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FSP TECHNOLOGY INC.
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SPECIFICATION

ESD07029614

FSP488-4F01

Released Date:2010/1/4-12:7:27

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SPECIFICATION

AC power supply

FSP488-4F01

Sep. 10‘07

P.E	M/E	E/E	APPROVED	REV.
Larry Chang	Allens Lin	Jl Tsai	LJ Wei	001

表單編號：7000P-0105

Electrical Specification

History

REV.	Description	Date	Drawn	Mechanical	Electrical	Approved
000	SPEC. ISSUE	Jun.27'07	Jennie	Allens Lin	Paul Chu	LJ. Wei
001	Remove Item 3.4	Sep.10'07	Jennie	Allens Lin	Paul Chu	LJ. Wei

MODEL NO. **FSP488-4F01**

Electrical Specification

Electrical Requirements

1. Input Characteristics:		※Measured the output voltage at the PCB
ITEM	CONDITION	SPECIFICATION
1.1 Rated Input Voltage		100V / 240V
1.2 Input Voltage Range	Continuously	90VAC to 264VAC
1.3 Input Frequency Range	Continuously	47Hz to 63Hz
1.4 Input Current	100Vac, 240Vac / full load	≤ 6.3A
1.5 Efficiency:	100Vac / full load (warn up) 230Vac / full load (warm up)	≥ 83% ≥ 87.5%
1.6 Power Consumption: (Power saving)	It must be measured in PWR_ON signal is low condition at rated AC input	≤ 1W

Electrical Specification

2. Output Characteristics:

※Measured the output voltage at the PCB

ITEM	CONDITION	SPECIFICATION

2.1 Output Rated Voltage :

a. PWR_ON signal is L

No.	Symbol	Output Current	Ripple & Noise	Min.(V)	Typ. (V)	Max.(V)	Remark
1	+5VS	0A ~1.5 A	100mV	4.94	5.2	5.46	

b. PWR_ON signal is H (measured at steady state)

No.	Symbol	Output Current			Ripple & Noise	Min.(V)	Typ. (V)	Max.(V)	Remark
		Min.(A)	Test & Aging Total Max. (A)	Each Line Max.(A)					
1	+5VS	0.1	1.5	1.5	100mV	4.94	5.2	5.46	
2	+5V	0.1	3.5	3.5	100mV	4.94	5.2	5.46	
3	+12V	0	1.5	1.5	200mV	11.4	12.0	12.6	
4	+24VA	0	1.5	3.5	400mV	22.8	24.0	25.2	For Audio
5	+24VI	0.1	15	17	400mV	22.8	24.0	25.2	For Inverter

Notes:
1. The ripple and noise is a peak-to-peak value measured in a bandwidth from 0 to 20 MHz.
   Tested by dc loading side parallel with a 47 µF Electrolytic Capacitor and a 0.1 µF Ceramic Capacitor.
   Test condition at maximum load.
2. Tested at typical load condition.

2.2 +5VM Turn-On Delay Time:	Applied the AC input voltage is 90Vac / 50z and output load is Full load, output voltage shall remain regulation.	≤2Sec.
2.3 Power ON/OFF signal:	Power ON/OFF signal is L (<1.0V) PWR_ON signal is H (3.3V~5.0V)	Only +5VS output +5VS,+5V,+12V, +24VA and +24VI output
2.5 Hold Up Time	At 100Vac / full load, output voltage shall remain regulation.	≥ 10mS
2.6 Rise time	Each output voltage rises from 10% to 90% of normal regulation .	≤ 100 mS

Electrical Specification

3. Protection Characteristics:

ITEM	CONDITION	SPECIFICATION
3.1 Over Current Protection:	+12V	≦7A
	+24VA	≦11A
	When an internal fault occurs, or an external fault is applied to the power supply, such that overload is applied to the output, the power supply shall shut down and enter latch mode.	Shutdown and no damage (latch mode)
3.2 Short Circuit Protection	When an internal fault occurs, or an external fault is applied to the power supply, such that an short circuit is applied to the output, the power supply shall shut down and enter auto-recovery or latch mode.	Shutdown and no damage 1. 5V auto recovery 2. 12V , 24VA , 24VI auto recovery
3.3 Over Voltage Protection	The output voltage will enter into shut down that means no output on all output, while over voltage happened at output terminal that caused by internal fault. That will be return to normal state by AC reset.	Shutdown and no damage

Electrical Specification

4. Environmental Characteristics:

ITEM	CONDITION	SPECIFICATION
4.1 Electric Fast Transients: Refer to IEC61000-4-4	Impulse: ±1KV applied to AC line, pulse duration 50nS period 5 min.	Normal operation shall be continued.
4.2 Lightning Surge: Refer to IEC61000-4-5	±2KV applied between L, N and PE, pulse rise time 1.2us and duty time 50uS	Normal operation shall be continued.
4.3 Electron Static Discharge: (Refer to IEC61000-4-2 Energy Storage Capacitor 150pF; Discharge Resistor 330Ω)	Air Discharge: ± 8KV. Contact Discharge: ±6KV. (Note: combine with customer's system.)	Normal operation shall be continued.
4.4 Cooling	Natural air cooling	
4.5 EMI: AC power supply comply with the following national standards: EMI Conducted Emission EMI Radiated Emission	The AC power supply internal filter to meet, combine with customer's system.	FCC CLASS B CISPR 22 CLASS B
4.6 Safety conforming:	Regulated by customer	
4.7 Leakage Current	264Vac / 50Hz	≤0.68mA
4.8 Harmonics	230Vac / 50Hz (Note: Combine with customer's system)	IEC61000-3-2
4.9 Dielectric Strength: (Hi-Pot)	Between AC input and secondary applied AC3KV / test time 1 minute / cut off current shall be less than 10mA. AC 3KV / test time 1 sec. for mass production	
4.10Temperature:	Operating Storage	0 to 40℃ -20 to +85℃
4.11 Humidity:	Operating Storage	20% ~ 90% 5% ~ 95%

Electrical Specification

5. Mechanical Characteristics:

ITEM	CONDITION	SPECIFICATION
5.1 Dimension (Length x Width x Height)		310x230x36 mm
5.2 Input AC socket Type		JWT A3963WV2-3P-D or equivalent

5.3 Output DC connector

CNS1 — **JWT A2501WV2-10P-A or equivalent**

Pin assignment

Pin No.	1	2	3	4	5	6	7	8	9	10
Function	GND					+24VI				

CNS2 — **JWT A2501WV2-10P-A or equivalent**

Pin assignment

Pin No.	1	2	3	4	5	6	7	8	9	10
Function	GND					+24VI				

CNS3 — **JWT A2501WV2-10P-A or equivalent**

Pin assignment

Pin No.	1	2	3	4	5	6	7	8	9	10
Function	PWR O/F	GND		+5V		+5VS	GND		+24VA	

CNS4 — **JWT A2001WV2-8P-A or equivalent**

Pin assignment

Pin No.	1	2	3	4	5	6	7	8
Function	+24VA		GND				+24VA	

CNS5 — **JWT A2501WV2-4P-A or equivalent**

Pin assignment

Pin No.	1	2	3	4
Function	+12V		GND	

6. Output Power V.S ambient temperature de-rating curve: