

Manual

Features:

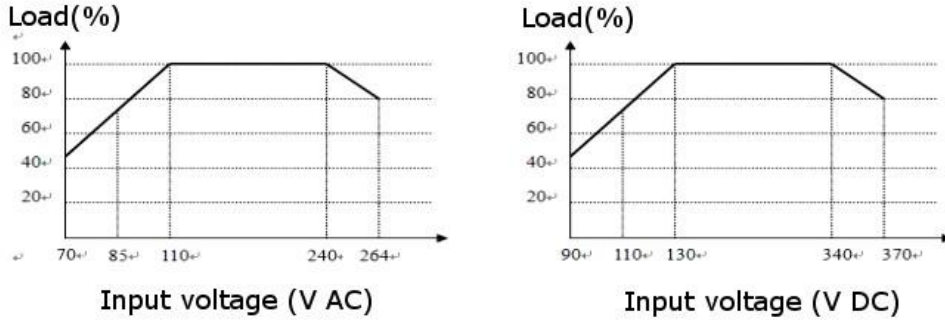
1. The product is easy to install and can be used directly on the motherboard.
2. There are fixed mounting holes at the four corners to prevent the product from being powered off due to movement/vibration. The fixing holes are straight through 3.2mm.
3. Universal input voltage: 85-264VAC or 110-370VDC.
4. High efficiency, high power density, low output ripple noise, and high output voltage accuracy.
5. Input and output are highly isolated.
6. Overcurrent protection, short circuit protection and temperature protection.
7. Output built-in LC π type filtering, no external filter circuit is required.

Item	Condition	SM-PLG0 6A-03	SM-PLG0 6A-05	SM-PLG 06A-09	SM-PLG 06A-12	SM-PLA0 6A-15	SM-PLG0 6A-24
Input							
AC input (VAC)		85-264					
DC input (VDC)		110-370					
Frequency range (Hz)		47-63					
Input current (A)		0.5/115VAC 0.25/230VAC					
Surge current (A)		Cold start: 10A/230VAC					
Efficiency (TYP.)		61	70	74	75	76	75
Waiter power consumption ((mW)		<=150mW/220VAC					
Output characteristics							
Output voltage (VDC)		3.3V	5V	9V	12V	15V	24V
Output voltage accuracy		$\pm 1\%$					
Rated current (ADC)		1.2A	1A	0.6A	0.5A	0.4A	0.25A
Rated power (W)		4W	5W	6W	6W	6W	6W
Ripple and noise (mvp-p)	Rated input voltage, 20MHz bandwidth	<=100mV		<=50mV			
Linear adjustment rate	Full load	$\pm 1\%$					
Load adjustment rate	10-100% load	$\pm 3\%$					
Startup, rise time	Full load	2000ms, 30ms/115VAC 1000ms, 30ms/230VAC					
Hold time (ms)	Full load	16ms/115VAC 50ms/230VAC					
Overload	Rated	115%-150% of rated output power					

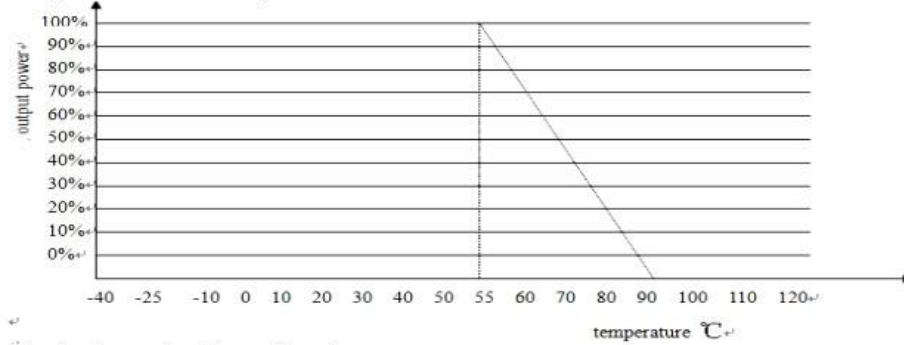
protection	input voltage	Protection mode: Constant power mode, automatic recovery after abnormal load conditions are removed
Short circuit protection	Rated input voltage	Long-term short circuit, self-recovery
Overcurrent protection	voltage	≥ 1.1 times I_o
Start delay time (ms)	V_{in} : 230V	500ms
Power down hold time (ms)	AC	20ms
General characteristics		
Working temperature (° C)	/	-30-70
Working humidity (RH)	/	20-90%, no condensation
Temperature drift coefficient	/	$\pm 0.02\%/^{\circ}C$
Storage temperature and humidity		$-40\sim +85^{\circ}C$ 10-95%RH
Switching frequency (KHz)		60
Insulation voltage (VAC)	Input to output. Test 60s, $\leq 5mA$	2000
Insulation resistance (MQ)	Input to output, 500VDC	100
Leakage current (mA)	500VDC	Input to output $\leq 1mA/RMS$ value
MTBF	@ $25^{\circ}C$	215000h
Security Level	/	Adaptation: CLASS B
Vibration	/	10-500Hz 2G 10 minutes/cycle. X, Y, Z each 60 minutes
Electromagnetic Compatibility	/	Adaptation: EN55022 (C1SPR22) Class B EN61000-3-2,-3
Remark		<p>1. Unless otherwise stated, the parameters of this specification are measured when inputting 230VAC, rated load, and ambient temperature of $25^{\circ}C$.</p> <p>2. Ripple and noise measurement method: Use a 12" twisted pair cable, and the terminal should be connected with 0.1uF and 47uF capacitors in parallel to measure at 20MHz bandwidth.</p> <p>3. Accuracy: Includes rounding error, linear adjustment rate and load adjustment rate.</p>

	<p>4. The power supply is considered to be part of the components in the system, and the electromagnetic compatibility related confirmation must be performed in conjunction with the terminal equipment.</p> <p>5. The output should be derated under low input voltage. For details, please refer to the derating curve.</p>
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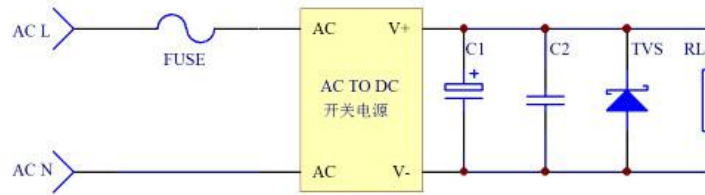
Product performance curve:



Working environment temperature and load characteristics



Typical application circuit



Input section:

Original number / recommended device	Effect	Recommended value
FUSE / fuse	Protect the circuit from damage when this product is abnormal.	0.5A/250VAC, slow blow

Output section:

Output voltage	C1	C2	TVS
3.3V	47uF/25V	1uF/50V	SMBJ5.0A
5V			SMBJ7.0A

9V	22uF/50V		SMBJ12.0A
12V			SMBJ15.0A
24V			SMBJ28.0A

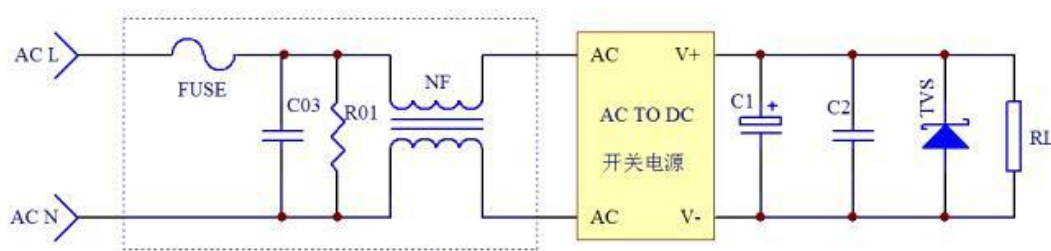
Remarks:

C1: Connect/couple the filter electrolytic capacitor. It is recommended to use a high frequency low resistance capacitor. The capacitor withstand voltage derating is greater than 75%, removing the noise from the connector.

C2: Ceramic capacitor to remove high frequency noise.

TVS: It is recommended to protect the rear stage circuit when the power supply is abnormal.

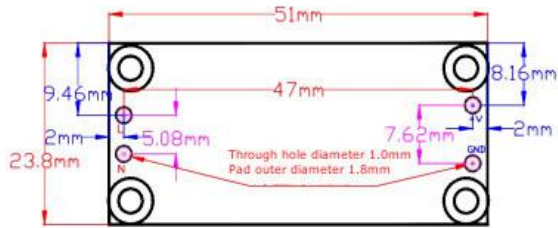
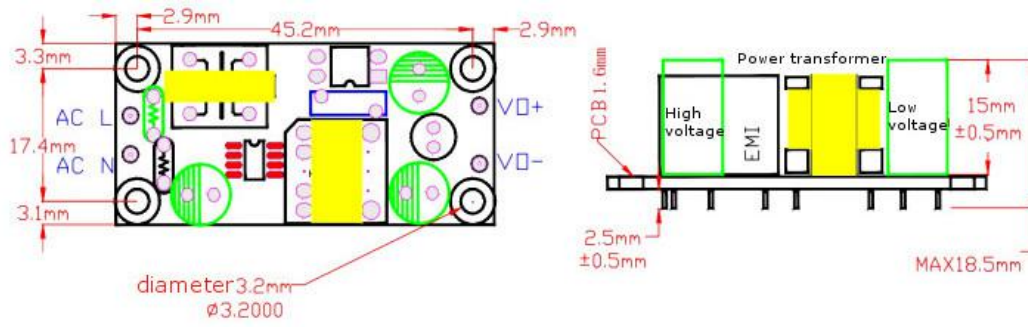
EMC Solution---Recommended Circuit




Input section:

In-situ number / recommended device	Effect	Recommended value
FUSE / fuse	Protect the circuit from damage when the power supply is abnormal	0.5A/250VAC, slow blow (required)
C03: X2 capacitor	Suppress differential mode interference	0.22uF/275VAC
R01: bleeder resistor		1MΩ 1/2W
NF: Common mode inductance	Suppress common mode interference, improve equipment's anti-interference ability and system reliability	10mH-30mH

Product package and pin definition diagram:



 **Note:** the pitch tolerance is $\pm 0.2\text{mm}$, and all other tolerances are $\pm 0.5\text{mm}$.