SANMIM
FACTORY SUPPLIER FOR THE POWER SUPPLY MODULE WITH HIGH QUALITY

MLA15A Specifications

Product Features

- The product is easy to install, and the input / output has its own terminal (2P 8mm pitch / 6p 4mm pitch), which can be used for welding wire with holes;
- Four corners and fixed mounting hole position to prevent the product from power failure caused by movement and vibration. For details of fixed hole, please refer to the package pin definition diagram;
- Universal input voltage: 85-264VAC or 110-370vdc (input < 170vac, output load halved);
- High efficiency, high power density, low output ripple noise and high voltage output precision (the voltage difference between light load and full load at the product output interface is within 0.1V)
- High isolation between input and output;
- High reliability, long service life and industrial design;
- Over current protection, temperature protection, short circuit protection (ambient temperature limit 65 ° C), output overvoltage protection;
- Loop abnormal protection (starting protection when DC has applied voltage or the voltage overvoltage reaches the point of output overvoltage protection when the loop is working abnormally)
- Output built-in LC π filter without external large capacity filter circuit;
- Warranty for 3 years;
- The products are suitable for industrial control, fire protection, security and other industries;

Input Features

Item	condition	This series of existing conventional models (can be customized according to customer requirements of any different output voltage and current or other requirements of the product)					
		MLA15A-05V	MLA15A-09V	MLA15A-12V	MLA15A-15V	MLA15A-24V	MLA15A-36V
AC input (VAC)		85-264					
DC input (VDC)		110-370					
Frequency range (Hz)		47-63					
Input current (a)		0.30/115VAC 0.25/230VAC					
Surge current (a)		Cold start: 30A / 230VAC					
Full load efficiency (typ.) min		80%	82%	83%	84%	84%	85%
Standby power consumption (MW)		≤75					

Output Features

Output voltage (VDC)		5V	9V	12V	15V	24V	36V
Output voltage accuracy 10-100% load		±2%					
Rated current (ADC)		3A	1.67A	1.25A	1A	0.63A	0.42A
Rated power (W)		15W	15W	15W	15W	15W	15W
Ripple and noise (mvp-p)	Rated input voltage, 20MHz bandwidth	≤100					
Linear adjustment rate	the full load	±1%					
Load adjustment rate	10-100% load	±3%					
rise time	the full load	30ms/115VAC/230VAC					
Holding time (MS)	the full load	10ms/115VAC 20ms/230VAC					
overload protection	Rated input voltage	110% - 200% of rated output power					
Short circuit protection	Rated input voltage	Long term short circuit and automatic recovery.					
Over voltage protection		Can reply automatically.					
Over current protection		1 times Io, can reply automatically.					
Start delay time (MS)	Vin : 230VAC	≤1500ms					

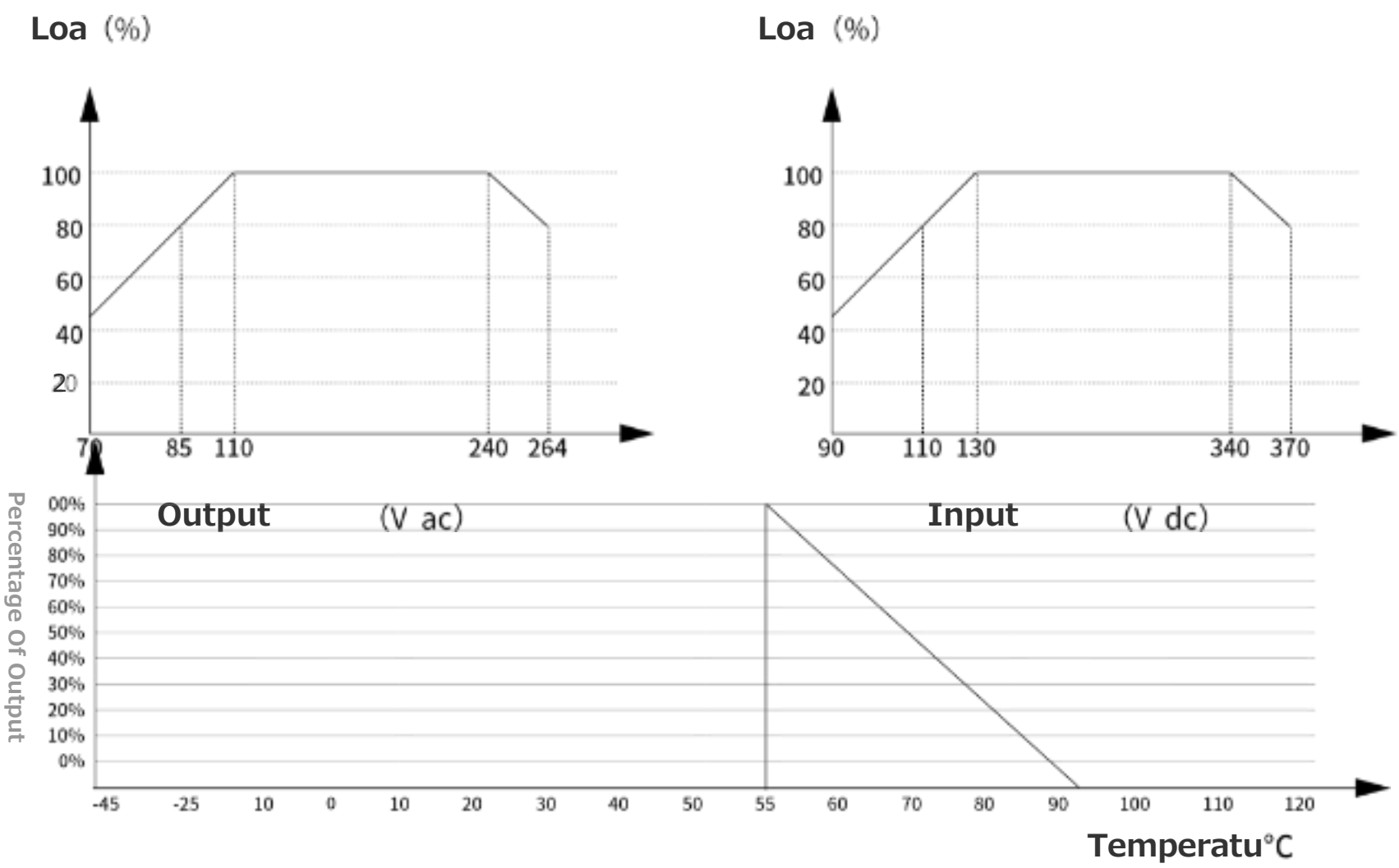
General Features

Working temperature (℃)	The normal conditions meet the derating shown in the figure below	-25°～ +70°

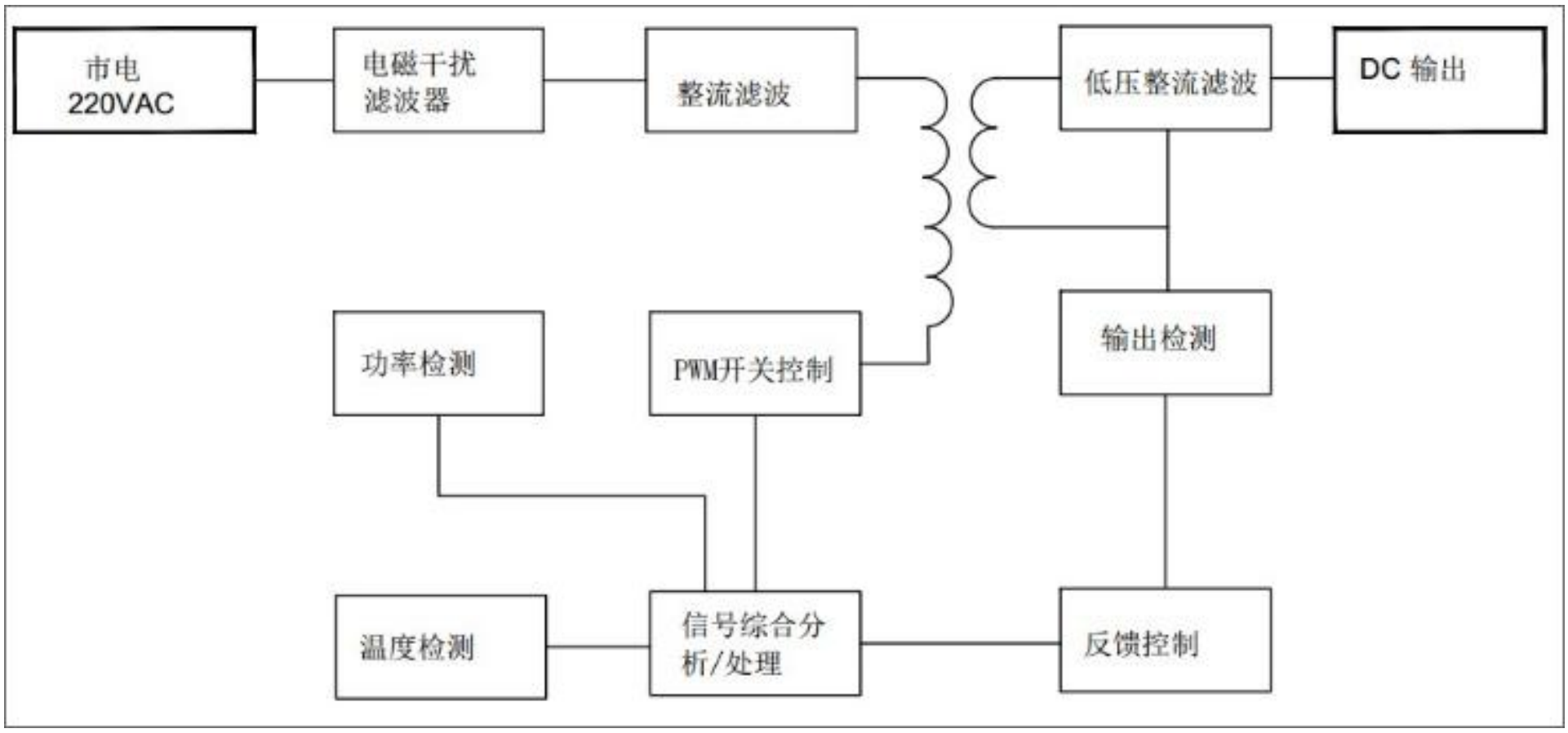
Working humidity (RH)	/	20-90%, non condensing
Temperature Coefficient	/	±0.03%/℃
Storage temperature and humidity		-40°～ +85℃ 10-90%RH
Switching frequency (kHz)		65

Insulation voltage (VAC)	Input to output, test for 60s, ≤ 5mA	3KV≤5mA 60S
Insulation resistance (mΩ)	Input to output, 500VDC	100
Leakage current (MA)	500VDC	Input to output ≤ 0.25ma/rms
MTBF	@25℃(MIL-HDBK-217F)	> 500000 hours
Safety level	/	Adaptation: Class B
Vibration resistance	/	10-500hz 2G 10min / cycle. X, y, Z 60min each
electromagnetic compatibility	/	Compliance: iec62368-1 / iec61558-1 class B
	/	Lightning strike: differential mode 2KV, IEC61000-4-2 class B, common mode 2KV, IEC61000-4-2 class B.
Remarks		■ It is not specified, so the specification parameters are measured under the input of 230VAC, rated load and 25 ℃ ambient temperature. ■ Ripple and noise measurement method: a 12 "twisted pair is used, and 0.1uF and 10uF capacitors are connected in parallel at the same time. The measurement is carried out at 20MHz bandwidth. Accuracy: including rounding error, linear adjustment rate and load adjustment rate. The power supply shall be regarded as a part of the components in the system, which shall be confirmed in combination with the terminal equipment. ■ Derating output is required under low input voltage. Please refer to derating curve for details. ■ The monomer of the product meets the CE standard.

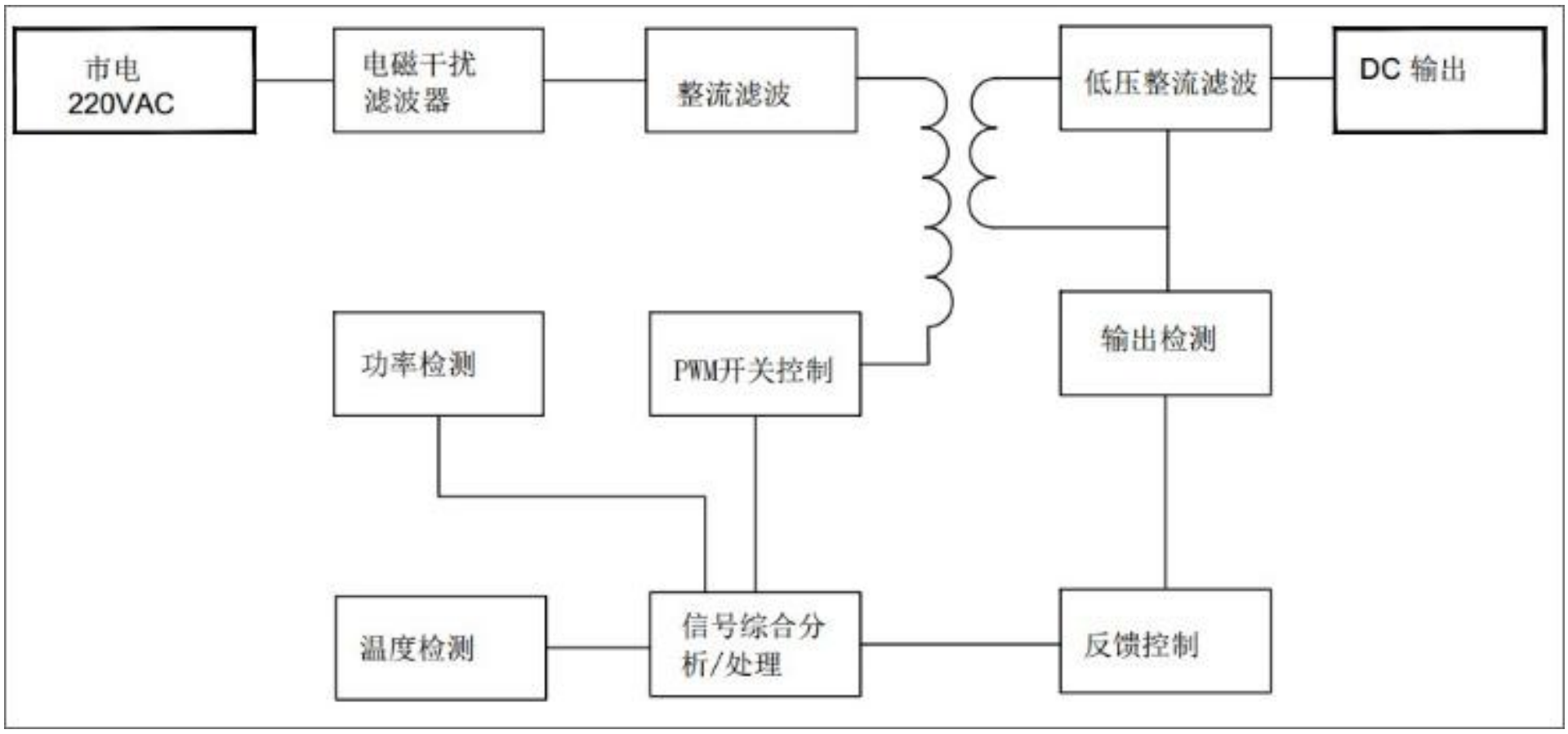
■ Curves Chart For Product Features



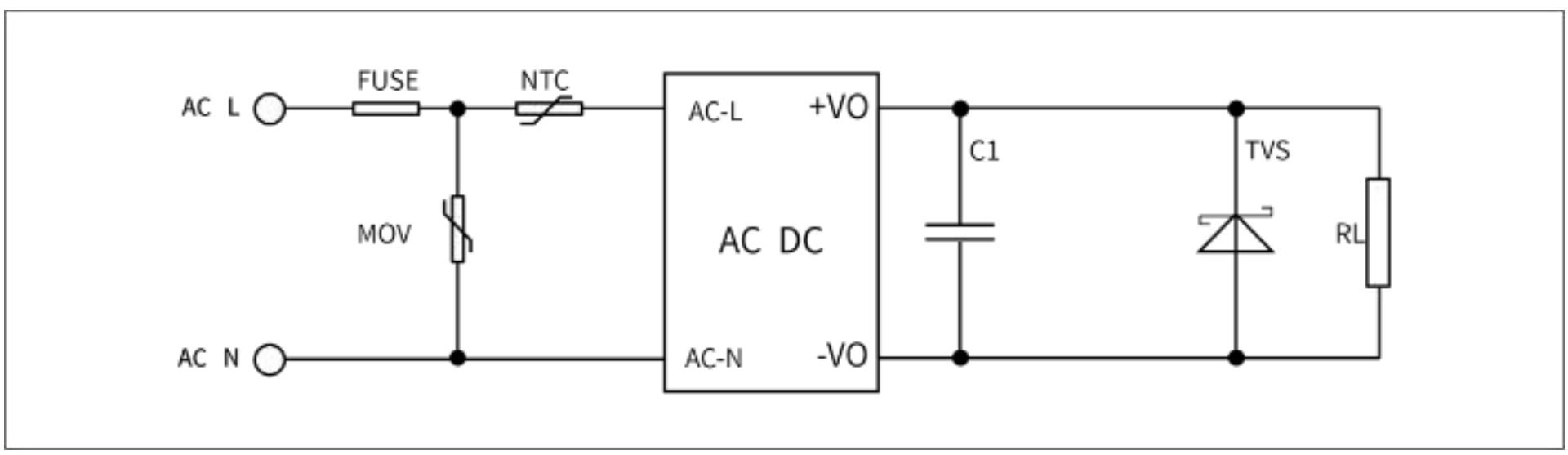
Schematic Diagram Of Power Supply



Application Scheme Block Diagram



Typical Application Circuit



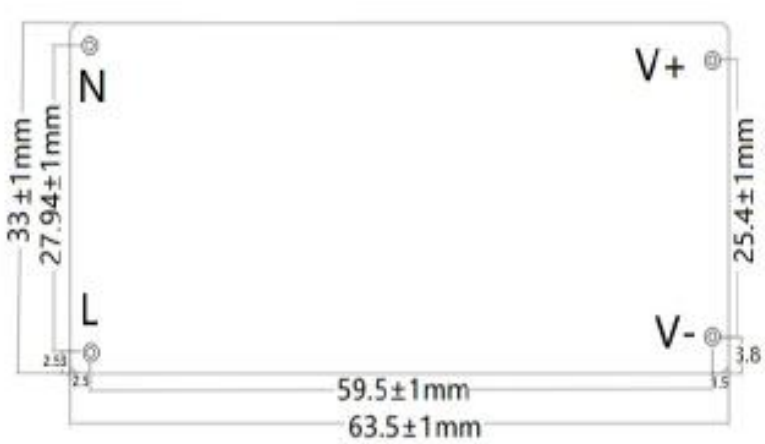
EMC Solution--Recommended Circuit

Bit Number/ Recommended Device	Effect	Recommended value (regular)
Fuse	When the power supply module suffers from abnormal input or the module itself, the whole system is protected from damage	2.0a/250vac, slow fusing (must be connected)
Mov / varistor	The surge voltage is suppressed to protect the module from damage in case of lightning stroke.	14D561K
NTC / thermistor	Restrain surge current and protect module from damage.	20D-7
Remarks	■ This series of power modules can pass EMC tests such as conduction and radiation, without additional EMC processing components. ■ This series of power supply module can resist lightning strike, differential mode 2KV, IEC61000-4-2 class B, without additional varistor and thermistor ■ This series of special power supply module can resist lightning, differential mode 4KV, IEC61000-4-2 class B, without additional varistor and thermistor ■ This series of power supply module, if need lightning differential mode 4KV above, need external varistor and thermistor, or custom.	

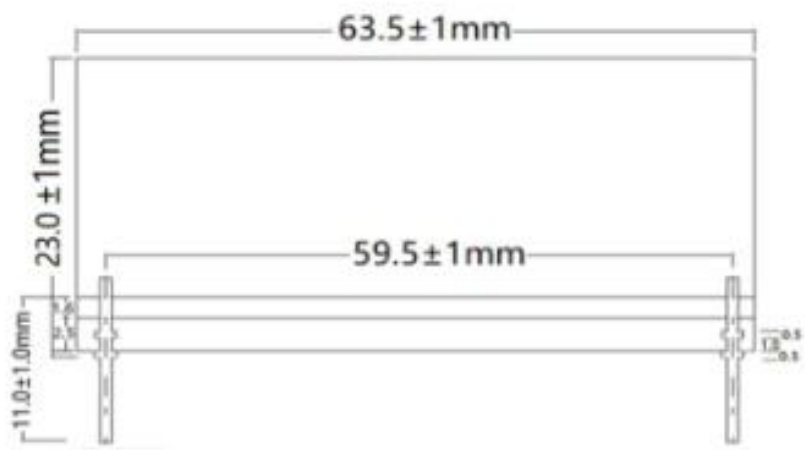
Output Section

Original recommended device	Effect	Recommended value (optional)
TVs / transient suppression diode	Restrain the over voltage and protect the system connected with the module from damage	Smbj15a (optional)
C1 / ceramic capacitor	Restrain the high frequency ripple, improve the anti-interference ability of the equipment and the reliability of the system	0.1uf/50v (optional)

Product Pin Definition Diagram



Top view



Front view

Explai	■ In mm, ± 0.5mm if no tolerance is indicated ■ Figure 2.5 shows the pin length of electronic components The figure 1.6mm is the thickness of PCB plate ■ The figure 63.5 mm is the overall length of the product The figure 33.0 mm is the overall width of the product ■ The overall height of the 23.0 mm product is shown in the figure ■ As shown in the figure, the needle pitch is 59.5 mm and the length of the guide needle is 11.0 mm

■ Product Selection Andnotes

1. Please refer to the performance parameters of this specification for selection and use, otherwise the reliability of the power supply will not be guaranteed.

2. All parameters in this specification are measured according to our company's internal standards.

3. It is recommended that the load power of the power supply should not exceed 80% of the rated power of the power supply.

4. When using multi output power supply, each output channel must be loaded and used at the same time according to the corresponding ratio.

5. Our company can provide customized products.

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7. For more product information, please contact us or visit our official website: https:// www.sanmim.com

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