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SPECIFICATION



FSP060-DBAB2 9NA0601800

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ATTACHMENT: ASSY FIGURES

1.0 GENERAL DESCRIPTION AND SCOPE

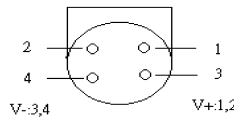
This is the specification of Model FSP060-DBAB2; part no. 9NA0601800, AC-DC adapter switching power supply designed and manufactured by FSP GROUP, INC. located in Taiwan, Republic of China.

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	+24.0V	22.8V~25.2V	240mV	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: 90V/60Hz,output at Max. Current.

3.2 SHORT CIRCUIT PROTECTION

Output can be shorted without damage, and auto recovery.

3.3 OVER-CURRENT PROTECTION

Output current limit : 2.6A ~ 4.0A(Max).

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 4.0 seconds under any conditions at 120Vac/60Hz .

3.5 HOLD UP TIME

6mS minimum. Tested 120Vac input and max load at output.

3.6 DYNAMIC LOAD REGULATION

Output voltage within 22.8 – 25.2V, for load step 0.25A to 2.25A on the output. S/R=0.005A/uS, 100Hz & 1KHz 50% duty.

3.7 OVERSHOOT

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

3.8 OVER VOLTAGE PROTECTION

The voltage will not exceed the upper trip limit.

Output Voltage	Upper trip limit	Remark
22.8Vdc ~ 25.2Vdc	26Vdc ~ 35Vdc	Only internal test

3.9 NO LOAD POWER CONSUMPTION

SPECIFICATION : Input power 0.5W(MAX).

CONDITION : At 230Vac input voltage with no load .

4.0. INPUT ELECTRICAL SPECIFICATIONS

4.1 INPUT VOLTAGE RANGE

PARAMETER	MIN.	NOM.	MAX.	UNITS
V-in Range	90V	100/240	264V	V-rms

4.2 INPUT FREQUENCY

47 - 63Hz

4.3 INRUSH CURRENT

(cold start-25deg.C) DC full loading

No damage occur and the input fuse shall not blow up

4.4 INPUT LINE CURRENT

115V	1.5 Amps – rms maximum
230V	0.8 Amps – rms maximum

4.5 EFFICIENCY

115Vac @Full Load	83% minimum
230Vac @Full Load	83% minimum

Energy Efficiency Regulations (for CEC LEVEL4)

LL measurements to be taken after DUT has operated at 100% load for at least 30 minutes

Percentage of Nameplate Output Current	
Load Condition 1	100% +/-2%
Load Condition 2	75% +/-2%
Load Condition 3	50% +/-2%
Load Condition 4	25% +/-2%

115Vac @ 60Hz	Average Efficiency(for four Load): 85% minimum
230Vac @ 50Hz	Average Efficiency(for four Load): 85% 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 + 40 deg. C
Storage	-20 to +65deg.C

5.2 HUMIDITY

Operating	20 –80% RH, Non-condensing
Storage	10 –90% 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 Storage – Sine wave excited, 1.0 G maximum acceleration, 10-500 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 All 6 sides;40G, 6 mSec. Half-sine wave pulse in both directions on three mutually perpendicular axes.

Operating All sides except top;10G, 6 mSec. Half-sine wave pulse in both directions on three mutually perpendicular axes.

5.5 PACKAGE DROP

Turn off system.

Follow MIL-STD-810D, 0 - 9.1kg 1m, 9.2 - 18.2kg 90cm.

10 drops: 1 corner, 3 adjacent edges of corner, 6 faces.

At random, repeat the above process 1 more time.

Note: Check for mechanical damage and functional failures.

6.0. RELIABILITY

6.1. MTBF

The subject adapter have a minimum predicted MTBF of 60000 hours of continuous operation at 25°C, maximum-output load, and nominal AC input voltage.

6.2 DIELECTRIC WITHSTAND VOLTAGE

L-N To FG: 2545VDC 10mA for 1 second.

6.3 LEAKAGE CURRENT

At 254Vac 60Hz, 0.25mA max.

6.4 ESD

Follow IEC1000-4-2.

After applied +/-4kv contact discharge and Adapter is no function error.

After applied +/-8kv air discharge Adapter is no function error.

6.5 Line Transient Surge

Follow IEC1000-4-5 LEVEL 2:

Differential mode : 1kv.

Common mode : 2kv.