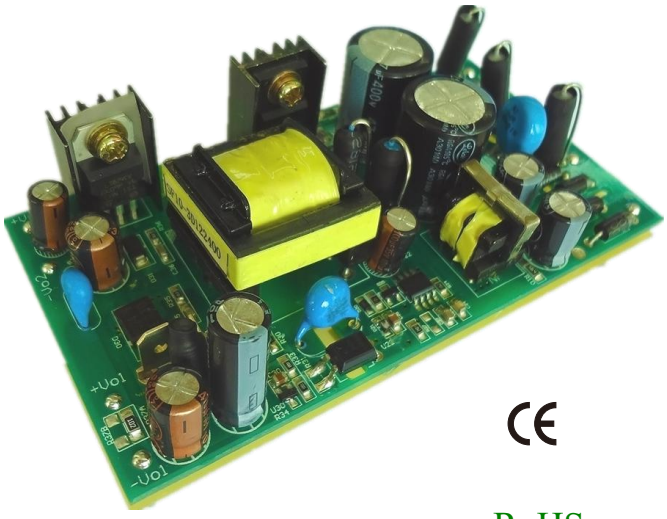


CE

RoHS

Key features

- Three-phase Four-wire system input:380Vac
- Any two phases is disconnection,the Power still can work well
- Low ripple and noise
- Over load protection ,short circuit protection
- High efficiency， high density,fine quality and low price
- Industrial design
- 100% Test and work
- 3 Years product warranty

SF20 series --- a bare plate special power supply offered by Zhongyiguang. The output power of this series module power supply is 20 W, with low leakage current,which is only 1mA, the size of (108*57*33mm) and isolated pressure up to 3kv,etc. The product is safe and reliable, which has a good EMC. EMC and safety specifications meet the UL1012,EN60950,UL60950 and other related standards. This series of products are widely used in smart home, high-end decorative lighting, medical, industrial, office and civil industries, such as applied to a relatively harsh environment electromagnetic compatibility must refer to the application circuit.

Electrical specifications

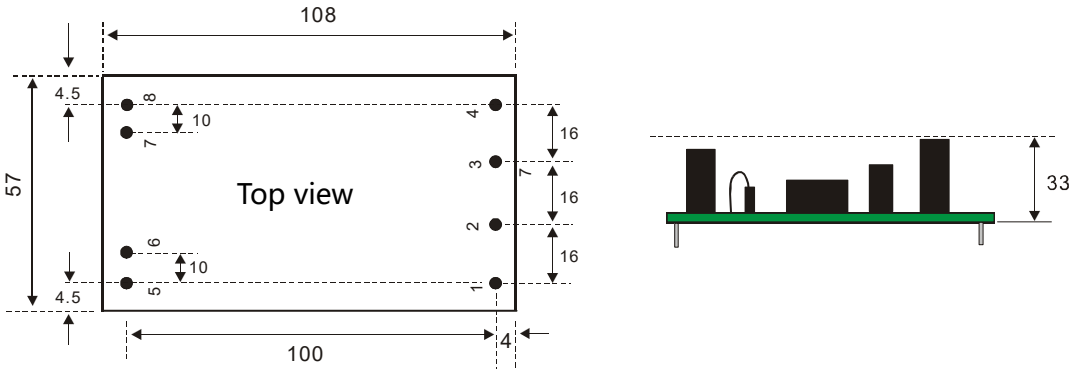
Model	Input voltage	Output Power (W)	Output voltage(V)		Output current(A)		Ripple(mv)	Efficiency (%)
SF10-3D1212	90-465Vac	10	V_1=12Vdc	V_2=12dc	I_1=0.6A	I_2=0.2A	100	75
SF10-3D1224	90-465Vac	10	V_1=12dc	V_2=24dc	I_1=0.6A	I_2=0.2A	100	75
SF15-3S05	165-465Vac	12.5	V=5dc		I=2.5A		100	78
SF15-3S24	165-465Vac	15	V=24dc		I=0.625A		100	79
SF15-3S48	165-465Vac	15	V=48dc		I=0.3A		100	80
SF20-3S05	165-465Vac	20	V=5dc		I=4A		100	74
SF20-3S12	165-465Vac	20	V=12dc		I=1.7A		100	78
SF20-3S15	165-465Vac	20	V=15dc		I=1.3A		100	79
SF20-3S24	165-465Vac	20	V=24dc		I=0.8A		100	80
SF20-3D0512	165-465Vac	15	V_1=05dc	V_2=12dc	I_1=2.5A	I_2=0.2A	100	74
SF20-3D0524	165-465Vac	18	V_1=05dc	V_2=24dc	I_1=2.5A	I_2=0.2A	100	75
SF20-3D1212	165-465Vac	20	V_1=12dc	V_2=12dc	I_1=1.5A	I_2=0.2A	100	76

General features

Output	Output voltage accuracy	±2.0%

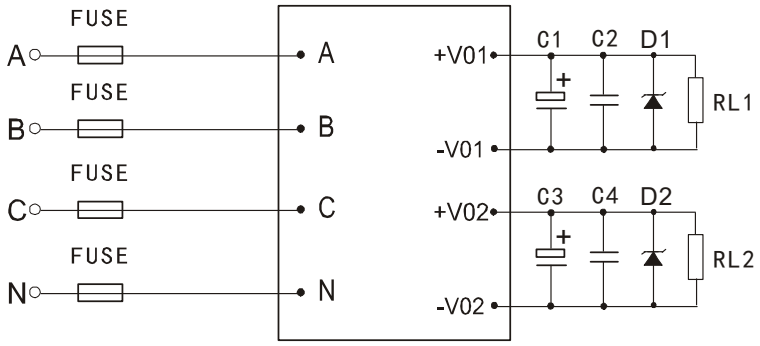
	Source effect	±1.0%
	Load effect	±1.0%
	Starting time (TYP)	500ms/380VAC at full load
	Output hold time (TYP)	40ms/380VAC at full load
Input	Input voltage range	165 ~ 465VAC 200 ~ 650VDC
	Input frequency range	47 ~ 440Hz
	Input current (TYP)	100m A / 380VAC
	Inrush current (TYP)	Inrush current 20 A / 220 VAC 40 A / 380 VAC
	Recommended values for External Fuses	T1A / 250Vac (disconnection slowly)
	Leakage current (TYP)	＜1mA at 380VAC/50Hz
Protection	Over-voltage, over-current and short circuit protection, automatic recovery after troubleshooting	
Work environment	Operating Temperature	—40 ~ +70 ℃ (According to the output load reduction curve)
	Humidity	85% .RH max
	Storage Temperature	–40 ~ +85, 10 ~ 95% RH
	Temperature coefficient	0.03%/ (0~ 50℃)
	Vibration coefficient	10~500Hz,2G10min./1cycle, 60min.each along X,Y,Z axes
Safety and EMC (Note:3)	Safety Standard	Conform to UL1012,EN60950,UL60950
	I/O-Isolation voltage	I/P-O/P:3.0KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
	Isolation resistance	I/P-O/P,I/P-FG,O/P-FG:>100M Ohms/500VDC 25℃ 70% RH
	EMI / RFI conducted	Conform to EN55011, EN55022 (CISPR22)
	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	108*57*33mm (L*W*H)
Notes	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25 of ambient temperature	
	2. Ripple & noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor	
	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	
	4. The product is named as follows. D0512 indicates that the main road output is 5V and the auxiliary road output is 12V	

Dimension



Pin function								
Model	1	2	3	4	5	6	7	8
Single	null line(N)	phase line(A)	phase line(B)	phase line(C)	–Vo	+Vo	NO PIN	NC
Double	null line(N)	phase line(A)	phase line(B)	phase line(C)	–Vo1	+Vo1	–Vo2	+Vo2

Typical application diagram



Remark:

1. The output filter capacitance C1 and C3 is the electrolytic capacitor. It is recommended to use the high frequency low resistance electrolytic capacitance. The capacity and the current of the flow, please refer to the technical specifications provided by the manufacturers. Capacitance pressure reduction is more than 80%. C2 and C4 is to remove high frequency noise. D1 and D2 is recommended as the TVS tube becomes the protection of the rear circuit (when the module is abnormal).

Typical values for external circuit components

Component / Model	FUSE	NTC	NF	MOV	CX	L1	C5	C4	D1
SF10-3D1212	T1A/250V	Recommended external NTC thermistor, model: 10D-9	NF is a common mode inductance, the inductance value is 30mH,current0.2A-0.5A.	MOV is a piezoelectric resistor, recommended value is 14D471K	CX is the safety capacitor, 104K/275V	1mH/0.5A	470uF/16V	104K/50V (ceramic capacitor)	P6KE6.8A
SF10-3D1224							470uF/16V		P6KE6.8A
SF15-3S05							150uF/16V		P6KE16A
SF15-3S24							120uF/16V		P6KE16A
SF15-3S48							120uF/25V		P6KE20A
SF20-3S05							100uF/35V		P6KE33A
SF20-3S12									
SF20-3S15									
SF20-3S24									
SF20-3D0512									
SF20-3D0524									
SF20-3D1212									

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

