

規 格 書
Electrical Specification

Model No : PB-1150-8M01

Description : 12V 15W single output AC adapter

Revision : A

Issued Date : Jul 27, 2012

Customer Part No. : 585738-001-00

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Change List			
ECN No	REV	Revision Description	Date
	A	Initial	7/27/2012

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1. Description

This product is an external AC to DC adapter power transfer device; it is able to provide 15W single dc output with constant voltage source.

2. Electrical

2.1 Input Voltage (AC ~).

- a. 115 Vac Nominal.
- b. From 100-132 Vac Maximum.

2.2 Input Frequency

57~63Hz

2.3 Inrush Current

The inrush should be less than 50A at 115Vac and 25 °C ambient.

2.4 Input Current

0.5A max at 100Vac and dc output max load; 40mA max at 100Vac and dc output no loading

2.5 Hold-Up time (main interruption requirement).

10msec minimum at full-load at 115Vac 60Hz AC input and power down at zero crossing time of the input AC power signal.

2.6 Efficiency.

Average 25/50/75/100% load power efficiency need to $\geq 81\%$ 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, 5mA, 1MINUTE between Primary to Secondary.
- c. Insulation: 500Vdc, 2Sec between Primary to Secondary circuit, IR shall $\geq 30M\Omega$.

2.8 Turn On Delay time

The output voltage shall rise from 0 volt and settle within regulation in less then 2sec at full load.

2.9 No load power consumption

AC input power P_{in} shall be less then 0.3W at no load and 115Vac, 60Hz condition.

2.10 Rise Time.

The Supply shall have a start-up rise time of less than 2sec to rise to within regulation limits for all DC outputs.

2.11 Over-Shoot.

During either Turn-On (115Vac) or Turn-Off (AC voltage absent) of the power supply, the output voltage shall not exceed 13.2Vdc (10% of Vout). No voltage of opposite polarity shall be present on the output during turn-on or turn-off.

2.12 Capacitance Load

The output shall be capable of charging a 470uF aluminum electrolytic capacitor during turn-on.

2.13 DC output requirement.

Vout	+12V	Remark
Vout min	11.4V	Vdc
Vout typ	12.0V	Vdc
Vout max	12.6V	Vdc
Ripple/noise	2.0	Vpp
Iout max	1250	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.

2.14 Minimum load requirement.

The output voltage shall be within the specified limits shown when subjected to the following conditions:

Line voltage: 100Vac – 132Vac 57~63 Hz

Load: Io = 5mA dc

Ambient temperature: 0° C – 40° C

Output voltage: 12Vdc +/-5%

No damage or hazardous condition will occur with the DC output connector disconnected from the load under all input line conditions.

2.15 Output circuit protection.

- SCP: short circuited protection with auto-recovery function.
- OCP: Over current protection with auto-recovery function
- OVP: Over voltage protection with latch function.

2.16 No load operation.

No damage to the power supply is allowed and internal component can not be stressed beyond their rating under no load condition.

2.17 Power consumption.

Maximum input power should be less than 18.96W at 115V/60Hz.

3. Environment

3.1 Temperature

- a. Operation: 0 to 40 °C for nominal input condition.
- b. Storage: -40 to 85 °C

3.2 Humidity

- a. Operation: 10-90% 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 be meet LITEON design guideline. All magnetic components shall not exceed their designed safety rated temperatures for the insulation.

3.4 Altitude

-100 to 8,000 feet.

4. Safety / EMC

4.1 Safety.

The power supply shall comply with the following international regulatory standards:

Description	Country	Certified Status	Standard
UL	USA	/	UL 60950-1

4.2 EMS.

Test Item	Test Specification.	IEC standards	Performance Criteria
ESD	Contact +/- 8KV	61000-4-2	B
	Air +/- 15KV		
RS	Fr: 26MHz-1.0GHz, Field Strength : 3V/M	61000-4-3	A
EFT	1KV on AC power line, 0.5KV on signal line	61000-4-4	B
SURGE	Power line +/- 1KV , 2 ohms for DM Power line +/- 2KV , 12 ohms for CM -1.2/50usec Open Circuit voltage - 8/20usec Short Circuit current	61000-4-5	B

CS	3V/M	61000-4-6	A
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 Lifetime.

43,200 hours at full load & 110 VAC, ambient temperature 40°C.

5.2 Vibration Test (Packed unit)

The unit should be capable of withstanding the PEC Standard Vibration test (Referring the Standard of Mechanical Design).

5.3 Drop Test (Packed unit)

The unit should be capable of withstanding the ISTA Procedure 2A Drop test (Referring to ISTA-2A).

5.4 M.T.B.F

The MTBF of the power supply shall exceed 130,000 hours, and all measurements are to be performed with the power supply operating at full (maximum) load and nominal input voltage. Temperature measurements (@ 25 deg C ambient) are to be performed with the power supply and loads installed.

5.5 Audible Noise Level.

Not to exceed 25dBA in AC mode, measured 1 meter from any surface.

6. Mechanical

6.1 Physical Size

Plastic case size 89.3mm (L) X 36mm (W) X 49.5mm (H)

6.2 Input connector

Input Pin: UL PIN

6.3 Output connector

Dc output with traditional barrel right angle type 5.5 x 2.1 x 9.5mm, 1.5M, 24WG cable.

6.4 Weight about
110 g.

6.5 Ecological requirements.

Supplier must furnish an "Environmental certificate for bought in products" according UAT-480/100 and UAT-0480/105 to customer.

PSU shall be:

Lead free (solder) and lead free (solder and plating) from 31/12/2004 onwards.

6.6 Enclosure Temperature.

The enclosure temperature should be less than 52°C when tested at full load and 25°C ambient.

6.7 PSU Case.

The power supply should be a wall wart type of supply. With case designed to plug into the outlet from side, with out of obstruction to other outlet outputs.