

規格書
Electrical Specification

Model No : PA-1041- 91

Product No : PA-1041-91AM-LF

Description : 19V 40W AC Adapter

Revision : B

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LITEON

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Change Record			
DCN No	REV	Revision Description	Date
	A	Initial	Aug.16,2012
	B	Item 6.2 Physical Size change to 108.5 mm(L) * 48 mm (W) * 30.5 mm (H)	Dec.13,2012

Lite-On Power ChungHo
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1. Description

This product is a AC to DC power transfer device, it can provide for a **40W** single dc output with constant voltage source.

2. Electrical

2.1 Input Voltage

- a. 100 - 240Vac Nominal.
- b. 90 - 264Vac Universal.

2.2 Input Frequency

47- 63Hz.

2.3 Input Current

1.2 A max. at 90Vac input & dc output full-loading.

2.4 Inrush Current

Inrush peak current and Joule integral will be measured at different line voltage at high ambient temperture.

Peak current is within specified limit and Joule integral well below fuse and bridge spec.

60A max at cold-start and 25°C , dc output full-loading and 230Vac input, AC source use Chroma model 6530.

2.5 Hold-Up time

10msec min. at dc output full-loading and 115Vac input.

2.6 Input wattage

Less than **0.15W** at 230Vac input & no load condition.

2.7 Efficiency

Average efficiency **85.5%** minimum min. at 25%, 50%, 75% & 100% of full-loading and 115/230Vac input (After warm up 20 minutes).

2.8 Safety Test

- a. Leakage current less than **0.25 mA** at 254Vac, 50Hz.
- b. Hi-Pot test : **4242 Vdc**, 10mA, 1 – 3 Sec. between Primary to Secondary ground.
- c. Insulation resistance: at dc 500Vdc, 1 Sec. between Primary to Secondary circuit, IR shall $\geq 20M\Omega$.

2.9 Output Voltage and Current

Vout (V)	Range (V)	Iout (min., A)	Iout (max., A)	Peak (10S, A)
19V	18.05 – 19.95	0	2.1	X

2.10 Ripple and Noise

Low frequency ripple (< 100KHz) \leq **380mVpp**, and Total composite Ripple and Noise. Less than **380mVp-p**, tested by dc loading side parallel with a 10uF/EC. and 0.1uF/Ceramic. Capacitors and Measured Band Width 20MHz.

2.11 Over-Shoot and under-shoot

Less than 10% of nominal Voltage value.

2.12 Protection

a. SCP : Short circuit protection with auto. recovery function.

b. OVP : Over voltage protection with shut down & latch off function.

Tripped voltage will be less than **28Vdc**.

(Notes: Peak over 28V could be accepted if under 250mS with a max of 30V)

c. OCP : Over current protection with auto. recovery function,
current limit : **5 A** (max.)

d.OTP:The adapter shall provide Over Temperature Protection and if the temperature rises to set temperature point ,the PSU shall be latch-off.

2.13 LED Indication

NA

2.14 Rise time

Rise time shall be less than **50msec.**, it should be measured from 10% to 90% of the output voltage.

2.15 Turn on delay time

The output voltage should turn on from AC on to settle within regulation in less than **3.5sec** at input **115Vac** condition.

2.16 Temperature Coeffieence

Less than 0.2%/C

2.17 Transient Response

Dynamic loading condition.

DC output (V)	I1 (A)	I2 (A)	dVmax.(V)	Time-max.	dl/dT
19.0	0.00	0.7	+/- 1.0	10 msec.	$\geq 50\text{mA/usec.}$
19.0	0.7	1.4	+/- 1.0	10 msec.	$\geq 50\text{mA/usec.}$
19.0	1.4	2.1	+/- 1.0	10 msec.	$\geq 50\text{mA/usec.}$

50% of duty cycle.

3. Environment

3.1 Temperature

- a. Operation : **0 to 40 °C**
- b. Storage : -40 to 70 °C

3.2 Humidity

- a. Operation : 20 to 80%
- b. Storage : 10 to 90%

3.3 Altitude

From sea level to **5000m** (operation) and **5000m above** (Non operation).

4. EMC

4.1 EMS

Test Item	Test Specification	IEC Standards
ESD	Contact +/- 8KV	61000-4-2
ESD	Air +/- 15KV	61000-4-2
RS	FR: 26MHz-1.0GHz, Field Strength: 3V/M	61000-4-3
EFT	+/- 1KV (DM) & +/- 2KV (CM)	61000-4-4
SURGE	+/- 1KV (DM) & +/- 2KV (CM)	61000-4-5
CS	3V/M	61000-4-6
DIPS	0% 250Cy, 70% 25 Cy, 0% 0.5Cy	61000-4-11

4.2 EMI

Standards	Specification
FCC	Part 15,class B
VCCI	Class B
CISPR	Part 22,class B

5. Reliability

5.1 Life (E-cap.)

30,000 hours at DC output 80% rate load, AC 115/230 Vac input & ambient temperature 35°C.

5.2 M.T.B.F.

50,000 Power On Hours at 25°C.

5.3 Temperature Rise.

Less than **45°C** at nominal AC input / DC output full-loading and environment temperature 25+/-1°C on Top/Bottom of plastic case.

5.4 Burn-in

100% Burn-In with 80~100% full-loading & 35~45°C Environment temperature.

5.5 Vibration Test

- a. Non operation vibration with shipping container shall be 2G'S peak/7-50Hz, 4G'S /50-500Hz, after test no abnormally to be found.
- b. Operation vibration shall be 0.5G'S peak/10-60Hz, 3 AXES, after test no abnormally to be noted.

5.6 Drop-Test

Test height is 100cm, after drop test no function abnormally to be noted.

5.7 Regional Power Supply Surge

At maximum rated load and 25°C Ambient, perform 1 cycle: 300 VAC for 30 minutes, immediately followed by a surge of 350 VAC for 1 minute, immediately followed by 300 VAC for 30 minutes, immediately followed by a surge of 410 VAC for 1 second. The power supply shall survive repeated applications of the surges with no component damage (if recoverable surge). All outputs and logic signal(s) shall remain within the specified limits during and after these line transients (if transparent surge).

5.8 Bulk capacitor rated voltage and source

450V rated voltage and used NCC, Rubycon, Nichicon source.

6. Mechanical

6.1 Plastic enclosure : **PC** material.

6.2 Physical Size : **108.5 mm (L) * 48 mm (W) * 30.5 mm (H)**.

6.3 DC cord: **1050 mm, 20 AWG** wires.

6.4 Weight : **180g(+/-10%)**.