

AC INPUT : 100~240V

DC OUTPUT:24V/0.5A

1.0 SCOPE

This document describes the electrical, mechanical, environmental and RoHS correspondence to lead free compliance specification of UL type single output 24VDC 0.5A switching adaptor.

2.0 INPUT SPECIFICATION

2.1 Input Voltage and Frequency

The power supply shall meet all specification below when powered from following sources.

| Voltage Range | Line Frequency | Min. Voltage | Max. Voltage |
|---------------|----------------|--------------|--------------|
| 100~240VAC | 47~63Hz | 90VAC | 264VAC |

Table 2.1.1

2.2 Current

The maximum input current is 0.65A at 100Vac.

2.3 AC Inrush Current

The peak inrush current shall be limited to 30A at 230Vac input for a cold start at 25°C.

2.4 Stand By Power

The maximum input power is 0.1W MAX. at inupt 115/230VAC and no load

3.0 OUTPUT SPECIFICATION

3.1 Output Voltage (Load regulation)

The power supply shall be statically regulated for load.

| Load | Min.Load | Full.Load |
|---------|----------|-----------|
| Current | 0mA | 0.5A |
| Voltage | 24VDC±5% | 24VDC±5% |

3.2 Ripple and Noise

| output 1 | Voltage | Max.peak to peak ripple&noise |
|----------|---------|-------------------------------|
| Vo | 24VDC | 200mV |

Table 3.1.3

Measuring is done by 20MHz bandwidth oscilloscope and terminated each output with a 10uF capacitor and a 0.1uF capacitor,at 100VAC input.

3.4 Efficiency

3.4.1 The average efficiency shall be 82.96% MIN,at 115/230VAC and 4conditions load.(25%.50%.75%.100%)
Meet CEC level VI.

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3.5 Hold up time

The hold up time shall be longer than 10ms at 120Vac input and rated load.

3.6 Temperature coefficient

±0.05%/°C typical on all output.

3.7 Turn on / off delay

During turn on and turn off, no voltage shall exceed its nominal voltage by more than 10% and no output will change its polarity with respect to its return line. All output shall reach their steady state values within 3S of turn on.

3.8 Indicator

The power supply is designed NO LED indicator to indicate the power output in its normal condition.

4.0 PROTECTION REQUIREMENT

4.1 Short circuit protection

No damage to the power supply shall be sustained when operating any output under any line condition, into a short circuit condition for an indefinite period of time. The power supply shall be self – recovering when fault condition remove.

4.2 Overshoot

At turn on, the output voltage shall not exceed steady stage by more than 10%.

4.3 Over current Protection

The output shall hiccup when the over current applied to the output, and shall be self-recovery when the fault condition is removed.

5.0 RELIABILITY

Calculated MTBF shall exceed 50,000 hours at maximum load and 25°C ambient in accordance with MIL-HDBK-217F.

6.0 ENVIRONMENTAL CONDITIIONS

6.1 Operating

The power supply shall be capable of operating continuously in any mode without performance deterioration in the following environmental conditions.

6.1.1 Ambient Temperature: 0°C ~ 40°C

6.1.2 Relative Humidity: 20% ~ 90%

6.1.3 Altitude : Sea level to-100 ~ 10,000 feet.

6.1.4 Vibration: 1.0mm, 10 –25Hz, 15 minutes per cycle for each axis (X, Y, Z)

6.2 Storage

The power supply shall be capable of with standing the following environmental conditions extended periods of time, without sustaining electrical or mechanical damage and subsequent operational deficiencies:

AC INPUT : 100~240V

DC OUTPUT:24V/0.5A

6.2.1 Ambient Temperature: -20°C ~ 80°C

6.2.2 Relative Humidity: 10% ~ 90%

6.2.3 Sea level to-100 ~ 10,000 feet

6.2.4 Vibration and Shock:

The power supply shall be designed to with stand normal transportation vibration per MIL–STD-810D, method 514 and procedures X, as it is mounted in the chassis assembly and packed for shipping.

7.0 DIELECTRIC WITHSTAND SPECIFICATION

7.1 Hi-pot test

Shall withstand without breakdown 3000VAC 5mA 60Sec between AC plug to DC plug and case. Under leakage current 5mAmax.

7.2 Insulation Resistance

500 VDC 100 Mega Ohms min. Between AC plug and DC plug and case.

8.0 INTERNATIONAL STANDARDS

The power supply has been designed to meet following safety standard

8.1 EMI standards

The power supply meets the radiated and conducted emission requirements for FCC part 15 CLASS B, EN55022 CLASS B.

8.2 EMS standards

The power supply meet below standard

ESD:Contact > 4KV,Air>8KV meet IEC 61000-4-2

RS:Frequency 80MHZ~1.0GHz,Field Strenght 3V/M,meet IEC61000-4-3

EFT:1.0KV on input ac power ports.meet IEC61000-4-4

SURGE: Line to line:+/-1KV(peak),meet IEC61000-4-5

8.3 Safety

The power supply has been designed to meet or certified under following standard

| | Certified | Standard |
|--|-----------|----------|
| | | |
| | | |
| | | |

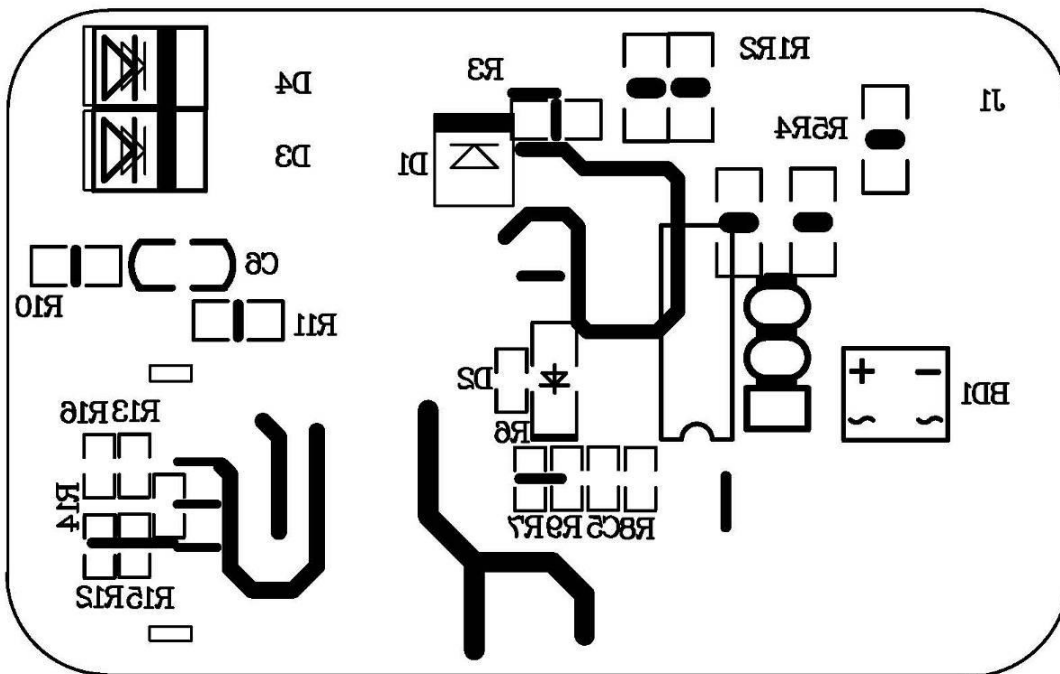
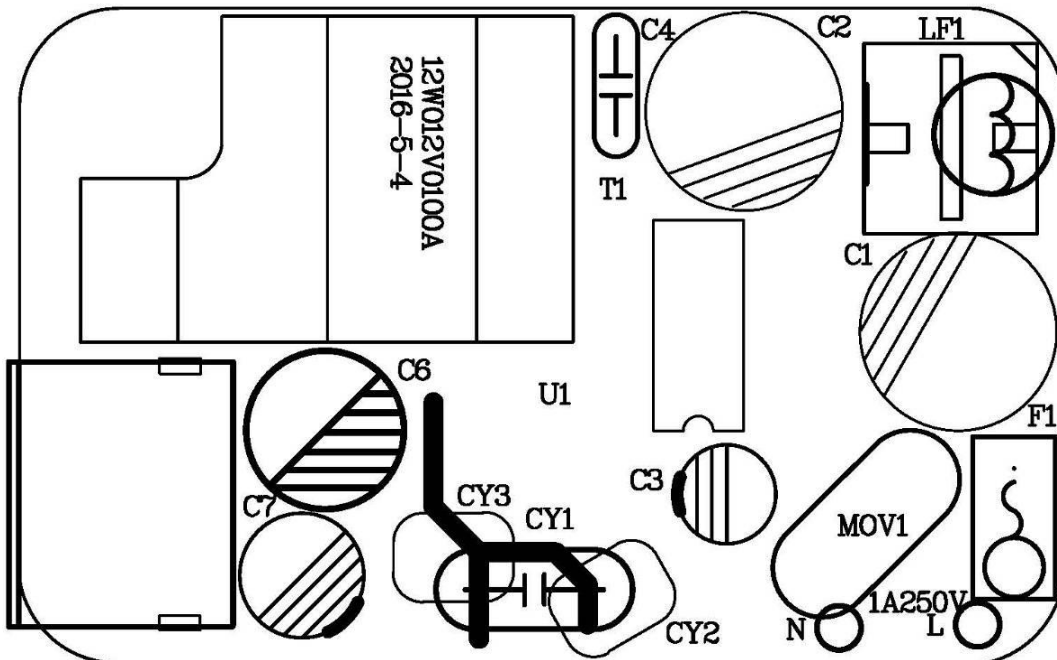
9.0 Product life Warranty

Mitra warrants this product against defects in materials and workmanship under normal use for a period of EIGHTEEN (18) MONTH, which accordance to date code of the product ("Warranty Period"). If a hardware defect arises and a valid claim is received within the Warranty Period, at its option, Mitra will either (1) repair the defect at no charge, using new or refurbished replacement parts, or (2) exchange the product with a product that is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original product.

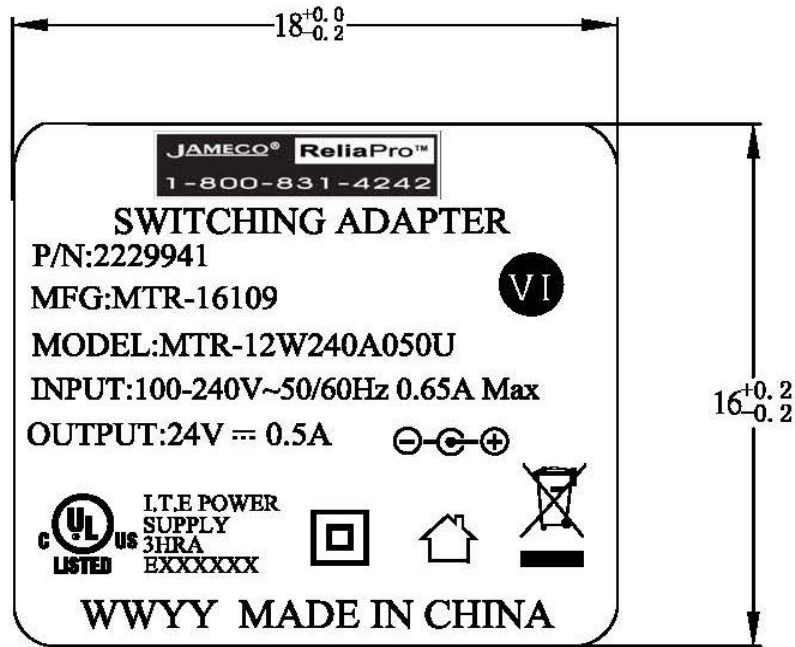
10.0 WEIGHT

The unit weight is about 68g. exclude packing.

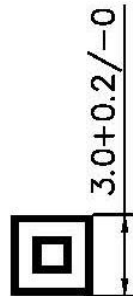
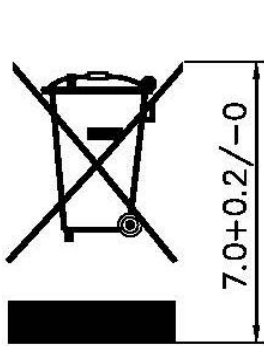
ATT:2 COMPONENT LAY OUT DRAWING



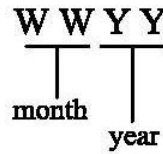
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|----------|-----------|-------|----|----------|-------------|-----------|----------------|----------|-------|----------|
| Material | | Scale | | | | | | | | |
| Name | | Unit | mm | | | | | | | |
| Drawn No | MTR-16109 | | | Rev | change date | Change No | Change content | Executed | Check | Approval |
| | | | | Drawn by | Executed by | Check by | Approval by | | | |



3:1



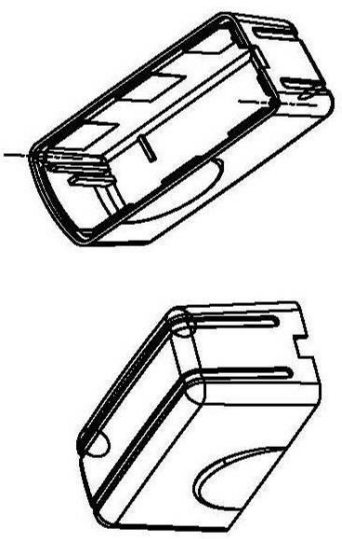
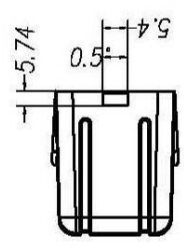
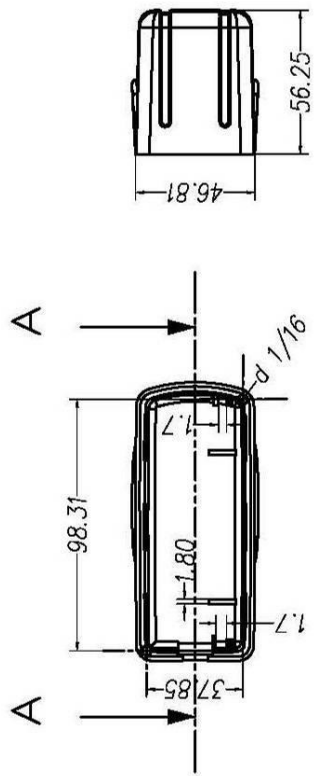
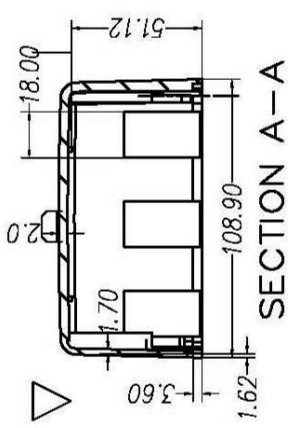
(内外框尺寸为1:2)



1:1

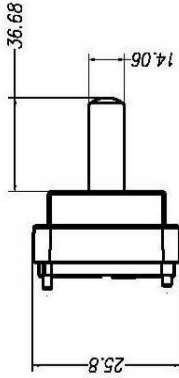
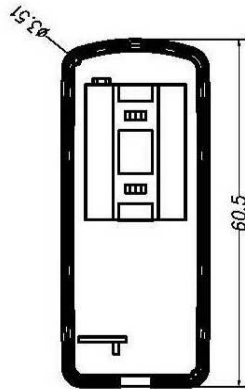
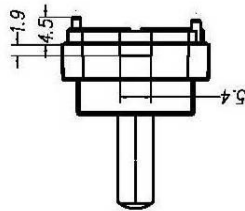
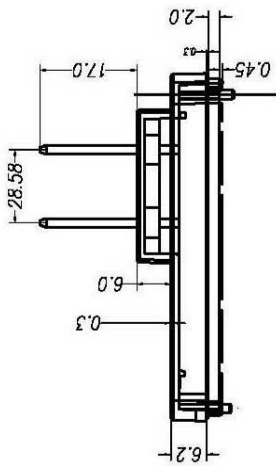
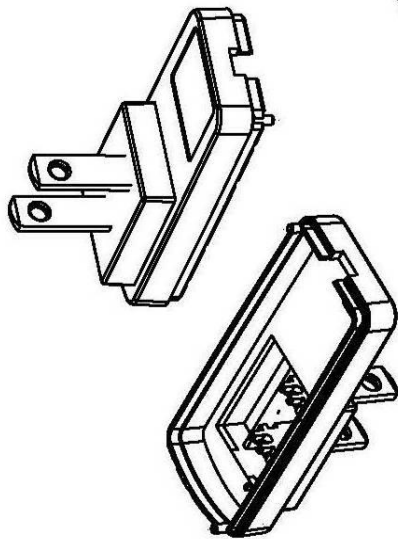
材質: 200#CPC合成紙 +上光 黑底白字
 尺寸: 18*16
 單位: mm

| | | | | | | |
|----|-----------|----|----------------|----|------|------|
| 料号 | | 比例 | 1:1 | | | |
| 品名 | MNP | 单位 | m/m | | | |
| 图号 | MTR-16109 | 版本 | 0 | 版本 | 变更日期 | 变更单号 |
| | | | | | | 变更内容 |



技术要求
 1. 原材料为防火PC
 2. 未注尺寸见3D
 3. 表面为纹面

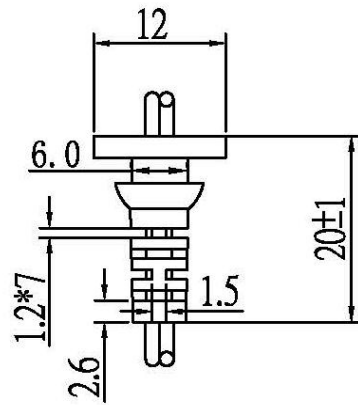
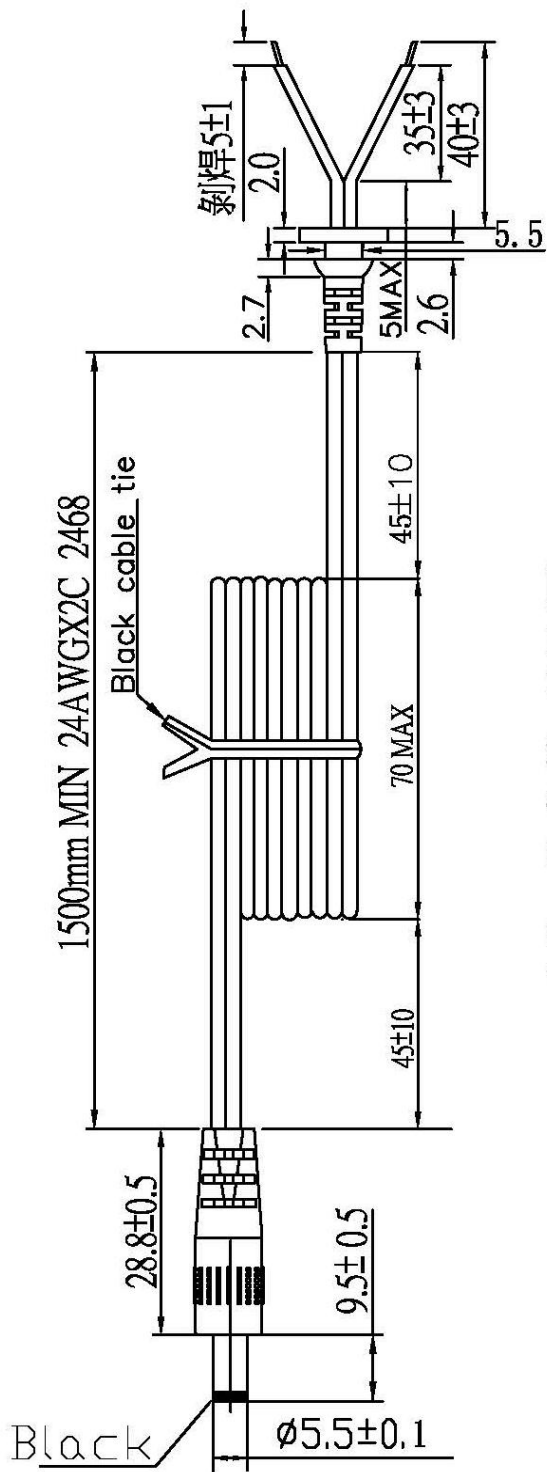
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| 料号 | | 比例 | | | | | |
| 品名 | 上盖 | 单位 | m/m | | | | |
| 图号 | MCS-0095A | 版本 | 0 | 版本 | 变更日期 | 变更单号 | 变更内容 |



技术要求

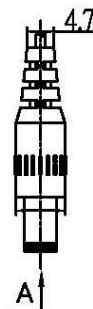
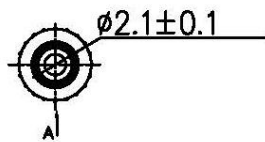
1. 原材料为防火PC
2. 未注尺寸见3D
3. 表面为纹面

| | | | | | | | | | |
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| 料号 | | 比例 | 1:1 | | | | | | |
| 品名 | 下盖 | 单位 | m/m | | | | | | |
| 图号 | MCS-0095B | 版本 | 0 | 版本 | 变更日期 | 变更单号 | 变更内容 | | |

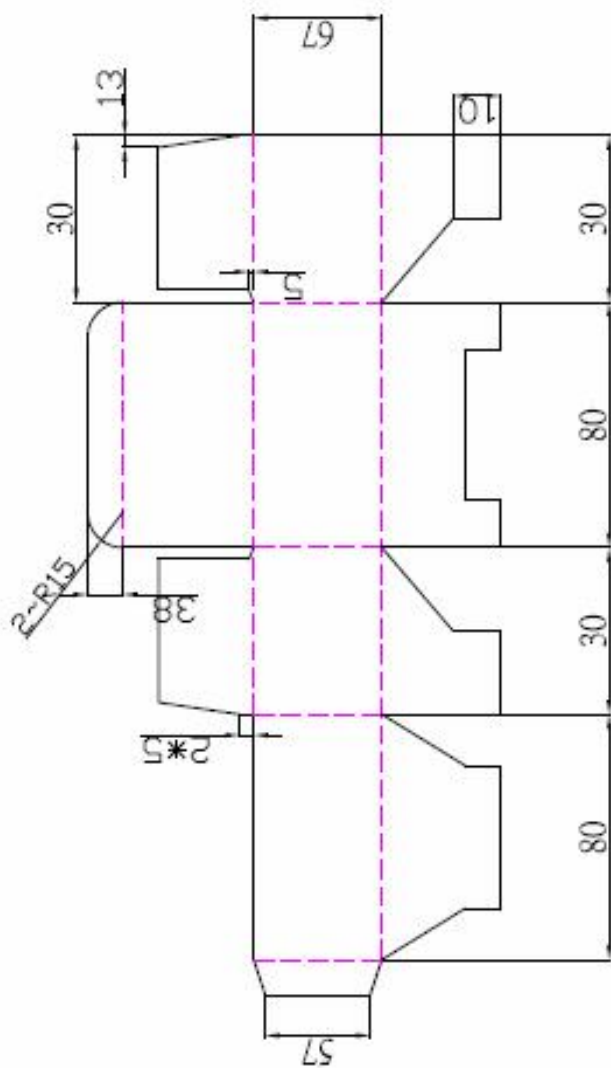
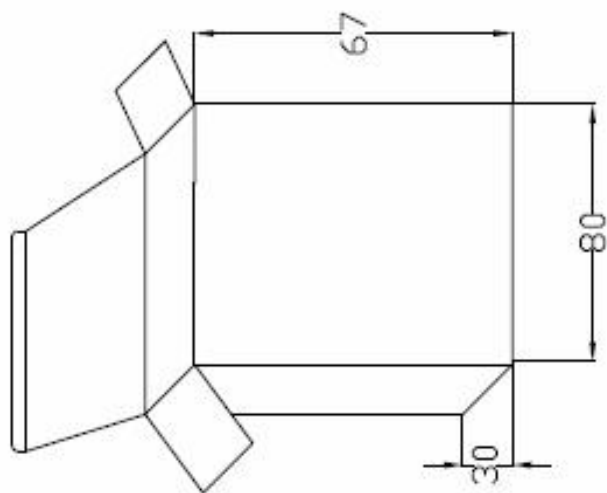


NOTE:

1. LEAD WIRE 2468 24#AWG($\phi 0.14/14$ & $\phi 0.16/11$) 80°C 300V VW-1;
2. COLOR: BLACK SIDE "-", AND BLACK WITH WORDS "+";
3. POLARITY: $\ominus - \oplus$
4. S/R: 20LBS, 60SEC;
5. BENDING TEST: 200g, 35~40 TIMES EACH MIN. 120° DEGREE FOR 300 TIMES.
6. CORD HARDNESS: WITH DUROMETER TYPE 70±10,
7. SR HARDNESS: 65P.



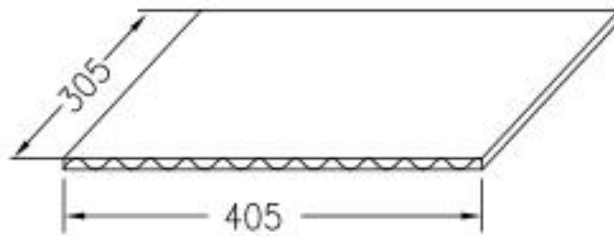
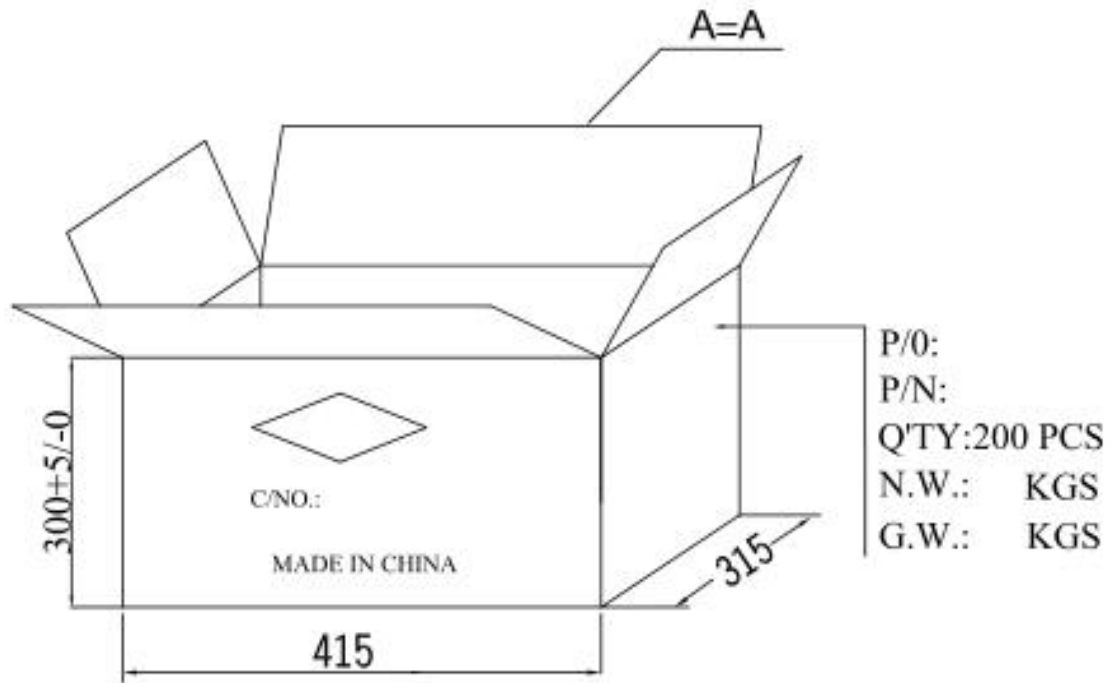
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|----------|-----------|-------|-----|-----|-------------|-----------|----------------|--|
| Material | | Scale | | | | | | |
| Name | DC CORD | Unit | m/m | | | | | |
| Drawn No | MTR-16109 | REV | 0 | | | | | |
| | | | | Rev | change date | Change No | Change content | |



NOTE:

1. 材質:小白盒, 450磅
2. 外尺寸: 80*30*67
3. 實線表裁切線, 虛線表折痕壓線.
4. 圖中尺寸為參考尺寸, 以好合為準.
5. 公差: 0~50mm時取±1, 51~150時取±2, 151以上時取出±3.

| | | | | | | | | | |
|----|----------|----|-----|----|-----|----|---|------|------|
| 料号 | | | | | | | | | |
| 品名 | 白盒 | | | | | | | | |
| 图号 | MB0-0081 | 比例 | 1:1 | 单位 | m/m | 版本 | 0 | 变更单号 | 变更内容 |



平卡:4PCS B3B三层瓦楞纸板 公差: +2/-0mm

NOTE:

1. 每箱200pcs, 每層5*10=50PCS ,共4層
2. 无铅: 符合RHoS要求。
3. 標示尺寸為外部尺寸.未注明公差为±3mm
4. 外箱, 平卡必须能配套安装。

| | | | | | | | | |
|----|-----------|----|-----|--|----|------|------|------|
| 料號 | | 比例 | | | | | | |
| 品名 | PK箱/刀卡/平卡 | 單位 | m/m | | | | | |
| 圖號 | MPK-0178 | 版本 | 0 | | 版本 | 變更日期 | 變更單位 | 變更內容 |