



全漢企業股份有限公司

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SPECIFICATION



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SPI Electronic Co. Ltd.

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SPECIFICATION

FSP417-3M01

P/N:90C4170100

P.E	R/D	APPROVED	REV.
Richard	Richard	Frank	000

表單編號：



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SPI Electronic Co., Ltd.

Electrical Specification

History

REV.	Description	Date	Drawn	Mechanical	Electrical	Approved
<u>000</u>	SPEC ISSUE	Nov,02,2005	Richard	Ken.Shis	Richard	Frank

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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		100Vac - 240Vac (Nominal) 90Vac - 265Vac (Maximum)
1.2 Input Voltage Range		90VAC to 265VAC
1.3 Input Frequency Range		47Hz to 63Hz
1.4 Power Factor	DC output with full loading at 240Vac DC output with full loading at 100Vac	≥ 0.9 ≥ 0.95
1.5 Input Current	DC output with full loading at 90Vac;Cold start DC output with full loading at 265Vac;Cold start	6Amax 4Amax
1.6 Inrush Current	DC output with full loading at 115Vac and 25°C DC output with full loading at 230Vac and 25°C	90Amax 200Amax
1.7 No Load Power Consumption (Power Saving)	Power down pin is low and the loading of +5Vsb Is 0A	≤ 1W
1.8 Efficiency	DC output with full Loading at 100Vac input Voltage range (於冷機運轉時測試) (於滿載運轉 10~20 分後測試)	≥ 80% ≥ 83%
1.9 Acoustic Noise		<30dB

Electrical Specification

2. Output Characteristics:

※Measured the output voltage at the PCB

ITEM	CONDITION	SPECIFICATION
2.1 Output Rated Voltage (Vo)		+24V +24Vfan +18V +5Vsb
2.2 Output Current	+24V +24Vfan +18V +5Vsb	0.5A ~ 11.2A 0.5A max 0.6A ~ 7.2A 0.3A ~ 1.5A
2.3 Output Voltage Setting	Measured at the output end of DC connector	+24V ± 5% +24Vfan ± 5% +18V ± 5% +5Vsb ± 5%
2.4 Output Voltage Ripple and Noise:	+24V +24Vfan +18V +5Vsb (0.1uF Ceramic Cap. and 47uf/35V Electrolytic Cap. Paralleled between the end of DC loading side and Measured Band-Width with DC-20MHz)	≤ 240mVp-p ≤ 240mVp-p ≤ 180mVp-p ≤ 50mVp-p
2.5 Output Over-shoot and under-shoot Voltage:		≤ 10% of Vo
2.6 Rise Time:	At 110Vac full load, DC output voltage rise from output voltage 10% ~ 90%.	≤ 100mS
2.7 Dynamic Load Change	I1=5A,I2=10A,Tset-max=10msec,S/R≥50mA/usec	24V± 1.2V
	I1=3A,I2=6A,Tset-max=10msec,S/R≥50mA/usec	18V± 0.9V
	I1=0.75A,I2=1.5A,Tset-max=10msec,S/R≥50mA/usec	5V±0.25V
2.8 Power Down	Power down signal is L (<0.7V)	Only +5Vsb output
	Power down signal is H (3V~5.0V)	+24V,+18V,+24Vfan and +5Vsb output
2.9 LED Indication	No define	



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Electrical Specification

3. Protection Characteristics:

※Measured the output voltage at the PCB

ITEM	CONDITION	SPECIFICATION
3.1 Short Circuit Protection (SCP):	+24V +18V +5Vsb	Latch mode Latch mode Auto-recovery mode
3.2 Over-Voltage Protection (OVP): (以外灌方式量測)	+24V: 32Vmax +18V: 26Vmax +5Vsb: 8Vmax	Latch mode Latch mode Latch mode
3.3 Over Current Protection (OCP):	+24V: 15.2Amax +18V: 9.6Amax	Latch mode Latch mode

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4. Environmental Characteristics:

ITEM	CONDITION	SPECIFICATION
4.1 Electric Fast Transients:	2KV on AC power line	
4.2 Lightning Surge:	1KV on differential mode 2KV on common mode	
4.3 Electron Static Discharge:	Air Discharge: $\pm 15KV$ min.(with system) Contact Discharge: $\pm 8KV$ min. (with system)	
4.4 Cooling	Natural air cooling	
4.5 EMI: EMI Conducted Emission EMI Radiated Emission	FCC: PART 15J. CLASS B CISPR22: Pub22. CLASS B	Test with system.
4.6 RF	Fr: 26MHz-1.0GHz,Field Strength: 3V/M	
4.7 Safety conforming:	UL 6500 2nd IEC 60065 6th	
4.8 Leakage Current:		$\leq 1mA$
4.9 Insulation Resistance:	At DC 500V	$\geq 20M\Omega$
4.10 Dielectric Strength: (Hi-Pot)	2120Vdc, 13mA, 1 minute between AC input to Secondary circuit and Chassis	
4.11 Grounding Test:	At AC 2~8V, 30A	$\leq 0.1\Omega$ of AC inlet ground to FG
4.12 Temperature:	Operating	0 to 50°C
	Storage	-20 to 70°C
4.13 Humidity	Operating	20% ~ 80%
	Storage	10% ~ 90%
4.14 Altitude:	Operating	Sea level to 10,000 Ft
	Non Operation	Sea level to 30,000 Ft

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5. Reliability:

ITEM	CONDITION		SPECIFICATION
5.1 MTBF	Continuous operation at 25°C		50,000 hours
5.2 Burn-In	100Vac input Burn-In with 80% loading at Environment temperature 45°C~50°C		4 Hours
5.3 Vibration Test	No operation vibration	2G'S peak, 7~50Hz 4G'S peak, 50~500Hz	No damage
	Operation vibration	3 planes, 0.5G'S peak, 10~60Hz	No damage

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