



全漢企業股份有限公司

SPI Electronic Co., Ltd.

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SPECIFICATION



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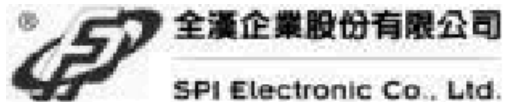
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SPECIFICATION

FSP225-6M01

P.E	R/D	APPROVED	REV.
kenny	吳志平	梁適安	03

表單編號：



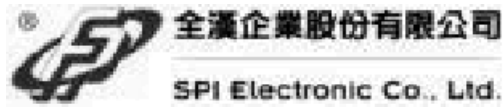
Electrical Specification

History

REV.	Description	Date	Drawn	Mechanical	Electrical	Approved
<u>0</u>	SPEC ISSUE	95/08/25			Ping	
<u>1</u>	(1).3.2 OVP :12V 原 20Vmax 變更爲 22Vmax 以及+5V 原 7.5Vmax 變更爲 8.2Vmax (5)5.2 Temperature rise: 原 35-40°C 變更爲 40°C (6)5.3 Burn-In: 原 80%~100% Loading 變更爲 100%loading environment temperature 原 35-40°C 變更爲 40°C 及增加 Vin=230Vac ,burn in 時間變更爲 48hrs	95/09/27			Ping	
<u>2</u>	取消 2.8 Power down signal	95/10/25			Ping	
<u>3</u>	增加 2.8 Power down signal	95/11/13			PING	

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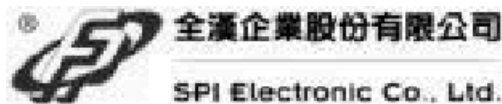
Electrical Specification

Electrical Requirements

1. Input Characteristics:		
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	≥ 0.90 ≥ 0.98
1.5 Input Current	DC output with full loading at 90Vac DC output with full loading at 265Vac	3.52Amax 1.5Amax
1.6 Inrush Current	DC output with full loading at 115Vac and 25°C DC output with full loading at 230Vac and 25°C	75Amax 150Amax
1.7 Power Saving	It must be measured in power down condition	≤1.0W at 115Vac and no load ≤1.0W at 240Vac and no load
1.8 Efficiency	DC output with full Loading at nominal ac input Voltage range	≥ 80%(min.)
2. Output Characteristics:		
ITEM	CONDITION	SPECIFICATION
2.1 Output Rated Voltage (Vo)		+24V +12V +18V(audio) +24V(audio) +5V +5VSB
2.2 Output Current	+24V +12V +18(audio) +24V(audio) +5V +5VSB	0A to 5A 0A to 1.4A 0A to 1.7A 0A to 1.3A 0A to3.0A 0A to 2A
2.2A Output Total Power		225W
2.3 Output Voltage Setting	Measured at the output end of DC connector	24V ± 5% 12V ± 5% 18V ± 5%(audio) 24V± 5% (audio) 5V ± 5% 5VSB ± 5%

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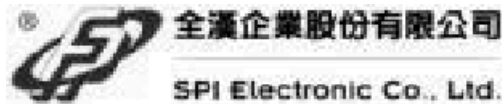


Electrical Specification

2.4 Output Voltage Ripple and Noise:	+24V +12V +18V(audio) +24V(audio) +5V +5VSB (0.1uF Ceramic Cap. and 10uF Electrolytic Cap. Paralleled between the end of DC loading side and Measured Band-Width with DC-20MHz)	≤ 240mVp-p ≤ 120mVp-p ≤ 180mVp-p ≤ 240mVp-p ≤ 70mVp-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 0 volt and settle within regulation	≤ 200mS
2.7 Dynamic Load Change	I1=2.5A,I2=5A,Tset-max=10msec,S/R≥50mA/usec	24V± 2.4V
	I1=0.7A,I2=1.4A,Tset-max=10msec,S/R≥50mA/usec	12V± 1.2V
	I1=0.85A,I2=1.7A,Tset-max=10msec,S/R≥50mA/usec	18V± 1.8V(audio)
	I1=1.5A,I2=3.0A,Tset-max=10msec,S/R≥50mA/usec	5V ± 0.5V
	I1=0.65A,I2=1.3A,Tset-max=10msec,S/R≥50mA/usec	24V± 2.4V(audio)
	I1=1.0A,I2=2.0A,Tset-max=10msec,S/R≥50mA/usec	5VSB ± 0.5V
2.8 Power down signal	1. If H(2.0~5.0V) signal 2. If L(0~0.6V) signal	all output only 5VSB
3. Protection Characteristics:		
ITEM	CONDITION	SPECIFICATION
3.1 Short Circuit Protection (SCP):		+24V: latch mode +12V: latch mode +18V(audio):latch mode +24V(audio) : latch mode +5V : latch mode +5VSB : latch mode
3.2 Over-Voltage Protection (OVP):	+24V: 35Vmax +12V:22Vmax +18V(audio):24Vmax +24V(audio):35Vmax +5V:8.2Vmax	+24V: latch mode +12V: latch mode +18V(audio):latch mode +24V(audio) : latch mode +5V : latch mode(5V shutdown)

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Electrical Specification

3.3 Over Current Protection (OCP):	+24V:10Amax at 115/230Vac +12V:5A max at 115/230Vac +18V(audio): 5A max at 115/230Vac +24V(audio): 5A max at 115/230Vac +5V: 8A max at 115/230Vac	+24V: latch mode +12V: latch mode +18V(audio):latch mode +24V(audio) : latch mode +5V : latch mode(5Vsb latch)
4. Environmental Characteristics:		
ITEM	CONDITION	SPECIFICATION
4.1 Electric Fast Transients:	2KV on AC power line	
4.2 Lightning Surge:	L-N : 1KV on differential mode L-G/N-G : 2KV	
4.3 Electronic Static Discharge	Air Discharge:±15KV min Contact Discharge : ±8KV min	
4.4Cooling	Natural air cooling	
4.5 EMI: EMI Conducted Emission EMI Radiated Emission	FCC: PART 15J. CLASS B CISPR22: Pub22. CLASS B VCCI: Level 2	Test with system
4.7 Safety conforming:	UL 6500 2nd IEC 60065 6th	
4.8 Leakage Current:	Vin:254Vac/50Hz	≤ 0.75mA
4.9 Insulation Resistance:	At DC 500V	≥ 20MΩ
4.10 Dielectric Strength: (Hi-Pot)	1800Vac, 10mA, 3 sec between Primary to Secondary circuit and Chassis	
4.12 Temperature:	Operating Storage	0 to 40°C -40 to 70°C
4.13 Humidity	Operating Storage	20% ~ 80% 10% ~ 90%
5. Reliability:		
ITEM	CONDITION	SPECIFICATION
5.1 MTBF	Continuous operation at 25°C	50,000 hours
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5.2 Temperature Rise	At nominal AC input/DC output full Loading and Environment temperature 40°C		Internal components Less than $\Delta 80^{\circ}\text{C}$
5.3 Burn-In	100% Burn-In with 100% loading at Environment temperature 40°C at $V_{in}=230\text{Vac}$		48 Hours
5.4 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
5.5 Drop-test	No define		
6.Mechanical Characteristics:			
ITEM	CONDITION		SPECIFICATION
6.1 Plastic Case:			None
6.2 Size:			

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