

## **2. General Description**

This specification defines the engineering features, functions, general design and performance requirements for a 60 watts switching mode AC to DC power supply.

## **3. Electrical Specification**

### **3.1 Input Requirements**

#### **3.1.1 Input Voltage**

Operation Range : 100 -240 VAC    Designing Range : 90 – 264 VAC

#### **3.1.2 Input Line Frequency**

Operation Range : 50 - 60 Hz        Designing Range : 47 – 63 Hz

#### **3.1.3 Input Current**

The maximum input current is measured at Full load 1.5 A with 230Vac voltage conditions.

#### **3.1.4 Inrush Current**

120A Max. less under 230Vac conditions. Interruption of the input voltage for duration sufficient to cause the output voltage to drop below the regulation setting shall cause reactivation of in rush limiting capability. Full-load 25 °C cold start.

#### **3.1.5 Power Consumption**

The power supply consumption less than 0.15 watt at rated 115/230 VAC input Voltage conditions.

#### **3.1.6 Efficiency**

It should provide an average efficiency of 83.0% minimum, when measured at (25%,50%,75%,100%) load under 115/230VAC ( 60/50Hz ) and burn-in 30minutes.

### **3.2 Output Requirements**

#### **3.2.1 Output Rating Voltage**

DC OUTPUT VOLTAGE			LOAD ( A )	
Symbol Vo	Voltage	Regulation	Minimum	Maximum
V+	15 V	13.95 -16.05V	0 A	4.0A

### 3.2.2 Regulation

When the frequency and input voltage varied, the output voltage should be within the specification outlined in +/-1%.

### 3.2.3 Ripple & Noise

Output	Voltage	Load	Maximum Ripple & Noise
1	15 V	Full Load	250 mV (115/230Vac)

1. Measured at output terminal, added with a Low ESR Electrolytic capacitor of 47uF and 0.1uF ceramic capacitor to simulate system loading.
2. Ripple and noise are defined as periodic or random signals over frequency band of 10HZ to 20MHz. Measurement shall be made with an oscilloscope with 20MHZ bandwidth minimum.

### 3.2.4 Turn-On Time

The power supply shall turn on in less than 4 seconds with full load and 115Vac/60Hz input voltage conditions.

### 3.2.5 Hold-Up Time

Hold up time for the output must be at least 16 mS minimum with full load and 115Vac/60Hz input voltage conditions.

### 3.2.6 Rise Time

Rise time in less than 50 mS with 10% to 90% load 115Vac/60Hz input voltage conditions.

### 3.2.7 Transient response

The power supply output voltage shall not undershoot not or overshoot beyond the specified limits shown after applying load changes with a 0.15A/ $\mu$ sec slew rate on the output. Change Frequency to 100Hz and 1KHz with a 50% duty cycle.

Voltage Limits		Load change
14.50Vdc	16.70Vdc	50% to 100% load and 100% back 50%

## 3.3 Protection Circuit

### 3.3.1 Over Current Protection (OCP)

The power supply shall operate in shut down mode at over current 6A -8A loading mode ,and it shall auto-recover if the fault is removed.

### 3.3.2 Over Voltage Protection (OVP)

The power supply shall operate in shut down mode at over voltage protection 130% maximum rating voltage , and it shall auto-recover if the fault is removed.

### 3.3.3 Short Circuit Protection (SCP)

The power supply shall be protected from damage of accidentally short on the output terminal, and it shall auto-recover if the fault is removed.

## 4. Reliability

### 4.1 MTBF(Mean-time-between-failures) Calculation

The demonstrated MTBF shall be more than 50,000 hours of continuous operation at 25°C , maximum load and using the MIL-HDBK-217F method.

## 5. Regulatory Standard

### 5.1 EMC Specification

#### POWER SUPPLY SPECIFIC EMC TEST REQUIREMENTS

EMC	Standard	Test CRITERIA (Method)	
Electrostatic Discharge (ESD)	EN 55024:2010, EN 61000-4-2	Air Discharge $\pm 8\text{kV}$	Contact Discharge $\pm 4\text{kV}$
Radiated Field Immunity(RS)	EN 55024:2010, EN 61000-4-3	Radiated Susceptibility 3V/m	
Fast Transient Immunity(EFT)	EN 55024:2010, EN 61000-4-4	Power line 1kV	Signal line 0.5kV
Surge Immunity(Surge)	EN 55024:2010, EN 61000-4-5	Common mode $\pm 2\text{kV}$	Differential mode $\pm 1\text{kV}$

### 5.2 Radiated and Conducted Emission

Power supply shall with the radiated and conducted emission requirements for EN55032 Class B,FCC part 15B.

## 6. Safety

### 6.1 Regulatory Standard

The power supply shall comply with the following international regulatory standards

Certified	Country	Certified Status	Standard
UL	USA	★	UL 60950-1、UL 62368-1
FCC	USA	★	FCC PART 15
CE	EUROPE	★	CE MARK、EN55032
TUV	EUROPE	★	EN60950-1;2006+A2
PSE	JAPAN	★	J60950-1(H27)、J55022(H22)
RCM	AUSTRALIA	★	AS/NZS 60950-1:2011
BSMI	TAIWAN	★	CNS13438
CCC	CHINA	★	GB4943.1-2011

### 6.2 Hi-pot

Dielectric Withstand Voltage, Primary(input AC short)-to-Secondary(output DC short):  
3000Vac(4242Vdc),10mA, 1 minute(Production test for 3 second).

### 6.3 Leakage current

The AC leakage current to output is less than 3.5mA when the power supply is connected to 230VAC/50Hz.

## 7. Environment

### 7.1 Temperature and Humidity

Condition	Operation	Shipping / Storage
Temperature	0°C ~ 40°C	-20°C ~ 70°C
Relative Humidity	20% ~ 90%	20% ~ 90%

### 7.2 Altitude

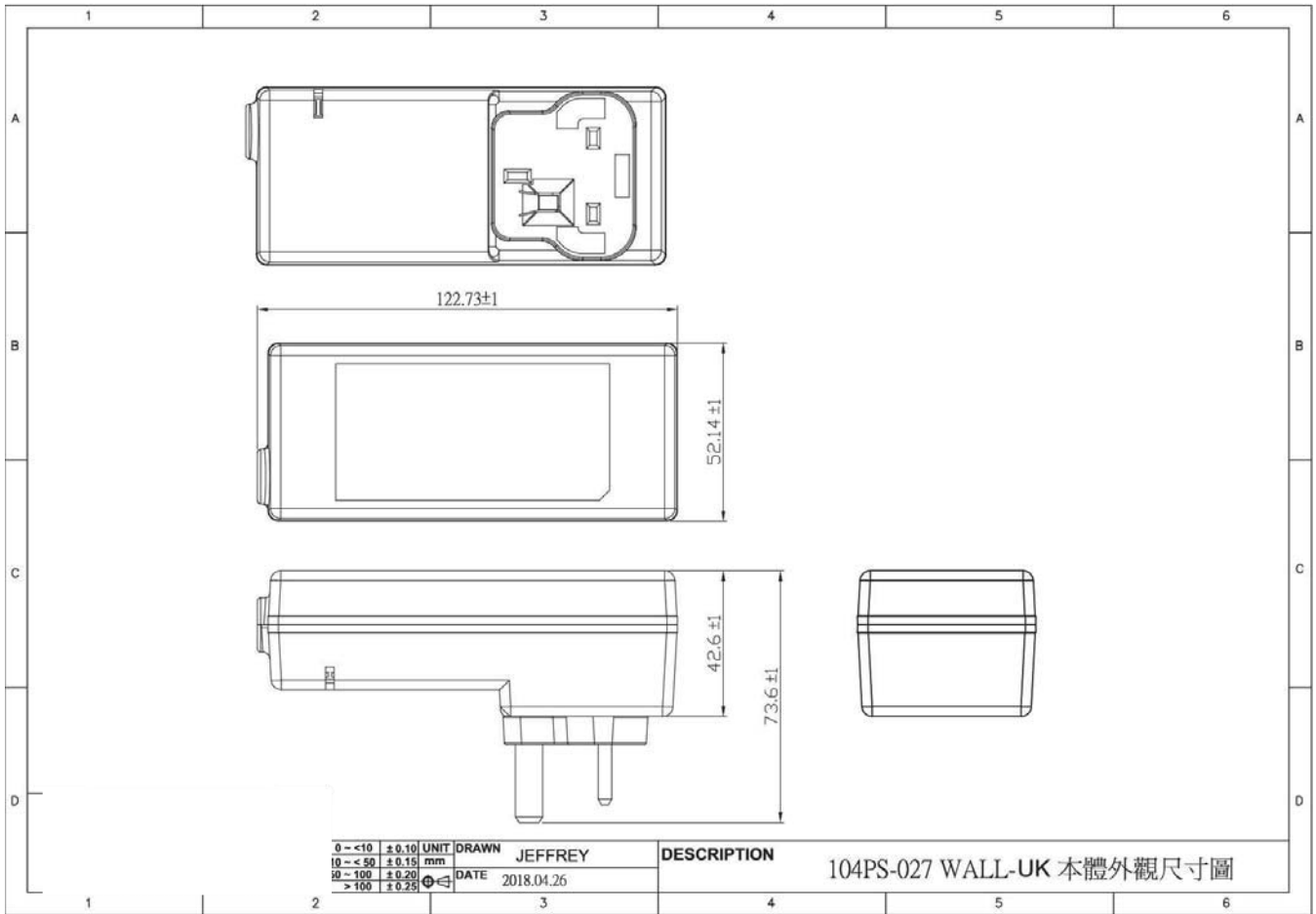
The power supply shall operate properly at any altitude between 0 ~ 3000 m above sea level.

## 8. Mechanical

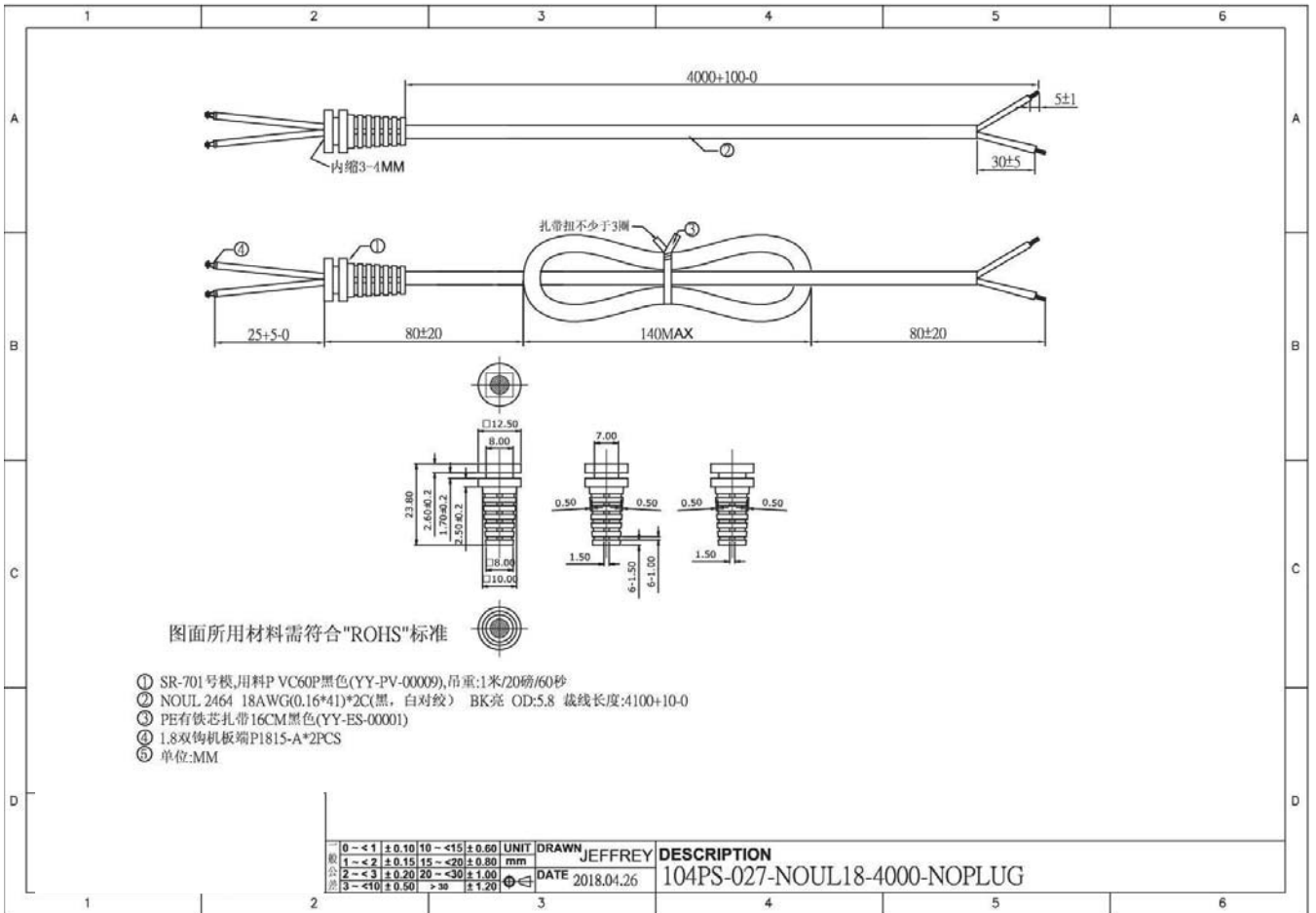
### 8.1 Dimension and Configuration

Weight	450g ±20g	Input pin	Interchangeable Wall mount UK plug
Dimensions	122.73*52.14*42.6mm	Output connector	Skinned tinned
Unit color	BLACK	Polarity	180° White wire"+", Black wire "-"
Plastic	94V-0	Cable	NOUL2464 18AWG/2C 80°C 300V L:4.0M
		EMI core	NA

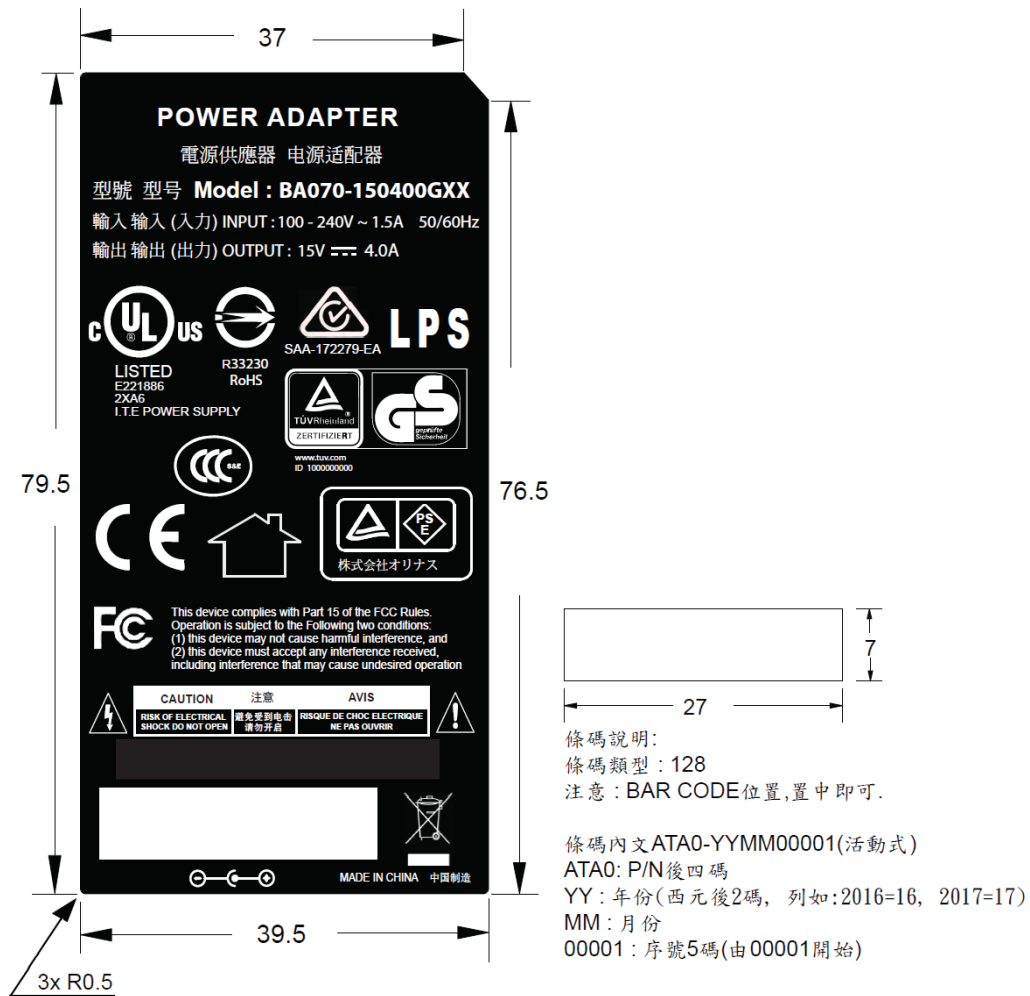
# 9. Outline



# 10. DC Cable



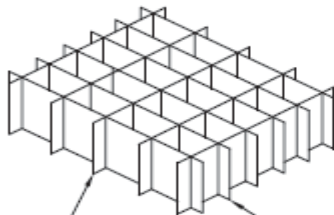
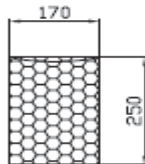
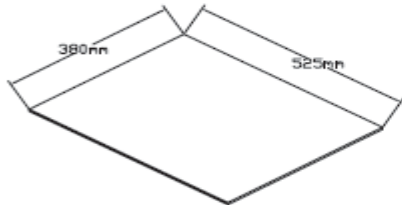
# 11. Label



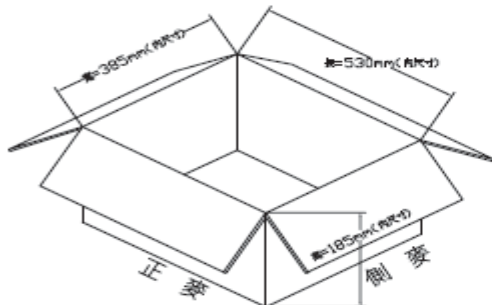
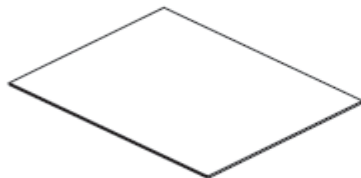
NOTE: LABEL 1. SILVER CHARACTER ON A BLACK BACKGROUND WITH NON GLOSSY 2. MATERIAL: METALIZED POLYESTER LVEL (SILVER MATTE) 3. SIZE: (79.5x39.5) +0 / -0.3 THICK:0.25 4. UNIT: mm 5. GP SHOW: GREEN PRODUCTION					Model: LABEL	Tolerance: x.x +0.2 x.xx	Angle of field	
	Prepared				Date: 2018.05.14	Rev: 01		Scale: free
	Drawn				Checked:	Unit: mm	Product No:	BA070-150400GXXATA0
	Date	ECN No.	Content	Rev:	Issued:	Page: 1/1		

## 12. Packing

Carton Size : 530mm\*385mm\*185m



每層含5PCS長隔條(6刀卡) 每層含8PCS短隔條(5刀卡)



RevNo	Mark	Revision note	Date	Signature	Checked
A=1					

品名	天地板	數量	每箱2PCS
料號	A0MCT525L380W000D0	尺寸	525x380mm
材質	B=B 雙坑	厚度	5 mm
備註	不印料號	破裂強度	5~6KG

品名	雙層透明氣泡袋	數量	每箱20*1層=20PCS
料號	A0MPKBUB100X075P00	尺寸	250x170(開口)mm

品名	隔條橫(長)	數量	每箱0*1層=6PCS
料號	A0MCT525L165W000H0	尺寸	525x165mm
材質	B=B 雙坑	厚度	5 mm
備註	5刀卡	破裂強度	5~6KG

詳圖	

品名	隔條直(短)	數量	每*1層=6PCS
料號	A0MCT380L165W000G0	尺寸	380x165mm
材質	B=B 雙坑	厚度	5 mm
備註	6刀卡	破裂強度	5~6KG

詳圖	

品名	外箱	內裝重量 10KG	內裝數量:1(層)x20=20PCS
料號	A0MCT530L385W185U0	破裂強度	9~10kg
材質	K=A 雙坑	顏色本色	厚度 5 mm
尺寸	530x385x185mm(內尺寸)		黏合方式 <input checked="" type="checkbox"/> 裝釘 <input type="checkbox"/> 沾膠
備註	1. 所有尺寸標示均為內尺寸。 2. 公差: ±5 3. 不印料號		