

<b>Kysan Electronics</b>	<b>Specification</b>	AC INPUT : 100~240V
	Design No.: 4031046	DC OUTPUT:12V/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 12VDC 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 0.45A 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	12VDC $\pm$ 5%	12VDC $\pm$ 5%

### 3.2 Ripple and Noise

output 1	Voltage	Max.peak to peak ripple&noise
Vo	12VDC	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 78.88% 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 ENVIRONMENTAL CONDITIIONS**

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

**5.1.1 Ambient Temperature: 0°C ~ 40°C**

**5.1.2 Relative Humidity: 20% ~ 90%**

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

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

**5.2 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:

**5.2.1 Ambient Temperature: -10°C ~ 70°C**

**5.2.2 Relative Humidity: 10% ~ 90%**

**5.2.3 Sea level to-100~ 10,000 feet**

**5.2.4 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.

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## 6.0 DIELECTRIC WITHSTAND SPECIFICATION

### 6.1 Hi-pot test

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

### 6.2 Insulation Resistance

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

## 7.0 INTERNATIONAL STANDARDS

The power supply has been designed to meet following safety standard

### 7.1 EMI standards

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

### 7.2 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

### 7.3 Safety

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

	Certified	Standard
	UL	UL60950

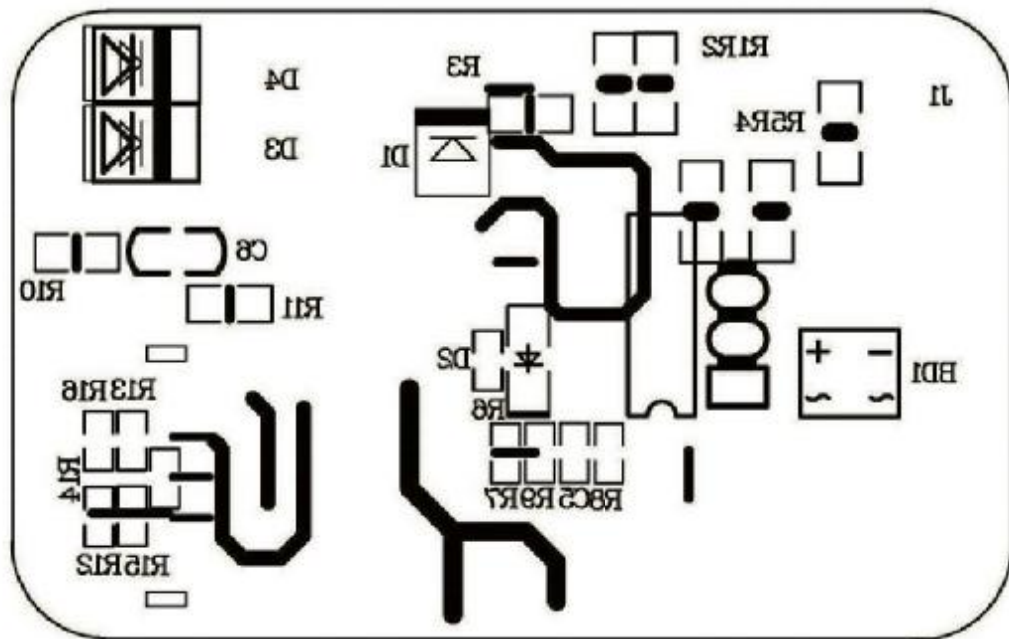
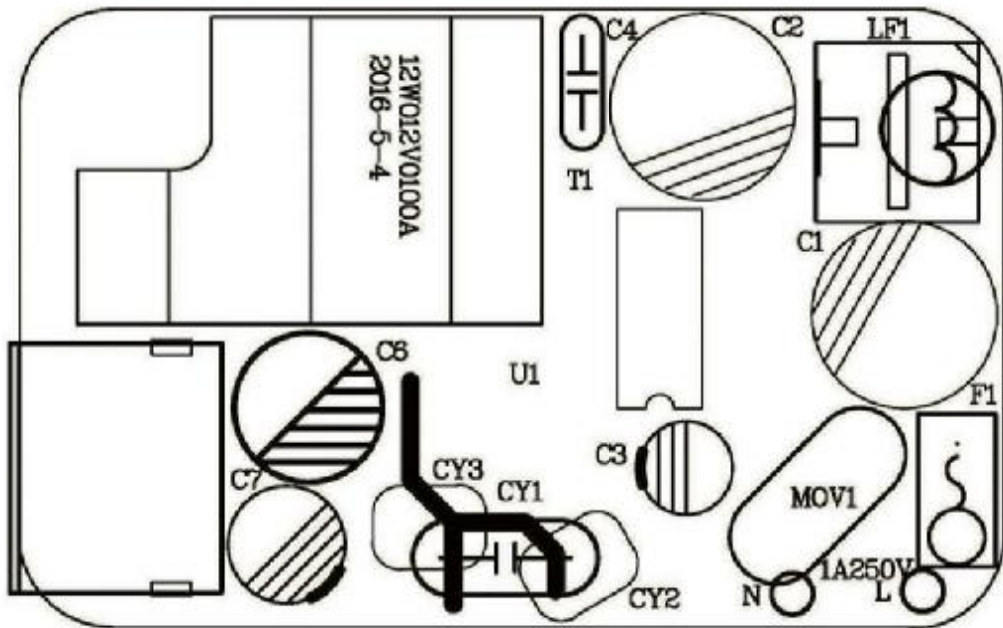
## 8.0 Product life Warranty



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.

## 9.0 WEIGHT

The unit weight is about 68 g. exclude packing.

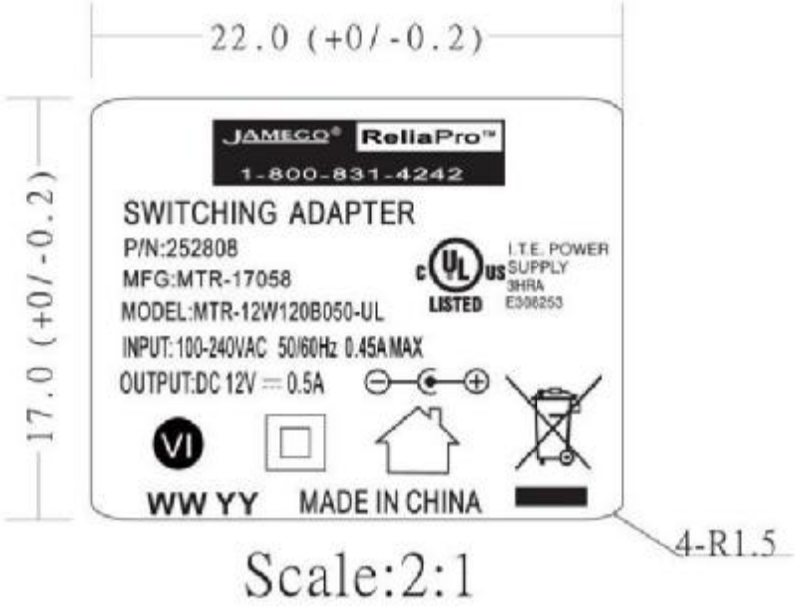
ATT: 1 PCB



Material		Scale									
Name		Unit	mm								
Drawn No	4031046										
				Rev	change date	Change No	Change content	Executed	Check	Approval	
Kysan Electronics					Drawn by		Executed by		Check by		Approval by



ATT: 2 LABEL



- NOTE:
- 1.材质：麦拉，符合UL要求，80 ℃ 光面，粘度不小于185g/cm<sup>2</sup>
  - 2.银底黑字.
  - 3.厚度为0.25 (+/-0.02) mm.
  - 4.制造代码说明:  
WW YY  
    ↑          ↑  
    年份最后两位数字如2010=10,依此类推.  
    制造周期:从 01 到52

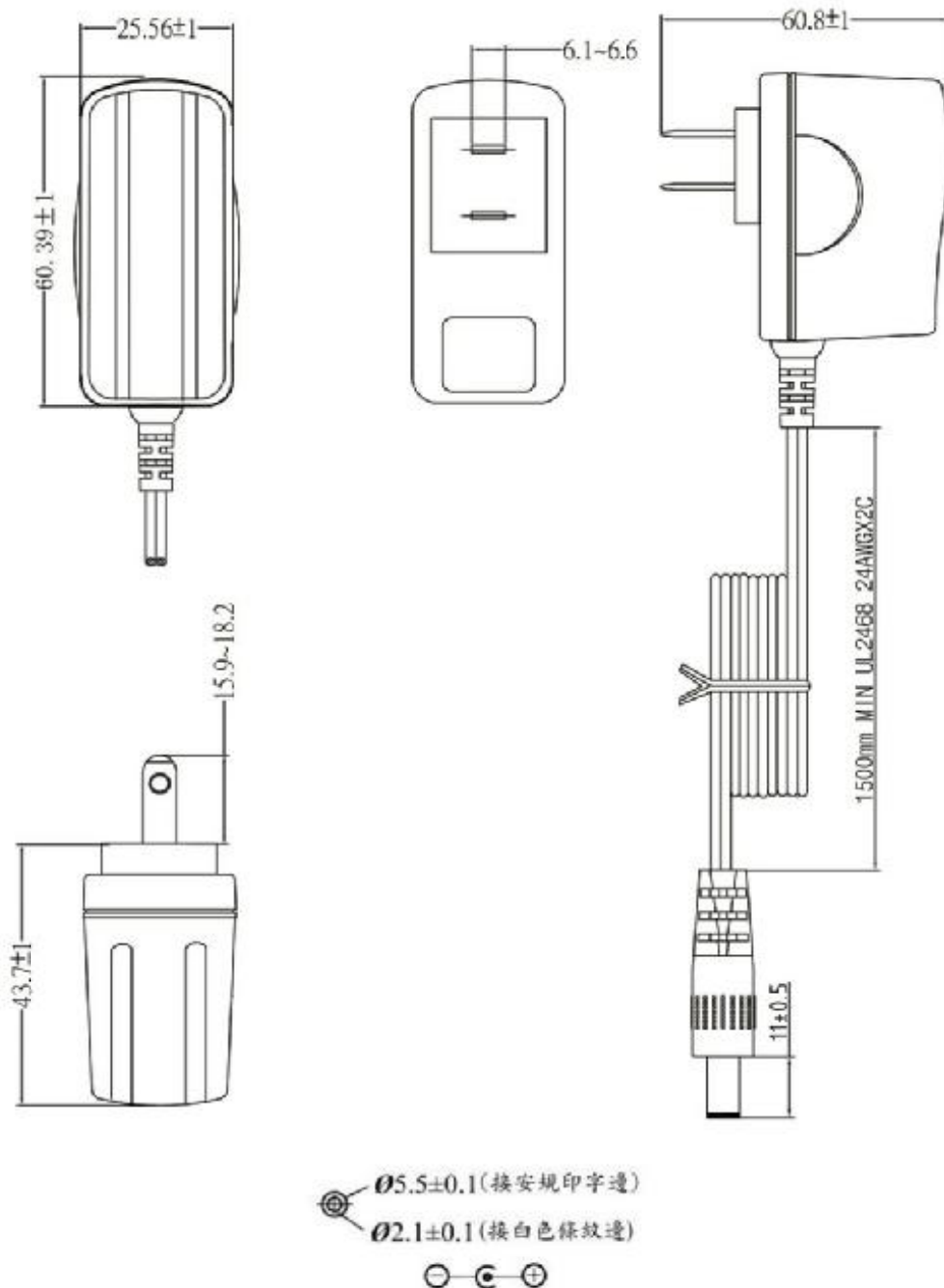
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图号	4031046	版本	0	版本	变更日期	变更单号	变更内容
Kysan Electronics					绘图	审核	核准

CASE外觀尺寸:(單位:mm)

CASE材質:SE1X

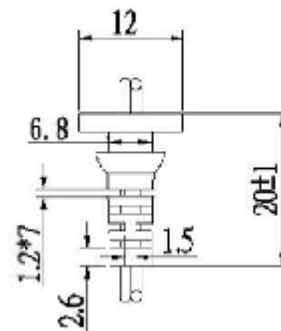
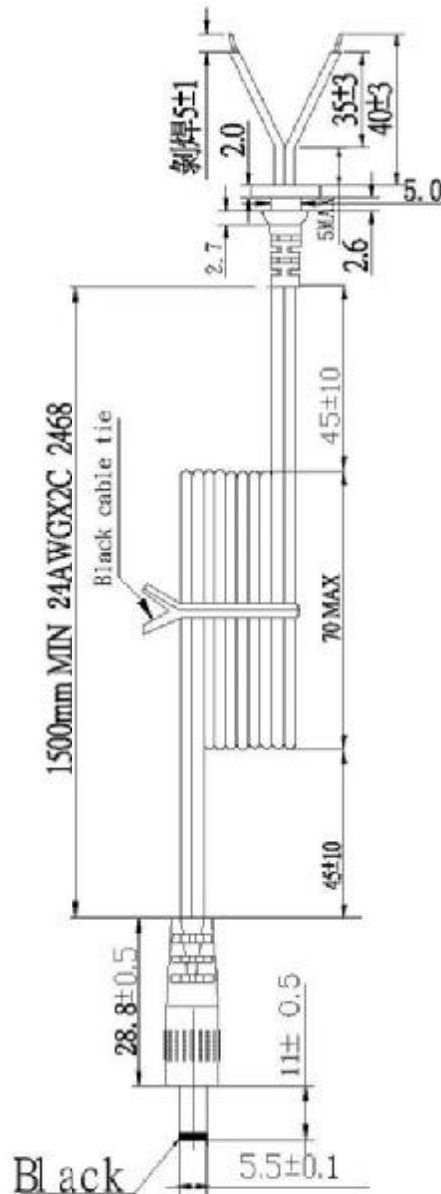
CASE顏色:黑色

ATT: 3 EXTERNAL VIEW



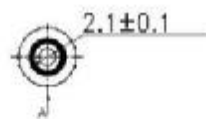
料号		比例	$\frac{1}{2}$				
品名	外观图	单位	m/m				
图号	4031046	版本	A	版本	变更日期	变更单号	变更内容
Kysan Electronics				绘图		确认	核准

# ATT: 4 DC WIRE



## NOTE:

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



Material		Scale							
Name	Outward dimension	Unit	mm						
Drawn No	4031046			Rev	change date	Change No	Change content	Executed	Check Approval
Kysan Electronics				Drawn by		Executed by		Check by	