Specification

Model No： PB-1120-8SA1

Description： 12V 12W single output AC adapter

Revision： A

Issued Date： Mar. 13, 2013

Customer Part No.：

LITEON

90, Chien I Rd, Chung Ho city, Taipei Hsien 235, Taiwan

Tel: 886-2-2222-6181 Fax: 886-2-2226-1922

Approve By	Check By	Prepared By
Chihhua Kung		Ken Lin

Change List			
ECN No	**REV**	**Revision Description**	**Date**
01	A	Initial	03/13/2013

Contents

1. Description

This product is an external AC to DC adapter power transfer device; it is able to provide 12W single dc output with constant voltage source.
Unless noted otherwise, all electrical tests shall be performed at the end of the mating DC output connector with 100 uF/25V aluminum electrolytic capacitor with an ESR < 0.22 Ω in parallel with a 10 uF/16 V/1206 ceramic capacitor and a 0.1 uF/50 V/0603 ceramic capacitor and the load current will be set with either a resistive or an electronic load.

2. Electrical

2.1 Input Voltage (AC ~).
a. 120 VAC (RMS) Nominal.
b. From 90-132 VAC (RMS) Maximum.

2.2 Input Frequency
a. 60 Hz Nominal.
b. From 57-63 Hz Maximum.

2.3 Inrush Current
The inrush current must be limited to 50A when operated at 120VAC and at an ambient temperature of 25℃.

2.4 Hold up time
The hold up time should be 10ms minimum for a complete AC line dropout with an input voltage of 115Vac and 60Hz and 90% full rated load.

2.5 Turn On Delay time
The output voltage shall rise from 0 volt and settle within regulation in less than 3sec at full load and 100Vac/60Hz input

2.6 Efficiency.
Average 25 / 50 / 75 / 100% load power efficiency need to >= 77.75% at 115Vac 60Hz to compliance with EPA 2.0 level 5 and CoC 2009 efficiency requirement. Test condition will be tested after full load operating for 30min then measure it.

2.7 Safety Test
a. Leakage current less then 0.25mA.
b. Hi-pot test: 4242Vdc, < 10mA, 1MINUTE between Primary to Secondary.
c. Insulation: 500Vdc, 2Sec between Primary to Secondary circuit, IR shall≧10MΩ.

2.8 Rise time
The output voltage shall rise from 0 volt and settle within regulation in less then 50ms at full load.

2.9 No load power consumption

AC input power Pin shall be less then 0.3W at normal voltage 115VAC with no load

2.10 DC output requirement.

Vout	+12V	Remark
Vout min	11.4V	Vdc
Vout typ	12.0V	Vdc
Vout max	12.6V	Vdc
Ripple/noise	200	mVpp
Iout max	1000	mA
Iout min	0	mA

Ripple and Noise.

Tested at dc load side and paralleled with one 47uF/EC and one 0.1uF/Ceramic capacitor, and measured with 20MHz band-width at 25℃.

2.11 Output circuit protection.

a. SCP: short circuited protection with auto-recovery function.

b. OCP: Over current protection with auto-recovery function

c. OVP: Over voltage protection (<20V)with auto-recovery function.

3. Environment

3.1 Temperature

a. Operation: 0 to 40 ℃ for nominal input condition.

b. Storage: -40 to 85 ℃

3.2 Humidity

a. Operation: 5-90% for nominal input condition.

b. Storage: 5-95%.

3.3 Component Thermal Rating

Under nominal output load conditions and any input operating conditions, all components shall meet Lite-ON guideline. All magnetic components shall not exceed their designed safety rated temperatures for the insulation.

4. Safety / EMC

4.1 Safety.

The power supply shall meet the UL 60950-1 2nd edition and UL 60065 7th edition criterions.

4.2 EMS.

Test Item	Test Specification.	IEC standards	Performance Criteria
ESD	Contact +/- 8KV	61000-4-2	B
ESD	Air +/- 15KV	61000-4-2	B
RS	Fr: 26MHz-1.0GHz, Field Strength : 3V/M	61000-4-3	-
EFT	1KV on AC power line, 0.5KV on signal line	61000-4-4	B
SURGE	Standard 0.5us 100KHz Ring Wave Power line +/- 6KV , 12 ohms 5 times per mode. Polarity 90 degrees	61000-4-5	A
	Standard 1.2/50 uS Combination Wave Power line +/- 6KV , 2 ohms 5 times per mode. Polarity 90 degrees		
CS	3V/M	61000-4-6	-
DIPS	0% 250Cy, 40% 5Cy, 70% 0.5Cycle	61000-4-11	-

4.3 EMI for both Conduction & Radiation.

Referring Standards	Spec / Certified
EN 55022	CISPR 22, class B

5. Reliability

5.1 Vibration Test

	Frequency	Slope	Power Spectra Density
Random	3 to 100 Hz	0	0.015 g2 /Hz
	100 to 137 Hz	-6dB/octave	---------
	137 to 357 Hz	0	0.0080 g2 /Hz
	350 to 500 Hz	-6dB/octave	---------
	500Hz(~2.41Grms)	-------	0.0039 g2 /Hz

5.2 Shock

End Use Handling (operational):

Half sine shock	Duration	<3msec
	Delta V	165cm/sec

Note: Minimum 3 shocks on each of 6 faces while product is powered on

Transportation Simulation

Trapezoidal shock:	Acceleration:	50 g
	Delta V:	742 cm/sec

5.3 Lifetime.

This power supply is required over a 7 yrs life time at 25℃ ambient, and 3 yrs life time at 40℃ ambient, at 115Vac, 80% of maximum output load.

5.4 Lifetime Approved Aluminum Electrolytic Capacitor Vendors

Approved electrolytic capacitor manufacturers are Nichicon, Rubycon, United Chemi-Con, Panasonic, Saxmon, Elite, Taicon and Ltec.

5.5 M.T.B.F

The MTBF of the power supply have 3,504,000 hrs at full load and 25℃ ambient condition at worst case input.

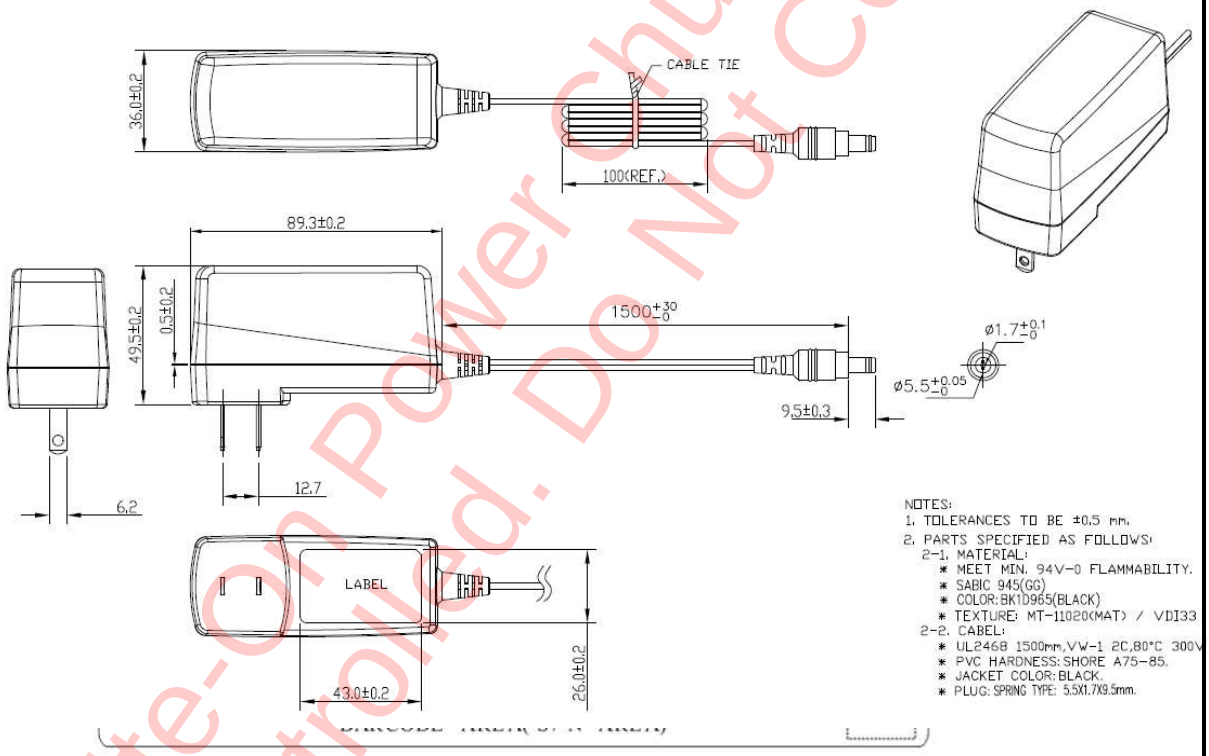
5.6 Power Supply Component De-rating

Under nominal output load conditions and any input operating conditions ,all components designed in the power supply shall meet Lite-On Component De-rating guideline.

6. Mechanical

6.1 Physical Size

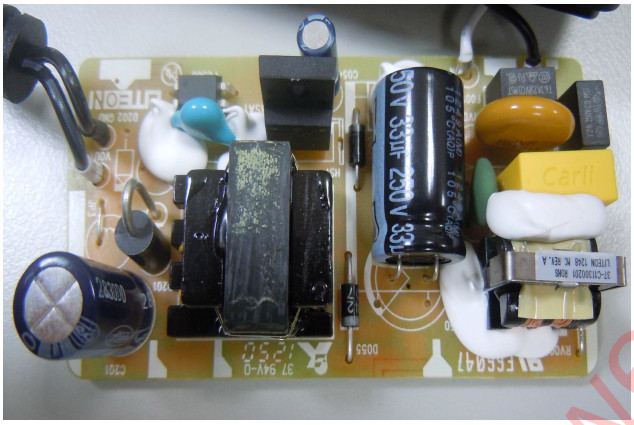
Plastic case size 89.3mm (L) X 36.0mm (W) X 49.5mm (H)

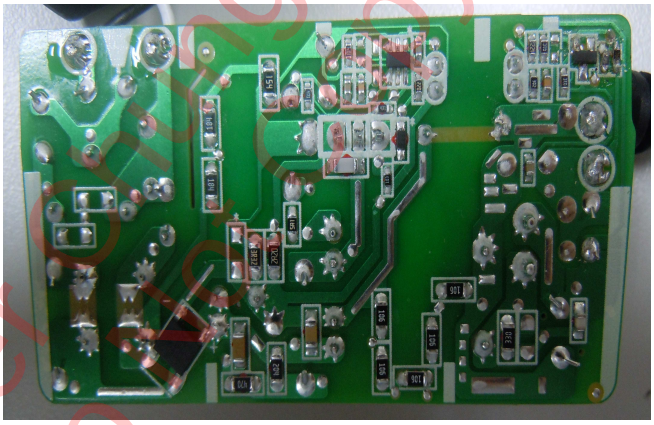


Label drawing

Rev.: RR

This is for revision of CISCO MP:(A~Z), BEFORE MP:(01~99)
According to the definition of i-power "Customer Rev"





Photo

6.2 Input connector
Input Pin: UL PIN

6.3 Output connector and Cable
UL2468 material, 1.5M, 24AWG cable
DC connector: Barrel type 5.5 x 1.7 x 9.5mm

6.4 Weight about
104 +/-5g

6.5 Ecological requirements.

6.5.1 ROHS
Meet EU 2002/95/EC

6.5.2 Packing

The power supply and shipping container must be certified for Grüne Punkt(“Green Dot”).

6.5.3 WEEE Directive

The power supply must comply with WEEE Directive 2002/96/CE and indicate appropriate product markings on Agency Label.

6.6 Schematic and BOM

Please see the following pages (100% RoHS compliant)