LM60 SERIES

AC-DC MODULE POWER SUPPLY, 60 W

Product Features

- Wide voltage input range: 85–305 VAC (100–430 VDC)
- Operating temperature: -40°C to +85°C
- Full protection functions
- High efficiency, high reliability
- Regulated output, low ripple & noise
- Industrial-grade design

Applied Range

Power systems for wireless networks, telecommunications/data communications, power systems, industrial control systems, measurement instruments, and smart applications. Suitable for designs requiring wide input range variations, power isolation, limited board space, as well as modular product functionality to enhance reliability.

Product Model

Model	Output Voltage(Vo)	Output Current(Io)	Full Load Eff. (230VAC,Typ)
LM60-S05A1	5V	10A	87%
LM60-S12A1	12V	5A	90%
LM60-S15A1	15V	4A	90%
LM60-S24A1	24V	2.5A	90%
LM60-S48A1	48V	1.25A	90%

*For any additional specifications or models, please contact us directly.

Input Characteristics

Input Voltage Range	85～305VAC（100～430VDC）
Input Frequency	47～63Hz
Input Current	1.7A (MAX) @115VAC 1.1A (MAX)@ 230VAC
Recommended External Fuse	3.15 A / 300 V, Slow-blow type
Hot swap	Not support

Output Characteristics

Output Voltage Regulation Accuracy	±2%

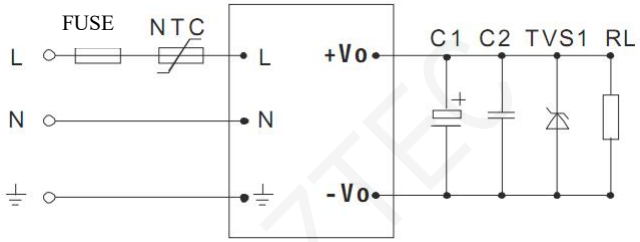
Load Regulation (10%–100%)	±1.5% (typ)
Minimum Load	10%
Output Ripple & Noise (p-p)	150mV(typ) (20MHz Bandwidth)
Short-Circuit Protection	Hiccups, self-resolving
Overcurrent Protection	≥140%

General Characteristics

Temperature Characteristics	Operating Temperature	-40℃ ~ +85℃
	Storage Temperature	-40℃ ~ +90℃
Power-off Delay		40ms(typ)/ at Vin:320Vdc
Humidity		85%RH(max)
Temperature coefficient		0.02%/℃
Switching Frequency		65-120kHz(typ)
Isolation Voltage	Input–Output	4000Vac/1Min
	Input–Output	500Vdc/1Min
Leakage Current		<5mA RMS typ. 230VAC/50Hz

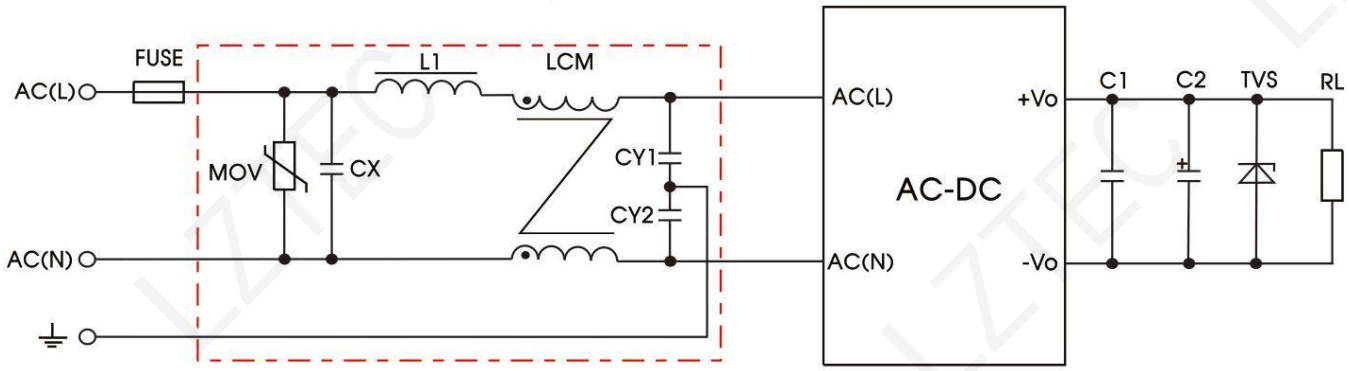
*Electromagnetic Compatibility: Electrostatic Discharge	IEC/EN 61000-4-2 level 3 6kV/8kV
*Radio Frequency Radiation Anti-jamming	IEC/EN 61000-4-3
*Electric fast transient pulse cluster	IEC/EN 61000-4-4 level 3 2 kV
* surge	IEC/EN 61000-4-5 level 3 1kV/2kV
* Conduction/Radiation	EN55032 CLASS B
Safety Class	IEC/EN/UL/BS62368-1, GB4943.1, EN61558-1, EN60335-1.
Enclosure Class	Flame-retardant plastic UL94V-0/
Dimension Size	70.00 x 48.00 x33.00mm
Installation Mounting Method	PCB
MTBF	>200,000h @25℃

Typical Applications



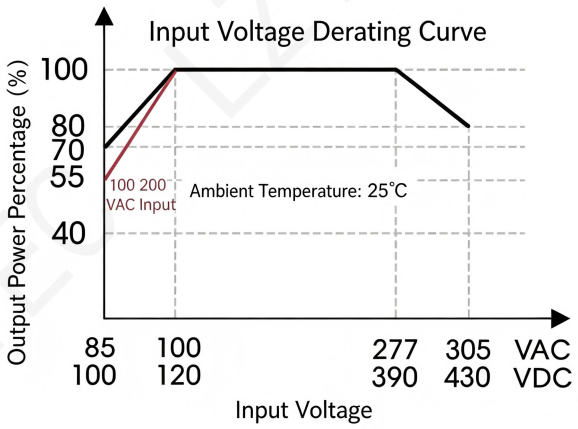
Output voltage	FUSE	C1	C2	TVS1
5V	3.15 A/300 V, slow interruption	330uF/16V	100nF/50V	SMBJ7A
12V		330uF/16V		SMBJ20A
15V		220uF/25V		SMBJ20A
24V		100uF/35V		SMBJ30A
48V		47uF/63V		SMBJ64A

EMC Recommended Circuit

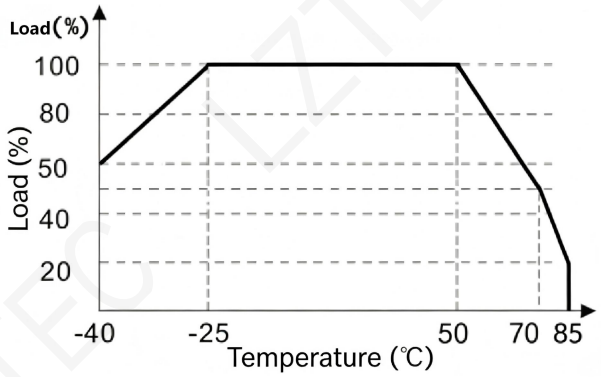


Device Component	Recommended Value
MOV	14D471
CY1、CY2	1000pF/400VAC
CX	0.1uF/275VAC
LCM	>10mH
L1	470uH/2A
FUSE	3.15 A/300 V, Slow interruption

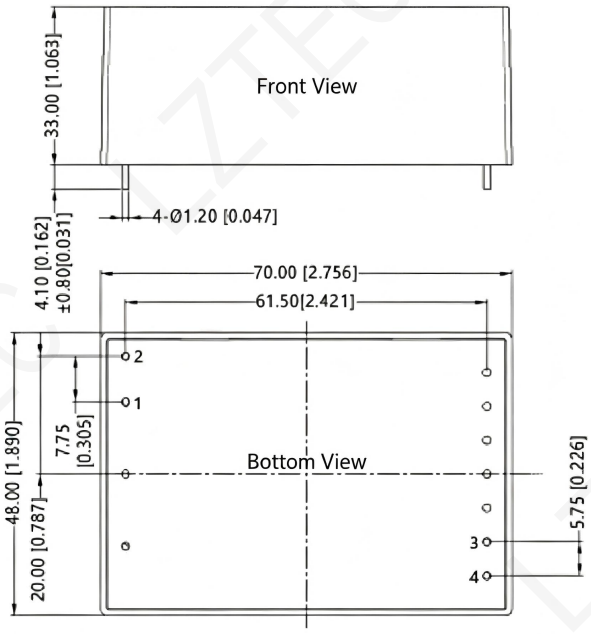
Input Voltage vs. Load Correlation



Temperature vs. Load Correlation



Appearance and Dimensions



Pin Definitions:

Pin	1	2	3	4
Definition	AC(L)	AC(N)	-Vo	+Vo

1. Unless otherwise specified, all specification parameters are measured under the following conditions: 230 V AC input voltage, rated load, and an ambient temperature of 25℃.

2. Under low input voltage conditions, the output must be derated; refer to the input derating curve for details.

3. Accuracy: Includes design error, linear adjustment rate, and load adjustment rate.

4. Waveform and noise measurement method: Use a twisted pair cable with 0.1 μF and 47 μF capacitors connected in parallel at the terminals, and perform measurements at a bandwidth of 20 MHz.

5. The power supply is considered an integrated component combined with the terminal design; therefore, EMC performance is affected by the entire system, and terminal manufacturers must conduct re-EMC validation for the complete unit.

6. The startup time is measured under cold-start conditions; repeated power cycles may prolong the startup duration.

7. The input current parameters may vary slightly depending on certification requirements and safety standards.

8. When the altitude exceeds 2,000 meters (6,500 FT), the operating ambient temperature decreases by 3.5℃ for every 1,000 m.

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