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規格書

Electrical Specification

Model No : PA-1360-5M01

Description : 12V 36W single output AC adapter

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Customer Part No. :

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1. Description

This product is an external AC to DC adapter power transfer device; it is able to provide 12V 36W single dc output with constant voltage source.

2. Electrical

2.1 Input Voltage (AC ~).

- a. From 100-240 Vac Nominal.
- b. From 90-264 Vac Maximum.

2.2 Input Frequency

From 47-63Hz Maximum.

2.3 Input Current

1.0A max at 100Vac and dc output max load.

2.4 Inrush Current

50A maximum at cold-start & 25°C & DC output at full-load and 125Vac input.

2.5 Hold-Up time (main interruption requirement)

16.67 msec minimum at full-load and 110Vac/60Hz AC input.

2.6 Efficiency.

Average 25/50/75/100% load power efficiency need to $\geq 84.6\%$ at 115Vac and 230Vac.
Test condition will be tested after full load operating for 30min then measure it.

2.7 Safety Test

- a. Leakage current less than 0.25mA at 254Vac, 50Hz.
- b. Hi-pot test: 3000Vac, 10mA, 3sec between Primary to Secondary.
- c. Insulation: 500Vdc, 2Sec between Primary to Secondary circuit, IR shall $\geq 20M\Omega$.

2.8 Start Up.

The output voltage shall rise from 0 volt and settle within regulation in less than 2sec, from apply of 115Vac.

2.9 No load power consumption

AC input power P_{in} shall be less than 0.3W at no load and 230Vac/50hz condition.

2.10 Rise Time.

That shall be less than 20msec from 10% to 90% of dc output voltage.

2.11 Over-Shoot and under-shoot.

Less than 10% of nominal DC output voltage.

2.12 DC output requirement.

Vout	+12V	Remark
Vout min	11.4V	Vdc
Vout typ	12.0V	Vdc
Vout max	12.6V	Vdc
Ripple/noise	120	mVpp
Iout max	3000	mA
Iout min	0	mA

Ripple and Noise.

Tested by dc loading side parallel with a 10uF/25V aluminum electrolytic & 0.1uF/50V Ceramic capacitor and Measured Band-Width with 20MHz.

2.13 Output circuit protection.

- a. SCP: short circuited protection with auto-recovery function.
- b. OCP: Over current protection shall be less than 4.5A with auto-recovery function
- c. OVP: Over voltage protection with auto-recovery function.

Tripped voltage will be less than 18Vmax.

2.14 Transient Response.

Dynamic load condition.

Vin (AC)	DC output	Vout Max	Vout Min	I1(A)	I2(A)	I1 time	I2 time	di/dT
115Vac/230Vac	12V	12.6	11.4	0	1.50	0.5msec	0.5msec	0.1A/usec
				1.50	3.00			

3. Environment

3.1 Temperature

- a. Operation: 0 to 50 °C for nominal input condition.
- b. Storage: -20 to 70 °C

3.2 Humidity

- a. Operation: 5-90% for nominal input condition.
- b. Storage: 5-95%.

4. Safety / EMC

4.1 Safety.

Safety referring Standards	
UL/C-UL	UL 60065 7th edition , 60950-1 2 nd

4.2 EMS.

Test Item	Test Specification.	IEC standards
ESD	Contact +/- 8KV	61000-4-2
ESD	Air +/- 15KV	61000-4-2
EFT	2KV on AC power line.	61000-4-4
SURGE	Bi-wave +/- 6KV / 2ohm 3000A, Ring wave +/- 6KV / 12ohm 500A on both differential and common mode.	61000-4-5
CS	3V/M	61000-4-6
RS	Fr: 80MHz-3.0GHz, Field Strength : 3V/M	61000-4-3
DIPS	0% 250Cy, 40% 5Cy, 70% 0.5Cycle	61000-4-11

4.3 EMI for both Conduction & Radiation.

Referring Standards	Spec / Certified
FCC	Part 15,class B
CISPR	CISPR 22, class B

5. Reliability

5.1 Lifetime.

61320 hours (7 years) at 27W load 115Vac , ambient temperature 50°C.

5.2 Burn-in

100% Burn-In with 80-100% loading & 30-40°C Environment temperature.

5.3 Vibration Test

- a. Non operation vibration with shipping container shall be 2G'S peak, 7-250Hz, 1G'S peak 50-500Hz, after 30 minute test no abnormally to be found.
- b. Operation vibration shall be 0.5G'S peak, 5-250Hz, 3 planes, after 30 minute test no abnormally to be noted.

5.4 M.T.B.F

Prediction: Minimum 200,000 hours @ 25 °C, full load, 115Vac/230Vac, SR-332

6. Mechanical

6.1 Physical Size

Plastic case size 126.5mm (L) X 50mm (W) X 30.6mm (H)

6.2 Input connector

IEC 60320/C8 Type.

6.3 Output connector.

Dc output with traditional barrel type 5.5 x 2.1 x 10.5mm, 1.83M, UL1185 18AWG cable.

6.4 Outline Drawing.

NOTES: UNLESS OTHERWISE SPECIFIED,

1. ALL DIMENSIONS ARE IN mm.
TOLERANCES TO BE ± 0.5 mm.
2. PARTS SPECIFIED AS FOLLOWS:
- 2-1. ENCLOSURE:
MEET MIN. V-0 FLAMMABILITY.
COLOR: BLACK.
TEXTURE: MT-11020 (MAT).
- 2-2. AC INLET:
IEC 320, C8 CERTIFIED, 2 WAY.
COLOR: BLACK.
- 2-3. DC OUTPUT:
PLUG SHAPE: TUNING FORK TYPE
PLUG INSULATOR: RED
PLUG POLARITY (+) (-)
CABLE: UL/CSA, AWG 1185,
VN-1, 80°C 18AWG.
JACKET COLOR: BLACK.

