

## LM-20 系列

## ----- 标准封装 AC-DC 模块电源 20W



UL US FC CE

## 产品特性

- 宽电压输入范围 85~305VAC (127~432VDC)
- 工作温度 -40°C~+70°C
- 保护功能齐全 (短路保护自恢复等)
- 高效率、高可靠性
- 小体积, 塑壳阻燃封装
- 工业级产品技术设计

## 应用范围 APPLIED RANGE

无线网络、电信/数据通信、电力系统、工业控制系统、测量仪器仪表、智能化领域等电源系统。适合于需要实现输入范围波动大, 需要电源隔离, 布板空间小等设计, 并实现产品功能模块化, 提高产品可靠性。

## 产品型号 PRODUCT MODEL

| 型号 Model   | 输出电压 Output voltage Vo | 输出电流 Output Io | 效率 Efficiency (TYP) |
|------------|------------------------|----------------|---------------------|
| LM20-S05A1 | 5V                     | 4000mA         | 78%                 |
| LM20-S09A1 | 9V                     | 2222mA         | 78%                 |
| LM20-S12A1 | 12V                    | 1670mA         | 85%                 |
| LM20-S15A1 | 15V                    | 1333mA         | 85%                 |
| LM20-S24A1 | 24V                    | 833mA          | 85%                 |

\*如有其它规格型号需求, 可直接联系我司。

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

## 输入特性

|   |                        |                     |
|---|------------------------|---------------------|
| 输入电压范围 Input voltage range                    | 85~305VAC (127~432VDC) |                     |
| 输入频率 Incoming frequency                       | 47~63Hz                |                     |
| 输入电流 Input currenton                          | 500mA (TYP) @115VAc    | 300mA (TYP)@ 230VAc |
| 外接保险丝 (推荐值) External fuse (recommended value) | 2A/250V 慢断 slow break  |                     |

## 输出特性 OUTPUT CHARACTERISTIC

|   |             |
|---|-------------|
| 输出电压稳压精度 Output voltage voltage regulation accuracy | ±4%         |
| 源效应 Source effect                                   | ±0.5% (typ) |

|  |                               |
|--|-------------------------------|
| 负载调整率(10%~100%) Load adjustment ratio (10%~100%)   | ±1% (typ)                     |
| 最小负载 Minimum load                                  | 10%                           |
| 输出纹波+噪声(峰-峰值) Output ripple + noise (peak-to-peak) | 100mV (typ) (20MHz Bandwidth) |
| 短路保护 Short-circuit protection                      | 打嗝保护模式, 故障接触自恢复               |
| 输出过压保护 Output overvoltage protection               | ≥1.1 倍                        |

### 一般特性 GENERAL CHARACTERISTIC

|                                      |                          |                            |
|--------------------------------------|--------------------------|----------------------------|
| 温度特性 Temperature characteristic      | 工作温度 working temperature | -30°C~+75°C                |
|                                      | 功率降额 Power downgrades    | 3.75% / °C ,               |
|                                      | 存储温度 Storage temperature | -40°C~+85°C                |
|                                      | 外壳温度 case temperature    | +90°C max                  |
| 掉电时间 Time of outage                  |                          | 40ms (typ) / at Vin:320Vdc |
| 湿度 Humidity                          |                          | 85%RH (max)                |
| 温漂 Warming up                        |                          | 0.02%/°C                   |
| 开关频率 Switching frequency             |                          | 65kHz (typ)                |
| 隔离电压 Isolation voltage               | 输入--输出 Input-output      | 3000Vac/1Min               |
| 漏电流 Leakage current                  |                          | <5mA RMS typ. 230VAC/50Hz  |
| *电磁兼容静电放电*ESD immunity               | IEC/EN 61000-4-2 level 3 | 6kV/8kV                    |
| *射频辐射抗扰* RF radiation immunity       | IEC/EN 61000-4-3         |                            |
| *电快速瞬变脉冲群*Fast transient pulse group | IEC/EN 61000-4-4 level 3 | 2 kV                       |
| *浪涌*Surge immunity                   | IEC/EN 61000-4-5 level 3 | 1kV/2kV                    |
| *传导/辐射*Conducted/Radiated emission   |                          | EN55022, level A           |
| 安全等级 Security classification         |                          | CLASS I                    |
| 外壳等级 Outer shell grade               |                          | 阻燃塑料 UL94V-0               |
| 安装 Mounting method                   |                          | PCB                        |
| MTBF                                 |                          | >200,000h @25°C            |

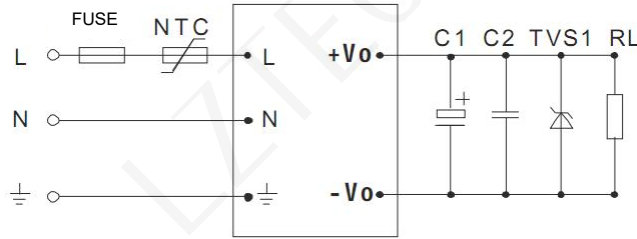
注：1. 标注\*测试项目，需增加外围 EMC 推荐电路；

2. 以上所列数据除特别说明外，都是在 TA=25°C, 湿度<75%的条件下测得。

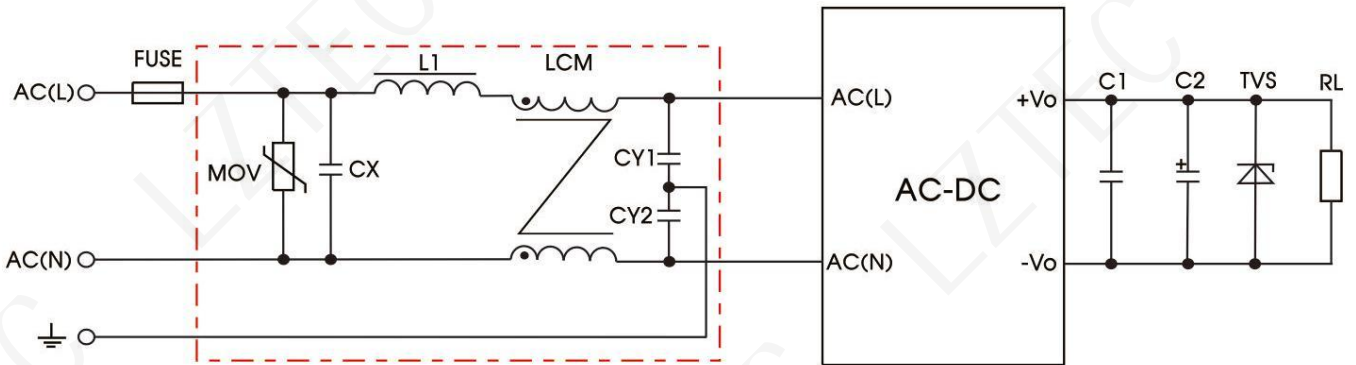
1. Peripheral EMC recommended circuitry must be added for test items marked with .

2. Unless otherwise specified, all data above are measured under conditions of TA=25°C and humidity <75%.

典型应用 TYPICAL APPLICATION

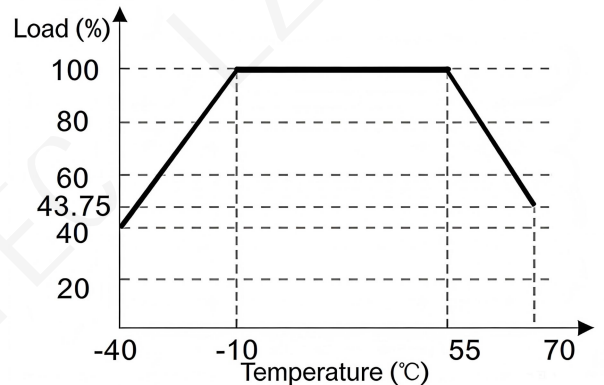
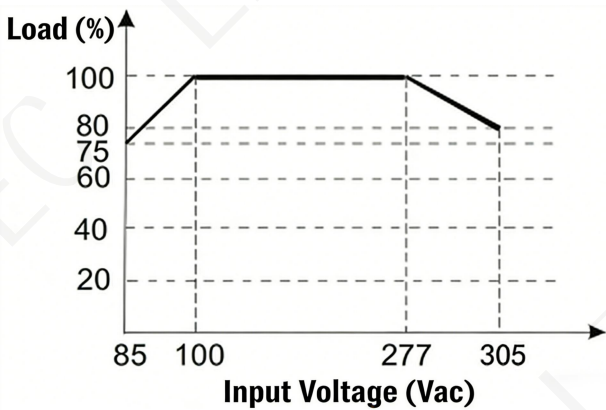


EMC 推荐电路

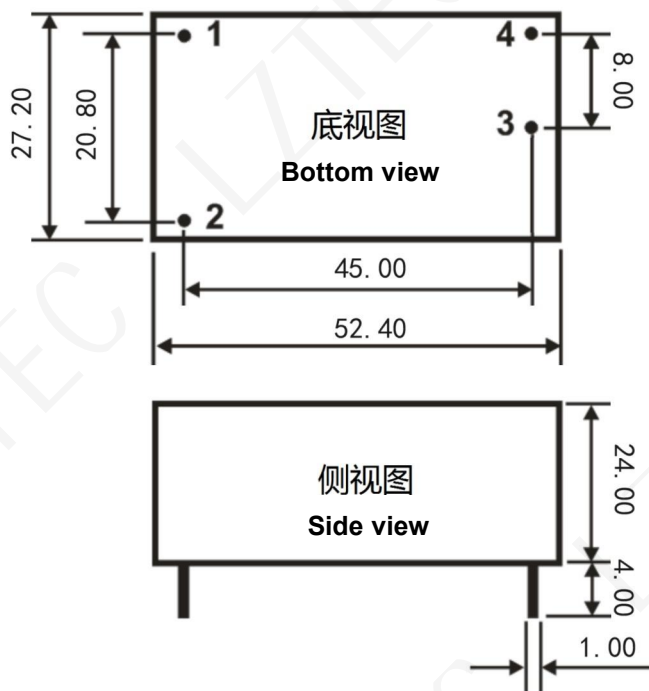


| 器件 Component | 推荐值 Recommended Value |
|--------------|-----------------------|
| MOV          | 14D561                |
| CY1、CY2      | 1000pF/400VAC         |
| CX           | 0.1uF/275VAC          |
| LCM          | >10mH                 |
| L1           | 4.7uH/2A              |
| FUSE         | 3.15A/300V, 慢断        |

输入电压与负载关系图 INPUT VOLTAGE VERSUS LOAD DIAGRAM 温度与负载关系图 TEMPERATURE VS. LOAD



## 外观和尺寸 APPEARANCE AND SIZE



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

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

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