SPECIFICATION

Ultra Slim High Efficiency
Switching Desktop Adapter

90W 19VDC 4.7A Output
90-264VAC Input
88(L)x63(W)x16.5(H)mm

P/N: A190047AP8

** Specification Approval**

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

Company Name	Print Name	Signature	Date

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1. Scope

This specification defines electronic performance and characteristics of A190047AP8 Ultra Slim 90W adapter.

2. Input Characteristics

2.1. Input Voltage Range

MIN	RATED	MAX
90 VAC	100-240 VAC	264 VAC

2.2. Input Frequency Range

MIN	RATED	MAX
47Hz	50-60Hz	63Hz

2.3. Max Input AC Current

Maximum steady state input current shall be less than 1.1Amp RMS at 100 VAC and maximum load.

2.4. Inrush Current

Under 150A at 240VAC cold start.

2.5. Efficiency (Normal)

Minimum 89% at 25C and full load 110/240Vrms. Sum of 25%, 50%, 75%, 100% load efficiencies shall meet EPA Energy Star V 87% specification after burn-in of 0.5 hours at full load.

2.6. Max No Load Power Consumption

The device must meet the No Load requirements specified as 0.5Watts (measured at 115Vac~240Vac input) by EPA Energy Star V

3. Output Characteristics

3.1. Static Output Characteristics (Vo)

Output Voltage	Load Range	
	MIN.	MAX
19V	0A	4.74A

Note:

1). Ripple & Noise test: Use 20M Hz bandwidth frequency oscilloscope.
2). Add 0.1uF ceramic desk capacitor / 47uF electrolytic capacitors at output connector terminal for Ripple & Noise test.
3). Ripple Noise test condition: Output 4.74A.
4). Ripple with spike noise $\leqq$ 300 mVp-p.

3.2. Dynamic Output Characteristics

Output voltage within 18.0V~20.0V , for load step 0.15A to 4.74A on the output . S/R=2.5A/uS, 100Hz 50% Duty.

3.3. Turn - on Delay Time

3 sec max. @ 115Vac and 230Vac, Full Load

3.4. Output Protection

3.4.1. Over Voltage Protection

OVP trip and latch at 26V max.

3.4.2. Short Circuit Protection

It shall not result in a fire hazard, shock hazard, or damage to the power supply.

3.4.3. Output Current Protection

7.3A max for 19.5Vdc,Hiccup mode.

3.4.4. Over Temperature Protection

Latch off mode.

3.5. Hold Up Time

3mS minimum at 115 VAC and 230Vac Input Voltage, full load.

3.6. Peak Load

Peak Load 5.62A(4 minutes max.) – the output voltage will be allowed to 18.0~20.0Vdc during this transient (measured at 115/240 Vac, 25℃)

4. Dielectric Withstand Voltage

4.1. PRODUCTION LINE HIPOT TEST

Primary to Secondary, 3000Vac 10mA for 1 second or 4242 VDC 10mA for 1 second.

4.2. AC Leakage Current

100uA max when tested at 254VAC, 50Hz resistor load.

5. RFI / EMI: Internal filter to meet

1). FCC class B
2). CISPR 22 class B

6. Environment

6.1. Operating Temperature

The power shall operate 0 to 40℃.

6.2. Operating Relative Humidity

8% to 90%.

6.3. Operating Altitude

0ft to 10,000ft.

6.4. Storage Temperature

-20 to +65℃.

6.5. Storage Relative Humidity

5% to 95% noncondensing.

6.6. Storage Altitude

0ft to 40,000ft.

6.7. MECHANICAL VIBRATION

1. Operating
   10 to 500 Hz, nominal 0.5 Grms. The test duration in each axis shall be sufficient so that each mass storage device can be operationally exercised.
2. Non-Operating
   10 to 500 Hz, nominal 1.5 Grms. The test duration shall be one hour/axis, for total test duration of three hours.

6.8. MECHANICAL SHOCK

1. Operating
   Half sine wave form, Peak Acceleration: 40 G, Pulse Duration: 2ms
2. Non-Operating
   Square waveform, Peak Acceleration: 60 G, Pulse Duration: 11ms

6.9. PLT EN61000-4-5 :

L-N 1KV / 1.2* 50uS no function error.

7. ESD EN61000-4-2

±15KV discharge by air & ±8KV discharge by contact, no damage.

8. DC Output Pin Out

Pin 1: Adapter postive output
Pin 2: Adapter return

9. Mechanical

Weight : 160g+/-20g
DIM : 63*88*16.5mm

10. Agency

UL, TUV, CE, CB, FCC, PSE, CCC

11. Drawing