

# L. Q. P. ENTERPRISES CO., LTD.

Revision: V1.0

Date: 2011/10/27

## APPROVAL SHEET

PRODUCT: 12Vdc 1A, Wall mount power supply

CUSTOMER:

MODEL NO.: HSP1002-12120-2A

DC CABLE: 2468#22AWG\*2C/1.5M

DC PLUG: 5.5x2.1x11mm 180° Center "+"

PACKAGE: White box per piece

DESIGN NO.:

B.P/N:

CHECK BY: xing pei qi

APPROVED SIGNATURE

★ 承認書確認後敬請簽回一份

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## 1.0 SCOPE

This document details the electrical, mechanical and environmental specifications of a switching power supply.

### 1.1 DESCRIPTION

- Switching adaptor of wall mount.
- Switching adaptor of table top.
- Open frame
- Others

## 2.0 INPUT REQUIREMENTS

### 2.1 INPUT VOLTAGE AND FREQUENCY

The range of input voltage is from **90VAC** to **264VAC**.

	Minimum	Nominal	Maximum
Input Voltage	90VAC	115---230VAC	264VAC
Input Frequency	47Hz	50---60Hz	63Hz

### 2.2 INPUT CURRENT

The maximum input current is **0.50A** at 100Vac@full load.

### 2.3 INRUSH CURRENT

The maximum inrush current is **40.0A/60.0A** at cold start, ambient temperature 25°C nominal AC input 100Vac/240Vac .

### 2.4 INPUT PROTECTION

The switching adaptor use **1.00A** fuse.

### 2.5 POWER CONSUMPTION

The input power should less than  $\cong$  **0.3W** with output no load at 115VAC/230VAC input.

### 2.6 EFFICIENCY

The efficiency shall be higher than  $\cong$  **77.75%** typical while measuring at nominal line and maximum load.(Meet Energy Star level V)

## 3.0 OUTPUT REQUIREMENTS

### 3.1 STATIC LOAD

	ITEM	V1	V2	V3	V4
3.1.1	Vout	12.0V			
3.1.2	Loading	0.05~1.0A			
3.1.3	Vo-Range	11.40~12.60V			
3.1.4	PF	N/A			
3.1.5	Ipk	N/A			
3.1.6	OCP <sup>1</sup>	1.2~3A			
3.1.7	OVP <sup>1</sup>	13.2~17.4V			
3.1.8	Short protection	automatic recovery			
3.1.9	Ripple & Noise(*)	150mV			

1, The power supply shall be self-recovering when the fault condition is removed.

\*, Measuring is done by 20MHz bandwidth oscilloscope and terminated each output with a 10uF aluminum electrolytic capacitor and a 0.1uF ceramic capacitor.

### 3.2 TURN ON DELAY

<b>5000mS</b> MAX	At AC low line input @ output full load.
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★Test on delay is measured from 0 voltage output to the main output regulation.

### 3.3 HOLD UP TIME

<b>10mS</b> MIN	At AC nominal input @ output full load. (1 half cycle)
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## 4.0 ENVIRONMENTAL CONDITIONS

### 4.1 OPERATING

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

4.1.1 Ambient Temperature: 0°C---40°C

4.1.2 Relative Humidity: 10%---90%

4.1.3 Altitude: Sea level to 2,000m.

4.1.4 Vibration: SWEEP AND RESONANCE SEARCH FREQUENCY DURATION AXIS AMPLITUDE  
5-20-500 30 MINUTES X,Y,Z 1G

4.1.5 Cooling: The power supply will operate with convection cooling.  
Blocking of vents must not cause damage to the power supply.

### 4.2 NON OPERATING

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

4.2.1 Ambient Temperature: -20°C---80°C

4.2.2 Relative Humidity: 20%---90%

4.2.3 Altitude: Sea level to 2,000m.

4.3 Burn-in: 2H

## 5.0 SAFETY REQUIREMENT

### 5.1 EMI STANDARDS

**The power supply shall meet the radiated and conducted emission requirements for FCC part 15 CLASS B, EN55022, CLASS B**

### 5.2 HI-POT TEST

**Primary to Secondary:**

AC1500V, 10.0mA, 1 minute for type test .

AC3000V, 10.0mA, 1 minute for type test .

### 5.3 LEAKAGE CURRENT

**0.25mA** maximum, At nominal AC input voltage and frequency.

### 5.4 REGULATORY STANDARD

Safety	Country	Standard
cUL		
FCC		
BSMI		

### 5.5 INSULATION RESISTANCE

Input to output: **50M** OHM at **500VD**

## **6.0 MTBF**

When the power supply is operating within the limits of this specification the MTBF shall be least 50,000 hours at 25°C (MIL-STD-217F).

## **7.0 MECHANICAL**

7.1 INPUT PLUG TYPE: 2PIN US

7.2 OUTPUT CORD:

7.2.1 WIRE: 2468#22AWG\*2C/1.5M PVC BLACK 80°C

7.2.2 PLUG: 2.1\*5.5\*11mm 180°Center "+"

7.3 WEIGHT

The weight of the power supply shall be about 93.0 g.

7.4 DIMENSION

52.0(L) \* 29.0(W) \* 47.0(H)mm maximum.

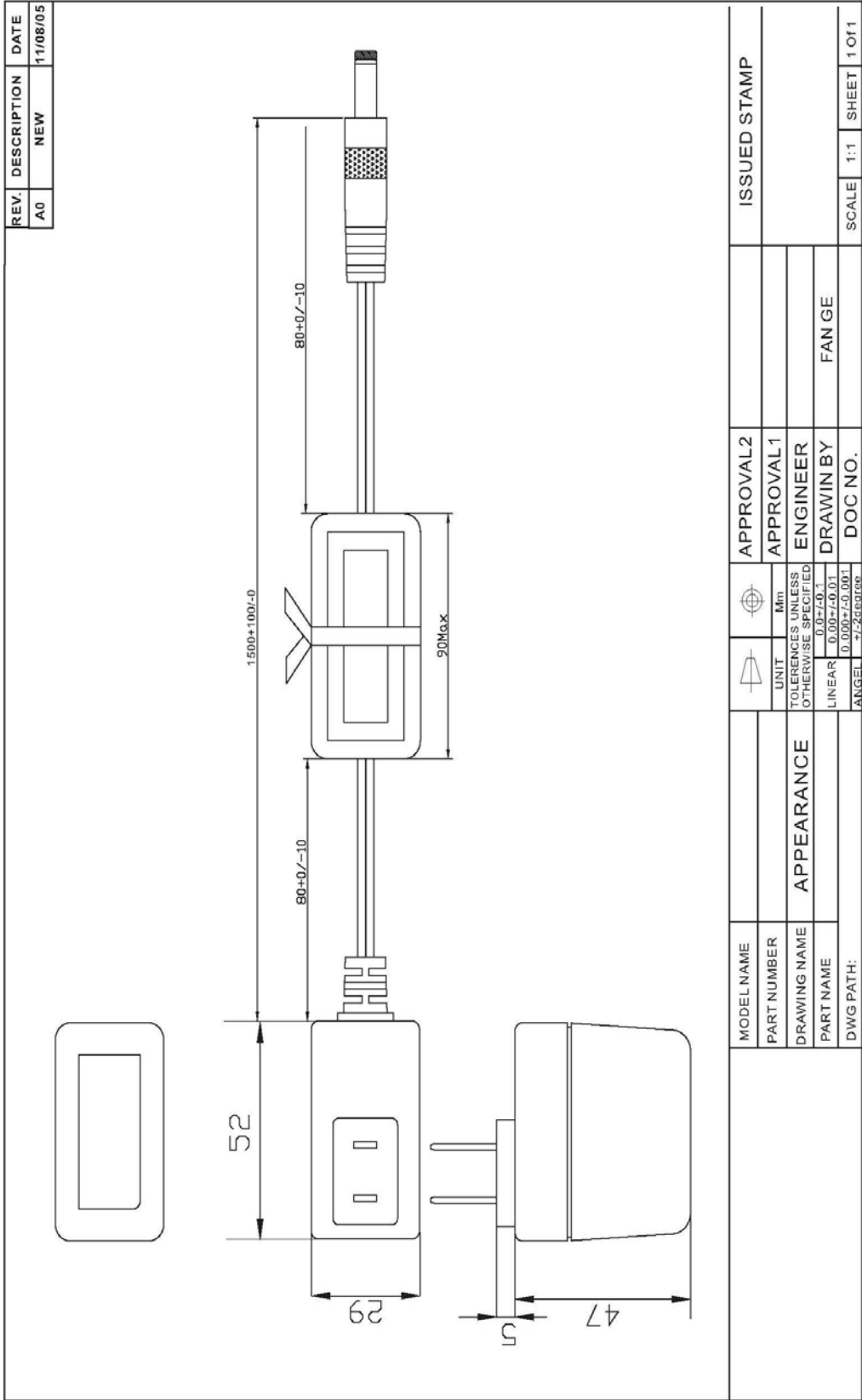
7.5 PRODUCT OUTLINE DRAWING. (PLEASE SEE ATTACHED 1#)

7.6 LABEL. (PLEASE SEE ATTACHED 2#)

7.7 DC CABLE (PLEASE SEE ATTACHED 3#)

7.8 PACKING DRAWING (PLEASE SEE ATTACHED 4#)

7.5 PRODUCT OUTLINE DRAWING



MODEL NAME		APPROVAL2		ISSUED STAMP
PART NUMBER		APPROVAL1		
DRAWING NAME	APPEARANCE	ENGINEER		
PART NAME		DRAWN BY	FAN GE	
DWG PATH:		DOC NO.		SCALE 1:1 SHEET 1 OF 1

7.6 LABEL

REV.	DESCRIPTION	DATE
A/0	NEW	11/10/19



SCALE:1X

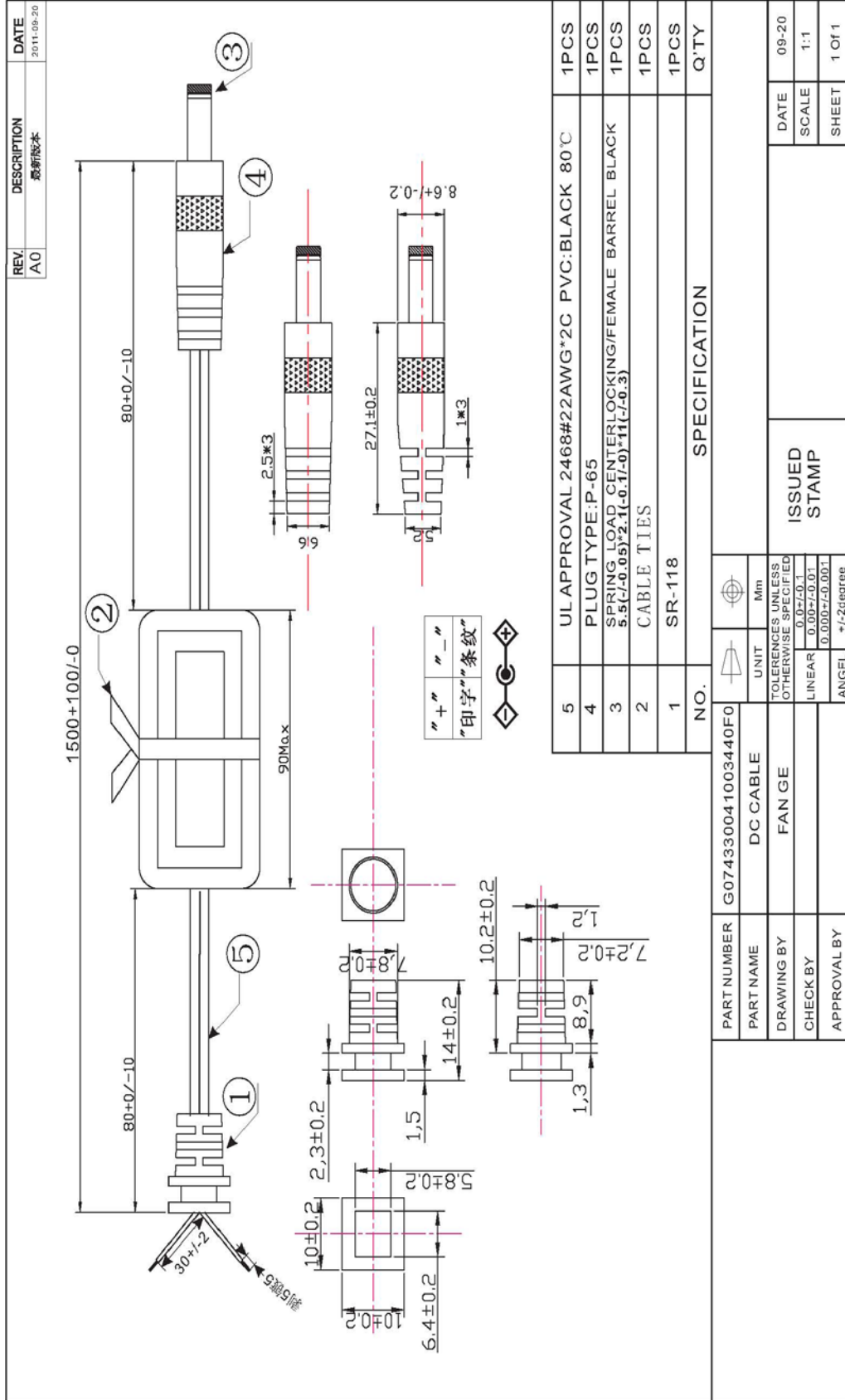
SCALE:4X

NOTE:

- 1>. Matte black white
  - 2>. Material: CPC
  - 3>. Thickness: 0.25mm
  - 4>. Tolerance: +/-0.1mm
- Inspection: 1. Appearance: clear surface, no blemish, damage, creases, zero hyphenation, fonts, skew and cutting undesirable situation;  
 2. Dimensions; 3. Content; 4. Colors: It is necessary to refer to color card; 5. Environmental  
 6. Stickiness: gum homogeneous, non-spill plastic phenomenon, when the test does not allow the edge of towel tilt, off.

MODEL NAME	HSP1002-12120-2A	APPROVAL 2	ISSUED STAMP
PART NUMBER		APPROVAL 1	
DRAWING NAME	LABEL	ENGINEER	
PART NAME		DRAWN BY	FAN GE 10/19
DWG PATH:		DOC NO.	
		SCALE	1:1
		SHEET	1 of 1

7.7 DC CABLE



7.8 PACKING DRAWING

REV.	DESCRIPTION	DATE
A0	NEW	11/04/26

**IN CARTON**

**Isolation board**

**PE BAG**

**Honey comb**

**OUT CARTON**

**OUT CARTON**

**OUT CARTON : 475 (L) \*455 (W) \*335 (H)**  
**IN CARTON : 455 (L) \*435 (W) \*310 (H)**  
**Q'TY : 5 (L) \*4(W)\*5(H)=100PCS**

NO.	P/N:	SPECIFICATION	Q' TY
1	G1720014A000	OUT CARTON A=A	IPCS
2	G1720015A000	IN CARTON A=A	IPCS
3	G1730004A000	HONEY COMB A=A	5PCS
4	G1740008A000	Isolation board BBB	6PCS
5	G17501600000	PE BAG	100PCS

Part Number	PACKING	Unit	mm			
Part Name	FAN GE	TOLERANCES UNLESS OTHERWISE SPECIFIED				
Drawing By		Linear				
Check By						
Approval By						
Date	2011-04-26	Angel	±2 Degree			

Issued Stamp		Scale	1:1
		Sheet	1 of 1