current Test | 5.1 |
| Electric Strength Test | 5.2 |
| Abnormal Operations and Fault Conditions Test | 5.3 |

| Test Description | UL 60065 Issued: 2015/09/30 Ed.8<br>CSA C22.2#60065 Issued: 2003/04/01 Ed: 1 (R2012) Amd. 1: 2006, Amd. 2: 2012<br>Clause |
|---|---|
| Normal Operation | 4.2.4 & 5 |
| Marking test | 5.1 |
| Temperature rise measurements | 7.1 |
| Dielectric Strength Test for insulation material | 8.8 |
| Shock Hazard Under Normal Operating Conditions | 9.1.1 |
| External Force Test to Enclosure | 9.1.7 |
| Surge Test | 10.1 |
| Humidity Test | 10.2 |
| Insulation Resistance and Dielectric Strength | 10.3 |
| Heating Under Fault Conditions | 11.2 |
| Stress relief test | 12.1.5 |
| Working Voltage Measurement | 13.3.2 |
| Clearances and Creepage Distance Measurement | 13.3 & 13.4 |
| Tests for Devices Forming a Part of Mains Plug | 15.4 |

| **8.0 Test Summary** | | | | | |
|---|---|---|---|---|---|
| Evaluation Period | 27-Jun-2017 to 20-Jul-2017 | | | Project No. | 170627114GZU |
| Sample Rec. Date | 27-Jun-2017 | Condition | Prototype | Sample ID. | S170627114-001~030 |

Due to the previous testing performed under Intertek Report 151224139GZU-001(issued on 8 Jan. 2016) only the following testing was performed

The following tests were performed:

| Test Description | Information Technology Equipment Safety Part 1: General Requirements >Valid without technical revision: 01Jan2022< [UL 60950-1:2007 Ed.2 +R:14Oct2014]<br><br>Information Technology Equipment Safety Part 1: General Requirements (R2016) >Valid without technical revision: 01Jan2022< [CSA C22.2#60950-1:2007 Ed.2 +A1;A2]<br>Clause |
|---|---|
| Input Test | 1.6.2 |
| Energy Hazards Test | 2.1.1.5 |
| Voltage under Normal Conditions Test | 2.2.2 |
| Voltage under Fault Conditions Test | 2.2.3 |
| Limited Power Sources Test | 2.5 |
| Humidity Condition Test | 2.9.2 |
| Determination of Working Voltage Test | 2.10.2 |
| Clearances and Creepage Distances Measurement | 2.10.3 & 2.10.4 |
| Cord Anchorages and Strain Relief Test | 3.2.6 |
| Mechanical Strength – 10 N Force Test | 4.2.2 |
| Mechanical Strength – 250 N Force Test | 4.2.4 |
| Mechanical Strength – Drop Test | 4.2.6 |
| Mechanical Strength – Stress Relief Test | 4.2.7 |
| Strain on Socket-outlet Test | 4.3.6 |
| Normal Operating Test | 4.5.2 |
| Electric Strength Test | 5.2 |
| Abnormal Operations and Fault Conditions Test | 5.3 |

| Test Description | Audio, Video And Similar Electronic Apparatus - Safety Requirements >Valid without technical revision: 01Jan2022< [UL 60065:2015 Ed.8]<br><br>Audio, Video And Similar Electronic Apparatus - Safety Requirements [CSA C22.2#60065:2016 Ed.2]<br>Clause |
|---|---|
| Normal Operation | 4.2.4 & 5 |
| Temperature rise measurements | 7.1 |
| Dielectric Strength Test for insulation material | 8.8 |
| External Force Test to Enclosure | 9.1.7 |
| Humidity Test | 10.2 |
| Insulation Resistance and Dielectric Strength | 10.3 |

| **8.0 Test Summary** | | | |
|---|---|---|---|
| Heating Under Fault Conditions | | 11.2 | |
| Stress relief test | | 12.1.5 | |
| Working Voltage Measurement | | 13.3.2 | |
| Clearances and Creepage Distance Measurement | | 13.3 & 13.4 | |
| **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: | Kady Qin | Reviewed by: | Peter Lu |
| Title: | Engineer | Title: | Supervisor |
| 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 | Aquil Star Precision Industrial (Shenzhen) Co., Ltd. |
| Address | Building A and B, The No. 4 of Tengfeng Third Road, Fenghuang Third Industry, Fuyong Town, Baoan Zone, SHENZHEN CITY Guangdong Province 518103 |
| Country | China |
| Product | SWITCHING ADAPTER |

| | |
|---|---|
| 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

Components used shall be those itemized in this Intertek report covering the product, including any amendments and/or revisions.

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 issue 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.

**Note to Intertek Follow Up Inspector: The Component Evaluation Center, CEC, will notify you in writing when these components must be selected and sent to the CEC for re-evaluation**

Ship the samples to:
Intertek Testing Services Shenzhen Limited Guangzhou Branch
ETL Component Evaluation Center
Block E, No. 7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City

CETDD Guangzhou, China.
Attn: Ms. Joey Kuang
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 Test

Method

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, contactors, 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:**

| Product | Test Voltage | Test Time |
|---|---|---|
| All products covered by this Report. | 3000Vac | 60 s |
| | or | |
| Between mains input to output terminal / enclosure with metal foil | 3600Vac | 1 s |

| 12.0 Revision Summary | | | | |
|---|---|---|---|---|
| The following changes are in compliance with the declaration of Section 8.1: | | | | |
| Date/ Proj # Site ID | Project Handler/ Reviewer | Section | Item | Description of Change |
| 10-Nov-2016<br>161109052GZU | King Xu<br>Spark He | 4 | 3 | Corrected PCB min. thickness from 1.5mm to 1.2mm. |
| 21-Jul-2017 | Kady Qin/ Peter Lu | 1.0 | - | Updated the Standard(s) from "Information Technology Equipment Safety Part 1: General Requirements <Expires: 20Jun2019> [UL 60950-1:2007 Ed.2 +R:14Oct2014]<br><br>Information Technology Equipment Safety Part 1: General Requirements (R2012) [CSA C22.2#60950-1:2007 Ed.2 +A1;A2]<br><br>Audio, Video And Similar Electronic Apparatus - Safety Requirements <Expires: 20Jun2019> [UL 60065:2015 Ed.8]<br><br>Audio, Video And Similar Electronic Apparatus - Safety Requirements [CSA C22.2#60065:2016 Ed.2] " to "Information Technology Equipment Safety Part 1: General Requirements >Valid without technical revision: 01Jan2022< [UL 60950-1:2007 Ed.2 +R:14Oct2014]<br><br>Information Technology Equipment Safety Part 1: General Requirements (R2016) >Valid without technical revision: 01Jan2022< [CSA C22.2#60950-1:2007 Ed.2 +A1;A2]<br><br>Audio, Video And Similar Electronic Apparatus - Safety Requirements >Valid without technical revision: 01Jan2022< [UL 60065:2015 Ed.8]<br><br>Audio, Video And Similar Electronic Apparatus - Safety Requirements [CSA C22.2#60065:2016 Ed.2]". |
| 170627114GZU | | 2.0 | - | Changed the model name from"ASSA67z-xxxyyy (z=A or W. xxx=090-360, yyy=010-250)" to "ASSA67 followed by A or W; followed by -; followed by 090 to 360; followed by 010 to 250." |
| | | 2.0 | - | Changed the ratings from "Input: 100-240V~, 50/60Hz, 0.8A Output: 9-36Vdc, 0.1-2.5A, 24W max." to "Input: 100-240V~, 50/60Hz, 0.8A<br>Output: 9-36Vdc, 0.1-2.5A, 24.7W max." |
| | | 3.0 | Photo 18-20 | Add two photos （No.18 and No.19） for alternative top enclosure and one photo (No.20) for component side view(with heat sink (HS2)). |

**12.0 Revision Summary**

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

| Date/ Proj # Site ID | Project Handler/ Reviewer | Section | Item | Description of Change |
|---|---|---|---|---|
| | | 4.0 | 1, 8, 9 11, 11a, 11b, 11d,1 1e, 11f | Add alternative Manufacturer and model for these item. |
| | | 7.0 | Illustr ation 4c, 7 | Added new Transformer spec (19.0V) model:ASSA67-B1 and model list. |
| | | 8.0 | - | Added new test block in section 8. |
| | | 8.1 | - | Revised with new Signature. |
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