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SPECIFICATION



ESD05009220

PILOT

RUN,FSP600-80GLC,PC,ATX,B,W/NK,WO/IO,WO/O,WO

RANGE,RD8



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SPECIFICATION

FSP600-80GLC

Main Feature:
High Efficiency
Active PFC Circuit
Full Range Input

MAR 14,2005
REV:01



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MODEL: FSP600-80GLC

Revision History

<u>Rev</u>	<u>Description</u>	<u>Date</u>	<u>Author</u>
1.0		2005/03/14	

1. GENERAL DESCRIPTION AND SCOPE

This is the specification of Model FSP600-80GLC; AC-line powered switching power supply with active PFC (Power Factor Correction) circuit, meet EN61000-3-2 and with Full Range Input features.

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. REFERENCE DOCUMENTS

The subject power supply will meet the EMI requirements and obtain main safety approvals as following:

2.1 EMI REGULATORY

- FCC Part 15 Subpart J, Class 'B' 115 Vac operation.
- CISPR 22 Class 'B' 230 Vac operation.

2.2 SAFETY

- NEMKO EN 60950
- TUV EN60950 OR VDE EN60950
- CSA-C22.2 NO. 60950
- IEC 60950
- UL 60950
- CE :
 - EN 55022:1998+A1: 2000, Class B
 - EN 61000-3-2: 2000
 - EN 61000-3-3: 1995+A1: 2001
- CISPR22: 1997+A1: 2000, Class B
- AS/NZS CISPR 22: 2002, Class B

3. INPUT ELECTRICAL SPECIFICATIONS

3.1. AC INPUT

Parameter	Min.	Nom. ⁽¹⁾	Max.	Unit
V _{in} (115VAC)	90	115	132	VAC _{rms}
V _{in} (230VAC)	180	230	264	VAC _{rms}
V _{in} Frequency	47	--	63	HZ

◆ Nominal voltages for test purposes are considered to be within ±1.0V of nominal.

3.2. INRUSH CURRENT

The AC main single-cycle peak inrush current shall be limited to 100 amp at cold, 120 amp warm measured at 115Vrms,60Hz and coinciding with the AC main

Voltage peak

3.3. INPUT LINE CURRENT

115V	8 Amps – rms maximum
230V	4 Amps – rms maximum

3.4. EFFICIENCY

3.4.1 General

Under the load conditions defined in Table 1 and Table 2. The loading condition for testing efficiency shown in Table 1 represents a fully loaded system. a ~ 50% (typical) loaded system. and a ~ 20% (light) loaded system

Table. 1 Loading Table for Efficiency Measurements

600W(loading shown in Amps)								
Loading	5V	3.3V	12V1	12V2	12V3	12V4	-12V	+5Vsb
Full	10	10	11	11	10	10	0.8	2.0
Typical	5	5	5.5	5.5	5	5	0.4	1.0
Light	1	1	1.5	1.5	1.5	1.5	0	0

Table 2. Minimum Efficiency Vs Load

Loading	Full load	Typical load	Light load
115V Required Minimum Efficiency	75%	80%	75%
230V Required Minimum Efficiency	80%	85%	80%

3.5 MECHANICAL SPECIFICATIONS

The mechanical drawing of the subject power supply, which indicate the form factor, location of the mounting holes, location, the length of the connectors, and other physical specifications of the subject power supply. Please refer to the attachment drawing.

4.0. OUTPUT ELECTRICAL REQUIREMENTS

4.1 OUTPUT VOLTAGE AND CURRENT RATING

Output	MINIMUM LOAD	NORMAL LOAD	MAXIMUM LOAD	LOAD REG	LINE REG.	RIPPLE & NOISE	RIPPLE
+3.3 V	1A	18A	36A	±5%	±1%	100mV P-P	50mV P-P
+5 V	1A	15A	30A	±5%	±1%	100mV P-P	50mV P-P
+12V1	1A	7.5A	15A	±5%	±1%	200mV P-P	120mV P-P
+12V2	1A	7.5A	15A	±5%	±1%	200mV P-P	120mV P-P
+12V3	1A	7.5A	15A	±5%	±1%	200mV P-P	120mV P-P
+12V4	1A	7.5A	15A	±5%	±1%	200mV P-P	120mV P-P
-12V	0.0A	0.4	0.8	±10%	±1%	200mV P-P	120mV P-P
+5VSB	0.0A	1.0A	2.0 A	±5%	±1%	100mV P-P	50mV P-P

(1) +3.3V & 5V total output not exceed 155W.

(2) +3.3V & +5V & +12V1 & +12V2 & +12V3 & +12V4 total output not exceed 580W

(3) total output for this subject power supply is 600W watts

4.2. LOAD CAPACITY SPECIFICATIONS

The cross regulation defined as follows, the voltage regulation limits DC include DC Output ripple & noise.

LOAD	STM.	+3.3V	+5V	12V1	12V2	12V3	12V4	-12V	+5VSB
FULL LOAD	HHHHHHHH	10A	10A	15A	15A	6A	6A	0.8A	2A
FULL LOAD	HHHHHHHH	10A	10A	10A	10A	11A	11A	0.8A	2A
+3.3V MAX other MIN	HHHHHHLH	36A	5.2A	1.5A	1.5A	1.5A	1.5A	0A	2A
+5V MAX Other MIN	LHLLLLLL	1.5A	30A	6A	6A	6A	6A	0A	0A
+12VDC MAX Other MIN	LLHHHHLL	1A	3A	15A	15A	6A	6A	0A	0A
+12VDC MAX Other MIN	LLHHHHLL	1A	2A	6A	6A	15A	15A	0A	0A
-12VDC MAX Other MIN	LLLLLHL	1A	1A	1.5A	1.5A	1.5A	1.5A	0.8A	0A
+5VSB MAX other MIN	LLLLLLH	1A	1A	1.5A	1.5A	1.5A	1.5A	0A	2A
ALL MIN	LLLLLLLL	1A	1A	1.5A	1.5A	1.5A	1.5A	0A	0A

4.3. HOLD-UP TIME (@FULL LOAD)

115V / 60Hz : 17 mSec. Minimum.

230V / 50Hz : 17 mSec. Minimum.

The output voltage will remain within specification, in the event that the input power is removed or interrupted, for the duration of one cycle of the input frequency. The interruption may occur at any point in the AC voltage cycle. The power good signal shall remain high during this test.

4.4.OUTPUT RISE TIME

(10% TO 95% OF FINAL OUTPUT VALUE, @FULL LOAD)

115V-rms or 230V-rms + 5Vdc/3.3Vdc : 20ms Maximum

115V-rms or 230V-rms + 12Vdc : 20ms Maximum

115V-rms or 230V-rms + 5Vsb : 25ms Maximum

115V-rms or 230V-rms - 12Vdc : 20ms Maximum

4.5.OVER VOLTAGE PROTECTION

Voltage Source	Protection Point
+3.3V	3.76V-4.8V
+5V	5.6V-7.0V
12VDC	13.5V-15.6V

4.6.OVE-CURRENT PROTECTION

OUTPUT VOLTAGE	Max. overcurrent limit
+3.3V	55A
+5V	48A
12V1	50A
12V2	
12V3	20.5A
12V4	20.5A

4.7.SHORT CIRCUIT PROTECTION

Output short circuit is defined to be a short circuit load of less than 0.1 ohm.

In the event of an output short circuit condition on +3.3V, +5V ,+12V1,+12V2,+12V3 or 12V4 output, the power supply will shutdown and latch off without damage to the power supply.The power. supply shall return to normal operation after the short circuit has been removed and the power switch has been turned off for no more than 2 seconds.

In the event of an output short circuit condition on -12V output, the power supply will not be damaged. The power supply shall return to normal operation as soon as the short circuit has been removed. and the power switch has been turned off for no more than 2 seconds.

4.8. POWER SIGNAL

POWER GOOD @ 115/230V,FULL LOAD	100 –500mSec.
POWER FAIL @115/230V, FULL LOAD	1 mSec. minimum

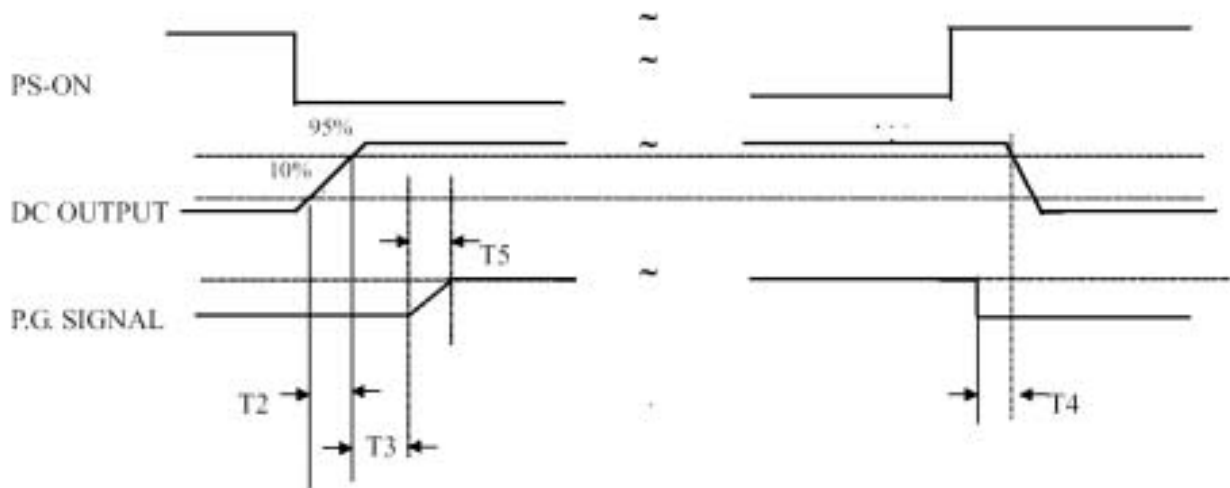


Figure 1

- T2 : RISETIME < 20mS
- T3 : POWER GOOD DELAY TIME 100mS-500mS
- T4 : POWER FAIL DELAY TIME > 1mS
- T5 : POWER GOOD RISETIME ≤ 10mS

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 +50 deg. C
Storage	-20 to +80 deg. C

5.2. HUMIDITY

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

5.3. VIBRATION

The subject power supply 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 GROUND LEAKAGE CURRENT

The power supply ground leakage current shall be less than 3.5 mA.

5.5 RELIABILITY

The power supply reliability, when calculated by MIL-HDBK-217; latest revision, are exceed 100,000 hours with all output at maximum load and an ambient temperature of 25°C.

5.6 DIELECTRIC STRENGTH

Primary to Frame Ground : 1800 Vac for 1 sec.

Primary to Secondary : 1800Vac for 1 sec

