

SPECIFICATION

Slim Power Adapter Universal AC Input 90W 19VDC 4.7A Output



P/N: A190047LV6 FSM

****Specification Approval****

This specification (total 7 pages including cover page) is approved in it's entirety by:

Company Name

Print Name

Signature

Date



Santa Clara CA 95054
Tel: 1-408-980-9813
Fax: 1-408-980-8626
Email: infor@topmicro.com
Web: www.topmicro.com
042610VA.1

1. Description

This specification defines the input, output, performance characteristics, and environment, noise and safety requirements for 90 watts adapter. The adapter is full range 100~240VDC input and +19V DC output.

2. Electrical

2.1 Input voltage

100-240Vac nominal

2.2 Input Frequency

47-63Hz

2.3 Input Current

1.8A max. at DC output full load and 100Vac input

2.4 Power Factor Correction

>0.90 at full load

2.4 Inrush Current

50/100A max. cold-start at 25°C, DC output full load and 115/230Vac input

2.6 Hold-Up time

4m sec. at full load DC output and 115Vac input

2.7 Input wattage

Less than 0.5W at no load DC output and 240Vac input

2.8 Efficiency

Average 87% min. at full load DC output and 115/230Vac input

2.9 Safety Test

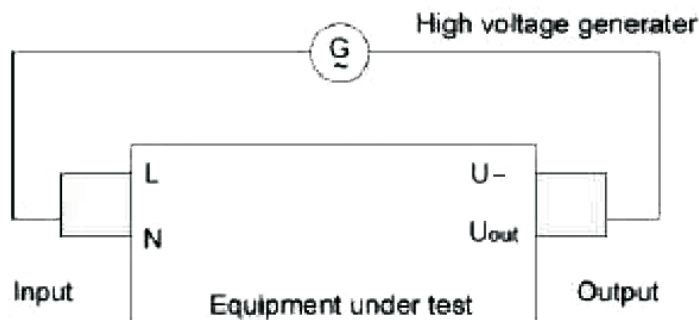
Leakage current less than 0.25mA at 254Vac,50Hz.

Hi-Pot test: 3000Vac,10mA, 3 Sec. between Primary to Secondary ground

Insulation: At 500Vdc, 1 Sec. between Primary to Secondary circuit

IR shall >= 20MΩ

Burn-In test: 2 hours at 40°C max., nominal input voltage, rated load



2.10 Output Voltage and Current

Vout	Range	Iout (min.)	Iout (max.)	Peak (4S)
19.0V	18.2-19.5V	0A	4.74A	—
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2.11 Ripple and Noise

Low frequency ripple (<100KHz) \leq 100mVp-p, and Total composite Ripple and Noise. Less than 200mVp-p, tested by dc loading side parallel with a 10uF/EC, and 0.1uF/Ceramic. Capacitors and Measured Band Width 20MHz.

2.12 Over-Shoot and under-shoot

Less than 10% of nominal Voltage value.

2.13 Protection

SCP: Short circuit protection with auto recovery function.

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

Tripped voltage will be less than 24Vdc.

OCP: Over current protection with auto recovery function.

Current limit: 8.5A max.

2.14 LED Indication

Green light for Nominal operation.

Blank or Flash for SCP mode.

2.15 Rise time

Rise time shall be less than 50mS. It should be measured from 10% to 90% of the output voltage.

2.16 Temperature Coefficient

Less than 0.2%/°C

2.17 Transient Response

Dynamic loading condition: 50% of duty cycle

DC output	I 1 (A)	I 2 (A)	dVmax. (V)	Time-max.	dI/dT
19.0	0.00	1.6	+/-1.0V	10msec.	\geq 50mA/usec.
19.0	1.6	3.2	+/-1.0V	10msec.	\geq 50mA/usec.
19.0	3.2	4.74	+/-1.0V	10msec.	\geq 50mA/usec.

3. Environment

3.1 Temperature

Operation: 0°C to 40°C

Storage: -20°C to 70°C

3.2 Humidity

Operation: 20% to 80%

Storage: 10% to 90%

3.3 Altitude

From sea level to 2000m (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	+/-2KV on AC power line	61000-4-4
SURGE	+/-1KV (DM) & +/-2KV (CM)	61000-4-5
CS	3V/M	61000-4-6
DIPS	0% 250CY, 40% 5CY, 70%5CY	61000-4-11

4.2 EMI

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

5. Reliability

5.2 Temperature Rise

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

5.3 Burn-in

100% burn-in with 80%~100% load & 35°C~45°C ambient temperature

5.4 Drop Test

Test height is 100cm. After drop test no abnormality shall be present.

6. Mechanical Characteristics

6.1 Appearance

Visual inspection of the case shall reveal no visual abnormality, no obvious nick, burr or other damage, and outer metal have shall no rust.

6.2 Case/Resin Materials

Flame resistance applies to UL94V-0

7. Mechanical Requirement

7.1 Dimension

135(L)*65(W)*25(H)mm

7.2 Weight

320g

7.3 Output Cord

Wire: 2468 18AWG 1.5m, DC Plug: 5.5*2.5*20.5mm

7.4 Bending Test

Fix the adaptor and its plug, apply a load of 500g to the other end, turn the cable by 60 carry out this process 1000 times, at the rate of 20 times per minutes. No abnormality in mechanical or electrical characteristics.

7.5 Tensile Strength

Apply a load of 10N to the charger side and the connector side for 1 minute, no mechanical damage or other failures, no electrical deterioration or other failures.
(N represents mass in Newtons).

7.6 Impact Test

A sample consisting of the complete enclosure, or a portion thereof representing the largest unreinforced area, is supported in its normal position. A solid smooth steel ball, approximately 50mm in diameter and with a mass of 500g 25g, is permitted to fall freely from rest through a vertical distance of 1.3m onto the sample (Vertical surfaces are exempt from this test).

7.7 Hi- Pot Test

The adaptor shall have no failures (electricity arc discharge, insulation damage, etc).

7.8 Plug-in Test

After plug the connector in (30N max) and out(10-50N) the female-connector for 10 times, then plug in and out for 1500 times. After test no abnormality in electric characteristic shall be present.
(N represents mass in Newtons).

8.Environmental

8.1 Low Temperature Operation

At 0 2°C, with the rated voltage 100Vac~240Vac charged to the primary and unloaded and full load on the secondary 4 hours, no abnormality in electric and mechanical characteristic shall be present.

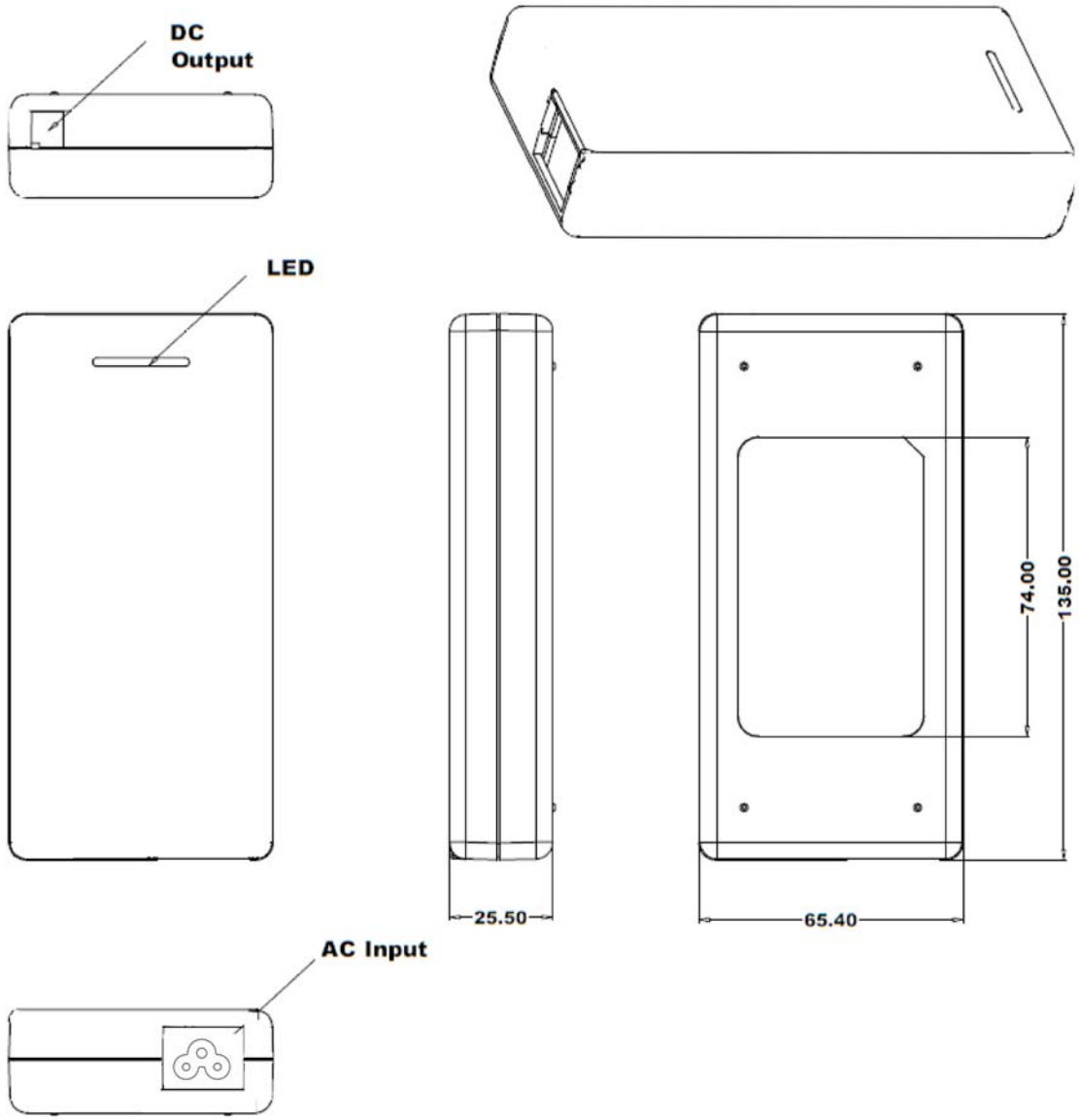
8.2 High Temperature Operation

At 40 2°C, with the rated voltage 100Vac~240Vac charged to the primary and unloaded and full load on the secondary 4 hours,. No abnormality in electric and mechanical characteristic shall be present.

8.Temperature and Humidity Test

At 40°C 2°C, 93% 3%RH, test of operating 48 hours, no abnormality in electric or mechanical characteristic shall be present.

9. Mechanical Drawing



10. Output Cable and DC Plug

