

LM-20 SERIES**---- AC-DC MODULE POWER SUPPLY 20W****PRODUCT FEATURES**

- Wide voltage input range 85 ~ 305VAC (127 ~ 432VDC)
- Working temperature-30°C ~+70°C
- Complete protection functions (short circuit protection self-recovery, etc.)
- High efficiency, high reliability
- Small size, plastic shell flame retardant packaging
- Industrial product technical design

APPLIED RANGE

Power systems for wireless networks, telecommunications/data communication, power systems, industrial control systems, measurement instruments, and intelligent fields. Suitable for designs requiring large input range fluctuations, power isolation, compact board space, as well as modular product functionality to enhance reliability.

PRODUCT MODEL

Model	Output Voltage (Vo)	Output Current (Io)	Efficiency(TYP)	Certificate
LM20-S05A1	5V	4000mA	78%	CE
LM20-S09A1	9V	4000mA	78%	CE
LM20-S12A1	12V	1666mA	83%	CE/UL
LM20-S15A1	15V	1333mA	85%	CE
LM20-S24A1	24V	833mA	85%	CE/UL

* IF YOU NEED OTHER SPECIFICATIONS AND MODELS, PLEASE CONTACT US DIRECTLY.

INPUT CHARACTERISTICS

Input voltage range	85~305VAC (127~432VDC)	
Incoming frequency	47~63Hz	
Input current	600mA (TYP) @115VAC	400mA (TYP)@ 230VAC
External fuse (recommended value)	3.15A/350V slow break	

OUTPUT CHARACTERISTIC

Output voltage regulation accuracy	±4%
Source effect	±0.5% (typ)
Load adjustment ratio (10%~100%)	±1% (typ)
Minimum load	10%

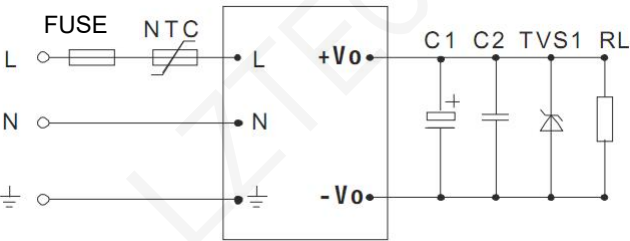
Output ripple + noise (peak-to-peak)	100mV(typ) (20MHz Bandwidth)
Short-circuit protection	Adopts hiccup protection and automatic recovery upon faulty contact.
Output overvoltage protection	≥1.1 times

GENERAL CHARACTERISTIC

Temperature characteristic	Working temperature	-30°C ~ +70°C
	Power downgrades	3.75% / °C
	Storage temperature	-40°C ~ +85°C
Time of outage		40ms(typ)/ at Vin:320Vdc
Humidity		85%RH(max)
Warming up		0.02%/°C
Switching frequency		65kHz(typ)
Isolation voltage	Input-output	3000Vac/1Min
Leakage current		<5mA RMS typ. 230VAC/50Hz
*ESD immunity		IEC/EN 61000-4-2 level 3 6kV/8kV
*RF radiation immunity		IEC/EN 61000-4-3
*Fast transient pulse group		IEC/EN 61000-4-4 level 3 2 kV
*Surge immunity		IEC/EN 61000-4-5 level 3 1kV/2kV
* Conduction/radiation		EN55032 CLASS B
Security classification		IEC/EN/UL/BS62368-1, GB4943.1, EN61558-1, EN60335-1
Enclosure class		UL94V-0 flame retardant plastic
Install		PCB
MTBF		>200,000h @25°C

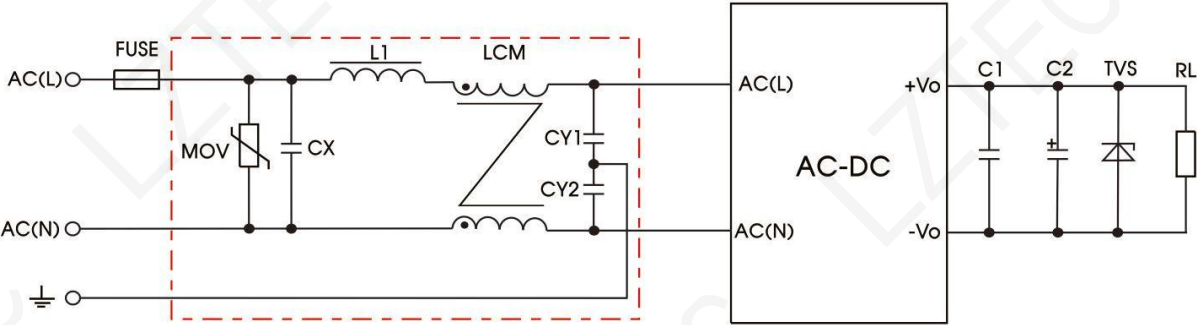
- Unless otherwise stated, all parameters are measured at 230Vac input, rated load and 25°C ambient temperature.
- Output derating is required at low input voltage, refer to the input derating curve.
- Accuracy includes design tolerance, line regulation and load regulation.
- Ripple & Noise: Measured at 20MHz bandwidth with twisted pair and 0.1μF+47μF parallel terminal capacitors.
- This power supply is a component; system EMC shall be confirmed by the end-equipment manufacturer.
- Start-up time is tested under cold start; frequent power cycling may increase start-up time.
- Input current and safety specs vary slightly with different certifications.
- For altitude over 2000m (6500FT), operating temperature decreases by 3.5°C per 1000m.

TYPICAL APPLICATION



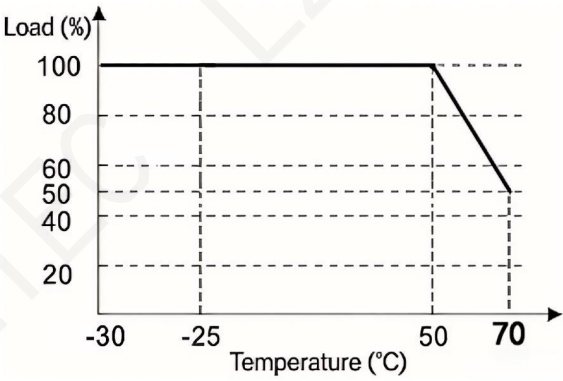
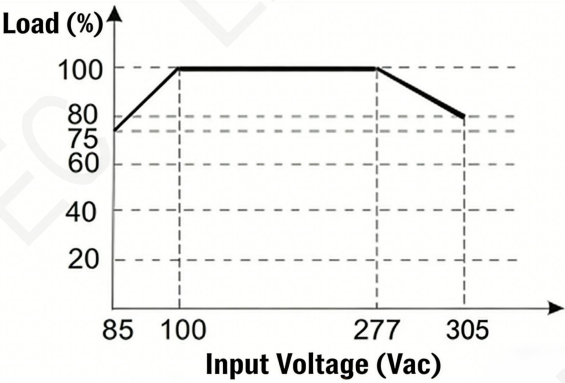
FUSE	NTC	C1	C2	TVS1
3.15A/350V Slow break	3Ω/3W	1uF/50V	100uF/35V	SMBJ30A

EMC Recommended Circuits

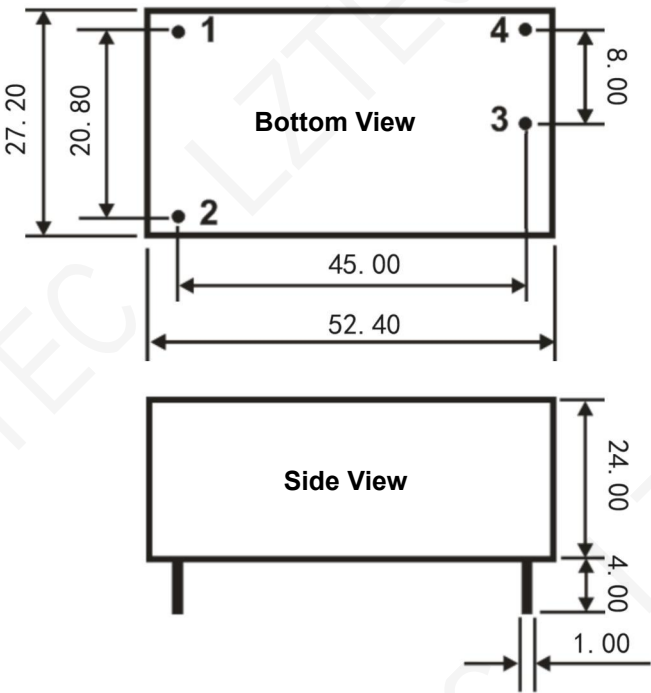


Device	Recommended value
MOV	14D561
CY1、CY2	2.2nF/400VAC
CX	0.22uF/310VAC
LCM	>10mH
L1	4.7uH/2A
FUSE	3.15A/350V, Slow break

INPUT VOLTAGE AND LOAD RELATIONSHIP DIAGRAM TEMPERATURE AND LOAD RELATIONSHIP DIAGRAM



APPEARANCE AND SIZE



Unit: mm Tolerance: $\pm 0.25\text{mm}$

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

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