



全漢企業股份有限公司

SPI Electronic Co., Ltd.

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SPECIFICATION

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FSP194-3F01

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SPECIFICATION

194W AC power supply

FSP194-3F01

(Preliminary)

P.E	R/D	APPROVED	REV.
Larry Chang	Anson Liao	LJ Wei	000

表單編號：7000P-0105



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Electrical Specification

History

REV.	Description	Date	Drawn	Mechanical	Electrical	Approved
000	SPEC. ISSUE	Dec.16 '05	Gigi Yu	Grant Lu	Anson Liao	LJ Wei

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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	≤ 2.5A
1.5 Efficiency:	110Vac / full load (warm up 10 minutes later) 240Vac / full load (warm up 10 minutes later)	≥ 83% ≥ 85%
1.6 Power Consumption (Power saving)	It must be measured in PSON signal is low condition at rated AC input	≤ 1W

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2. Output Characteristics:

※Measured the output voltage at the PCB

ITEM		CONDITION				SPECIFICATION	
2.1 Output Rated Voltage :							
a. PSON signal is L							
No.	Symbol	Output Current	Ripple & Noise	Min.(V)	Typ. (V)	Max.(V)	Remark
1	5Vsb	0A ~0.5A	100mV	4.75	5.0	5.25	
b. PSON signal is H (measured at steady state)							
No.	Symbol	Output Current	Ripple & Noise	Min.(V)	Typ. (V)	Max.(V)	Remark
1	5Vsb	50mA ~ 1.2A	100mV	4.75	5.0	5.25	
2	16V	0 A ~ 3.5A	200mV	15.2	16.0	16.8	
3	24V	0A ~ 6.0A	300mV	22.8	24	25.2	
Note: Output Voltage Ripple and Noise: (0.1uF Ceramic Cap. and 35V/47uF Aluminum Cap. Paralleled between the end of output cable, BW=20M Hz)				1. 100Vac / 240Vac 2. Minimum load and maximum load			
2.2 +5Vs Turn-On Delay Time:			Applied the AC input voltage is 100Vac and output load is Full load, output voltage shall remain regulation.			≤ 1Sec.	
2.3 Power ON/OFF signal (PSON: CNS3-pin1)			Power ON/OFF signal is L (<0.7V) Power ON/OFF signal is H (3.3V~5.0V)			Only 5Vsb output 5Vsb, 12V and 24V output	
2.4 Dynamic Load Limitation (measured at PSON signal is H):			A sinusoidal dynamic load with a peak-to-peak value equal to 20% of the applied static load such that static load plus dynamic load does not exceed any of the maximums or minimums of item2.1(b). This dynamic load change shall be applied to a single output at any frequency up to 1KHz. S/R=0.1A/us, 50% duty. Output voltage within			5Vsb : 5.0V+/-5% 16V : 16V+/-5% 24V : 24V +/-5%	
2.5 LED Indication:			No definition				
2.6 Hold Up time:			Applied the AC input voltage is 100Vac or 240Vac and output load is Full load, output voltage shall remain regulation.			≥ 5mS	

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Electrical Specification

3. Protection Characteristics:

ITEM	CONDITION	SPECIFICATION
3.1 Short Circuit Protection:	When an internal fault occurs, or an external fault is applied to the power supply, such that an overload or short circuit is applied to the output, the power supply shall shut down and enter auto-recovery or latch mode.	Shutdown and no damage.
3.2 Over-Voltage Protection	The output voltage will enter into shut down that means no output on output, while over voltage happened at output terminal that caused by internal fault. The output trip voltage will be less than 180% of its voltage rating. That will be return to normal state by AC reset.	Shutdown and no damage.
3.3 Over Temperature Protection:	The AC power supply will enter into shut down while the abnormal thermal rise occurs. It will enter into normal condition if the fault condition is removed	No broken, no smoke.
3.4 Over Current Protection:	When an internal fault occurs, or an external fault is applied to the power supply, such that an overload or short circuit is applied to the output, the power supply shall shut down and enter auto-recovery or latch mode.	Shutdown and no damage

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4. Environmental Characteristics:

ITEM	CONDITION	SPECIFICATION
4.1 Electric Fast Transients: Refer to EN61000-4-4	Impulse: ± 1 KV applied to AC line, pulse duration 50nS period 5 min.	Normal operation shall be continued.
4.2 Lightning Surge: Refer to EN61000-4-5	± 2 KV 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 IEC1000-4-2 Energy Storage Capacitor 150pF; Discharge Resistor 330 Ω)	Air Discharge: ± 8 KV. Contact Discharge: ± 6 KV. (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	240Vac / 50Hz 100Vac / 60Hz	≤ 0.5 mA
4.8 Harmonics	230Vac / 50Hz (Note: Combine with customer's system)	EN61000-3-2
4.9 Dielectric Strength: (Hi-Pot)	Between AC input and secondary applied AC 1.5KV / test time 1 minute / cut off current shall be less than 10mA AC 1.5KV / test time 1 sec. for mass production	
4.10 Temperature:	Operating Storage	0 to 40°C -20 to +85°C
4.11 Humidity:	Operating Storage	20% ~ 90% 5% ~ 95%

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Electrical Specification

5. Mechanical Characteristics:

ITEM	CONDITION	SPECIFICATION									
5.1 Dimension (Length x Width x Height)		180x130x32 mm									
5.2 Input AC socket Type		JWT A3963WV2-5P-A or equivalent									
5.3 Output DC connector											
CNS4											
Pin assignment											
Pin No.	1	2	3	4	5	6	7	8	9	10	
Signal Name	+24V					GND					
CNS3											
Pin assignment											
Pin No.	1	2	3	4	5	6	7	8	9	10	
Signal Name	+24V					GND					
CNS2											
Pin assignment											
Pin No.	1	2	3	4	5	6					
Signal Name	GND			+16V							
CNS1											
Pin assignment											
Pin No.	1	2	3	4	5						
Signal Name	+5Vsb		GND			Power ON/OFF Signal					

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