



RoHS

Key features

- Universal input: 85-264 VAC, 50/60 Hz
- Low ripple and noise
- Over load protection ,short circuit protection
- High efficiency, high density, fine quality and low price
- Industrial design
- Lower power, RoSH , no-load loss < 0.3W
- 100% test and work
- 3 Years product warranty

SP2W5 series --- a super small size modular AC/DC power supply offered by Zhongyiguang. This series of power supply is global, ac/dc input voltage range, low power consumption, high efficiency, high reliability, safety isolation, etc. Safe and reliable products, surge resistance is superior, the EMC and safety specifications meet the IEC/EN61000-4, CISPR22 / EN55022, UL60950 and EN60950 standards.

Electrical specifications

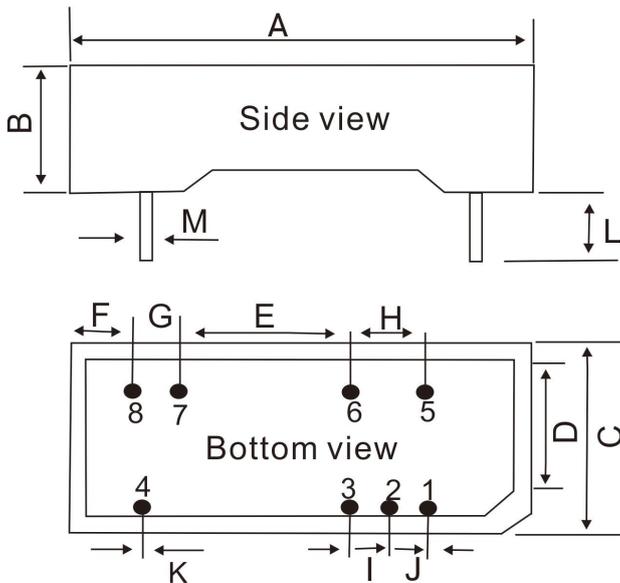
Model	Input voltage	Output Power(W)	Output voltage(V)	Output current(A)	Ripple(mv)	Efficiency (%)
SP2W5-S03	85 ~ 264VAC 70 ~ 370VDC	1.65	3.3	0.5	50	65
SP2W5-S05		2.5	5	0.5	50	69
SP2W5-S12		2.5	12	0.21	50	72
SP2W5-S15		2.5	15	0.16	50	73
SP2W5-S24		2.5	24	0.11	50	75

General features

Output	Output voltage accuracy	±2.0%	
	Source effect	±1.0%	
	Load effect	±1.0%	
	Starting time (TYP)	20ms/230VAC	50ms/115VAC at full load
	Output hold time (TYP)	40ms/230VAC	15ms/115VAC at full load
Input	Input voltage range	85 ~ 264VAC	70 ~ 370VDC
	Input frequency range	47 ~ 440Hz	
	Input current (TYP)	230mA / 115VAC	120m A / 230VAC
	Inrush current (TYP)	cold boot 10 A / 115 VAC	20 A / 230 VAC
	Recommended values for External Fuses	T0.25A / 250Vac (disconnected slowly)	
	Leakage current (TYP)	< 1mA at 230VAC/50Hz	
Protection	Over voltage, over current and short circuit protection; automatic recovery after troubleshooting		
Work environment	Operating Temperature	-40 ~ +70 °C(According to the output load derating)	
	Humidity	85% .RH max	
	Storage Temperature	-40 ~ +85, 10 ~ 95% RH	
	Temperature coefficient	0.03%/ (0~ 50°C)	
	Vibration coefficient	10~500Hz,2G10min./1cycle, 60min.each along X,Y,Z axes	
Safety and	Safety Standard	In line with UL1012,EN60950,UL60950 standards	
	I/O-Isolation voltage	I/P-O/P:1.5KVAC	I/P-FG:1.5KVAC O/P-FG:0.5KVAC

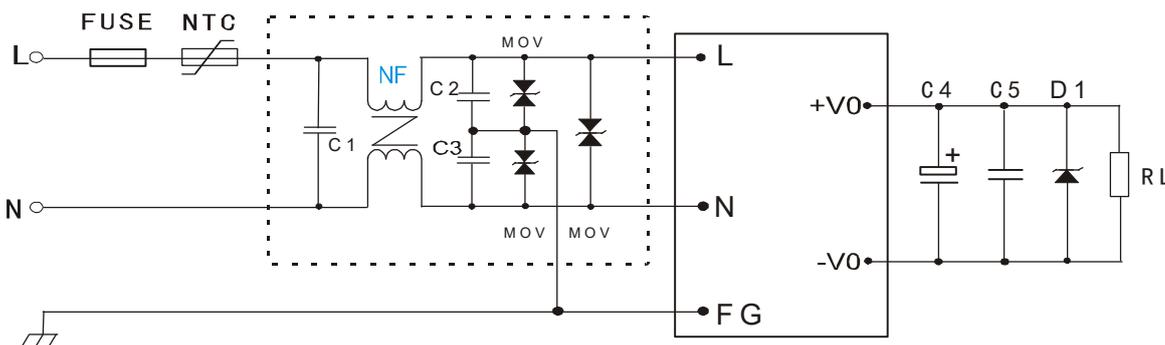
EMC (Note:3)	Isolation resistance	I/P-O/P,I/P-FG,O/P-FG:>100M Ohms/500VDC 25°C 70% RH
	EMI / RFI conducted	EN55011, EN55022 (CISPR22) CLASS B (Note: See the application circuit for details)
	ESD	IEC/EN 61000-4-2 level 4 8kV/15kV (Note: See the application circuit for details)
	RF	IEC/EN 61000-4-3 (Note: See the application circuit for details)
	EFT	IEC/EN 61000-4-4 level 4 4kV (Note: See the application circuit for details)
	SURGE	IEC/EN 61000-4-5 level 4 2kV
Others	MTBF	200K hrs min. MIL-HDBK-217F(25)
	Dimension	37.5*18.5*16.5mm (L*W*H)
Notes	1.Unless otherwise indicated of the above data,Our products are tested in the condition of TA=25o°C, humidity <75% , 230Vac nominal voltage input and rated load output.	
	Ripple & noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor	
	3.3.The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.	

Dimension



PIN	Function	Dim	Unit(mm)	Dim	Unit(mm)
1	DC+V	A	37.5	H	6.35
2	NC	B	16.5	I	3.18
3	DC-V	C	18.5	J	3.18
4	FG	D	15.8	K	2.54
5	NC	E	19	L	8
6	DC-V	F	3.34	M	0.7
7	AC(N)	G	5.08		
8	AC(L)				

Typical application diagram





Remark:

1. The output filter capacitor C4 is electrolytic capacitor, recommend using of high frequency and low resistance of electrolytic capacitors, the capacity and the current flowing-through need refer to the technical specifications provided by the manufacturer. Capacitance voltage derating is greater than 80% .C5 is use to remove high frequency noise.TVS D1 is used for protecting flow-up circuit (when module be abnormal) and recommended to use.
2. EMC filter used in the dashed box is to meet the higher requirements, if it is used in general applications, it can be omitted.

Typical values of external circuit components

Component Model	FUSE	NTC	NF	MOV	C1	C2,C3	C4	C5	D1
SP2W5-S03	T3.15 A/25 0V	Recomm ended external NTC thermal resistor , model: 10D-9	NF is a common mode inductance, the inductance value of 2-10mH, current is0.2A-0.5A.	MOV is a piezoelect ric resistor, recommen ded value is 14D471K	CX is the safety capacitor , 104K/275 V	C2, C3 safety Y capacitor 102K/400 Vac	470uF/16V	C5(ceramic capacitor) 102K/400Vac	P6KE6.8A
SP2W5-S05							330uF/16V		P6KE6.8A
SP2W5-S09							150uF/16V		P6KE16A
SP2W5-S12							120uF/16V		P6KE16A
SP2W5-S15							120uF/25V		P6KE20A
SP2W5-S24						100uF/35V		P6KE33A	



Zhongyiguang Guangzhou Technology Ltd

✉ : vice@zygkj.com

☎ : +86(20) 3287 4481 / 2292 1551

📍 : NO.2, building 4, NO.8, DouTang Road, YongHe Economic Zone, GuangZhou City, P. R. China