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SPECIFICATION



G.P,FSP013-1AD201(F041) 9NA0130112

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ATTACHMENT: ASSY FIGURES

1.0 GENERAL DESCRIPTION AND SCOPE

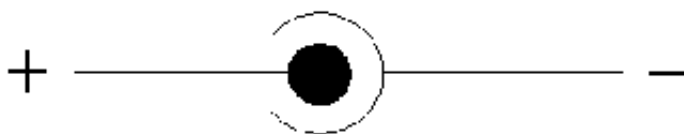
This is the specification of Model G.P,FSP013-1AD201(F041); part no. 9NA0130112, AC-DC adapter switching power supply designed and manufactured by FSP GROUP, INC. located in Taiwan, Republic of China.

The specification below is intended to describe as detailedly as possible the functions and performance of the subject power supply. Any comment or additional requirements to this specification from our customers will be highly appreciated and treated as a new target for us to approach.

2.0 CONNECTOR PIN DESIGNATIONS

The pin designations and color codes are defined as follows:

OUTPUT POLARITY OF DC PLUG



3.0 OUTPUT ELECTRICAL REQUIREMENTS

3.1 OUTPUT RATING

Output	Nominal	Regulation	Ripple/Noise	Min	Max
1	+5.0V	4.75V~5.25V	75mV	0A	2.5A

The total output regulation shall be $\pm 5\%$, including the effects of line voltage variations, load current, ripple and noise, and the AC component of the load current. Ripple and noise measurements shall be made under all specified load conditions through a single Pole low pass filter with 20MHz cutoff frequency. Outputs shall bypass at the connector with a 0.1uF ceramic disk capacitor and a 47uF electrolytic capacitor to simulate system loading.

Ripple Noise test condition: Input at normal line,output at Max. Current.

3.2 SHORT CIRCUIT PROTECTION

Output short circuit is defined to be a short circuit load of less than 0.1 ohm, and with auto-recovery function. Short circuit protection will prevent damages to power supply when output is short-circuited continuously with 100 milliohm or less.

3.3 OVER-CURRENT PROTECTION

No damage.

3.4 TURN-ON DELAY TIME

The turn-on delay from application of AC input power to the establishment of rated DC power voltage should not exceed 3.0 seconds under any conditions at CC mode test.

3.5 HOLD UP TIME

8mS minimum. Tested at 115Vac input and full load at output.

3.6 OVERSHOOT

The output overshoot at turn-on shall not exceed 10% of normal voltage value with or without the load connected.

3.7 OVER VOLTAGE PROTECTION

The voltage will not exceed the upper trip limit.

Output Voltage	Upper trip limit	Remark
4.75Vdc ~ 5.25Vdc	7.0Vdc	Only internal test

4.0. INPUT ELECTRICAL SPECIFICATIONS

4.1 INPUT VOLTAGE RANGE

PARAMETER	MIN.	NOM.	MAX.	UNITS
V-in Range	90	115/230	264	V-rms

4.2 INPUT FREQUENCY

47 - 63Hz

4.3 INRUSH CURRENT

(Cold start – 25 deg. C) DC full loading

115V	40 Amps – peak
230V	80 Amps - peak

4.4 INPUT LINE CURRENT

115V	0.6 Amps – rms maximum
230V	0.3 Amps – rms maximum

4.5 EFFICIENCY

115Vac @Full Load	70% minimum
230Vac @Full Load	70% minimum

5.0. ENVIRONMENTAL REQUIREMENTS

The power supply will be compliant with each item in this specification for the following environmental conditions.

5.1 TEMPERATURE RANGE

Operating	0 to + 35 deg. C
Storage	-20 to +80deg.C

5.2 HUMIDITY

Operating	5 –95% RH, Non-condensing
Storage	5 –95% RH, Non-condensing

5.3 VIBRATION

The subject power supplies will withstand the following imposed conditions without experiencing non-recoverable failure or deviation from specified output characteristics.

Vibration Operating – Sine wave excited, 0.25 G maximum acceleration, 10-250 Hz, swept at one octave / min. Fifteen minute dwell at all resonant points, where resonance is defined as those exciting frequencies at which the device under test experiences excursions two times large than non-resonant excursions.

Plane of vibration to be along three mutually perpendicular axes.

5.4 SHOCK

The subject power supplies will withstand the following imposed conditions without experiencing non-recoverable failure or deviation from specified output characteristics.

Storage –40G, 11 mSec. Half-sine wave pulse in both directions on three mutually perpendicular axes.

Operating -10G, 11mSec. Half-sine wave pulse in both directions on three mutually perpendicular axes.

6.0. RELIABILITY

6.1. MTBF

The subject adapter have a minimum predicted MTBF(MIL-STD-217F) of 25000 hours of continuous operation at 25°C, maximum-output load, and nominal AC input voltage.