

LHE10 系列

—— 标准封装 AC-DC 模块电源 10W



产品特性

- 宽电压输入范围 85~264VAC (100~370VDC)
- 工作温度 $-40^{\circ}\text{C}\sim+70^{\circ}\text{C}$
- 保护功能齐全 (短路保护自恢复等)
- 高效率、高可靠性
- 稳压输出、低纹波噪声
- 工业级产品技术设计

应用范围

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	Output Voltage/Current 输出电压/电流 (Vo1/Io1)	Output Voltage/Current 输出电压/电流 (Vo2/Io2)	效率 (TYP)
LHE10-20B05	5V / 2000mA		78%
LHE10-20B12	12V / 833mA		82%
LHE10-20B15	15V / 660mA		83%
LHE10-20B24	24V / 416mA		84%
LHE10-20A05	+5V / 1000mA	-5V / 1000mA	77%
LHE10-20A12	+12V / 416mA	-12V / 416mA	81%
LHE10-20A15	+15V / 333mA	-15V / 333mA	81%
LHE10-20A24	+24V / 225mA	-24V / 225mA	82%
LHE10-20D0505-02	5V/1800mA	5V/200mA	74%
LHE10-20D0512-02	5V/1500mA	12V/200mA	75%
LHE10-20D0515-02	5V/1400mA	15V/200mA	77%
LHE10-20D0524-02	5V/1000mA	24V/200mA	77%
LHE10-20C0512-02	5V/1000mA	$\pm 12\text{V}/200\text{mA}$	76%
LHE10-20C0515-02	5V/1000mA	$\pm 15\text{V}/100\text{mA}$	78%

*如有其它规格型号需求，可直接联系我司。For other specifications or models, please contact us directly.

输入特性 Input Characteristics

输入电压范围 Input Voltage Range	85~264VAC (100~370VDC)	
输入频率 Input Frequency	47~63Hz	
输入电流 Input Current	260mA (TYP) @115VAc	160mA (TYP)@ 230VAc
外接保险丝 (推荐值) Recommended External Fuse	1A/250V 慢断	

输出特性 Output Characteristics

输出电压稳压精度 (主路) Output Voltage Regulation Accuracy (Main Channel)	±2%	
源效应 (主路) Line Regulation (Main Channel)	±0.5% (typ)	
负载调整率 Load Regulation(10%~100%)	±1% (typ)	
最小负载 Minimum Load	10%	
输出纹波+噪声 (峰-峰值) Output Ripple and Noise (Peak-to-Peak)	100mV(typ) (20MHz Bandwidth)	
短路保护 Short-Circuit Protection	可长期短路, 自恢复 Sustained Short-Circuit, Auto-Recovery	
输出过压保护 Output Over - Voltage Protection	≥1.1 倍	

一般特性 General Characteristics

温度特性 Temperature Characteristics	工作温度 Op. Temp.	-40°C~+70°C
	功率降额 Power Derating	3.75% / °C ,
	存储温度 Storage Temperature	-40°C~+90°C
	外壳温度 Case Temp.	+90°C max
掉电时间 Power-Off Delay	40ms (typ) / at Vin:320Vdc	
湿度 Humidity	85%RH (max)	
温漂 Temperature Drift	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
	输出—输出 Output-Output	500Vdc/1Min
漏电流 Leakage Current	<5mA RMS typ. 230VAC/50Hz	
*电磁兼容静电放电 EMC-ESD	IEC/EN 61000-4-2 level 3 6kV/8kV	
*射频辐射抗扰 RFI	IEC/EN 61000-4-3	
*电快速瞬变脉冲群 EFT/B	IEC/EN 61000-4-4 level 3 2 kV	
*浪涌 Surge	IEC/EN 61000-4-5 level 3 1kV/2kV	
*传导/辐射 Conduction / Radiation	EN55022, level A	
安全等级 Safety Class	CLASS I	
外壳等级 Enclosure Class	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；

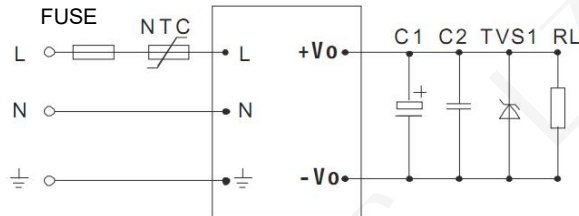
For test items marked with an asterisk (*), the external EMC recommended circuit shall be added during testing.

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。

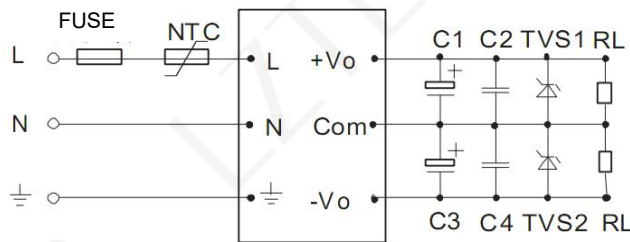
Unless otherwise specified, all data listed above are measured under the conditions of ambient temperature (T/A) = 25°C and relative humidity < 75%.

典型应用 Typical Applications

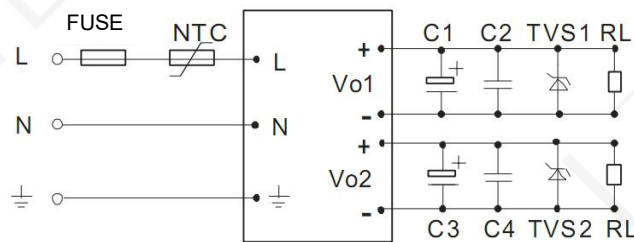
单路输出 Single Output



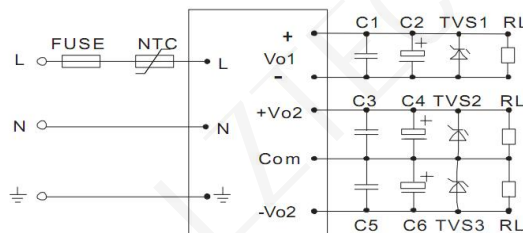
正负输出 Positive and Negative Output



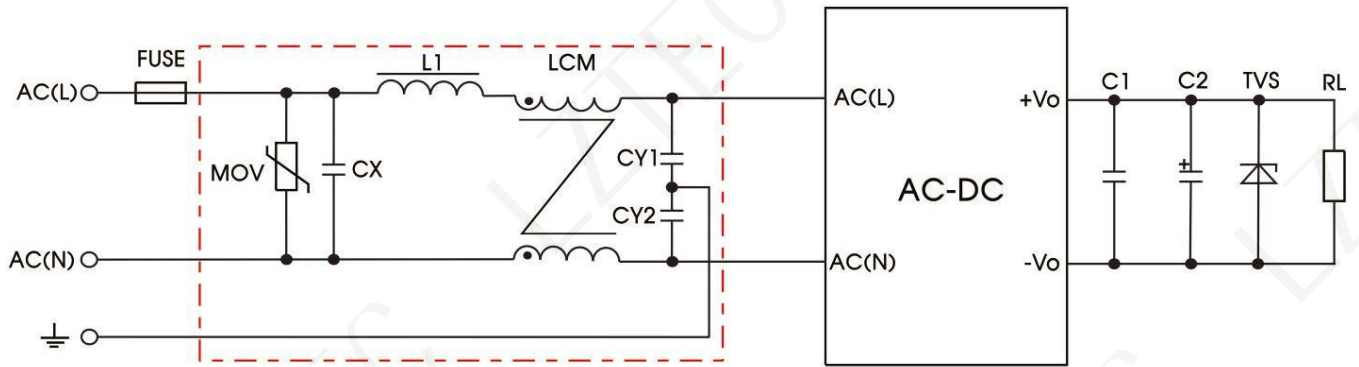
两路输出 Dual Output



三路输出 Triple Output



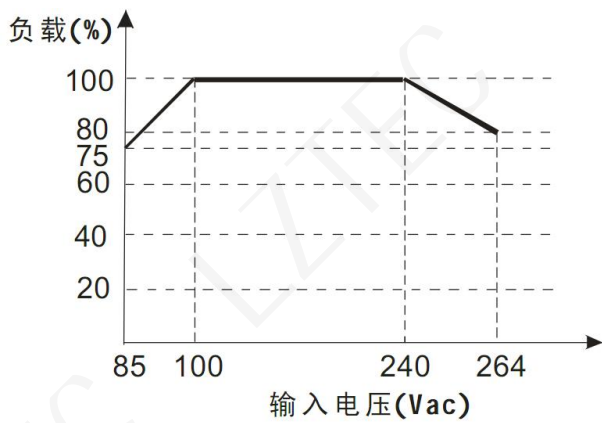
EMC 推荐电路



器件 Component	推荐值 Recommended Value
MOV	14D471
CY1、CY2	1000pF/400VAC
CX	0.1uF/275VAC
LCM	>10mH
L1	4.7uH/2A
FUSE	2A/250V, 慢断

输入电压与负载关系图

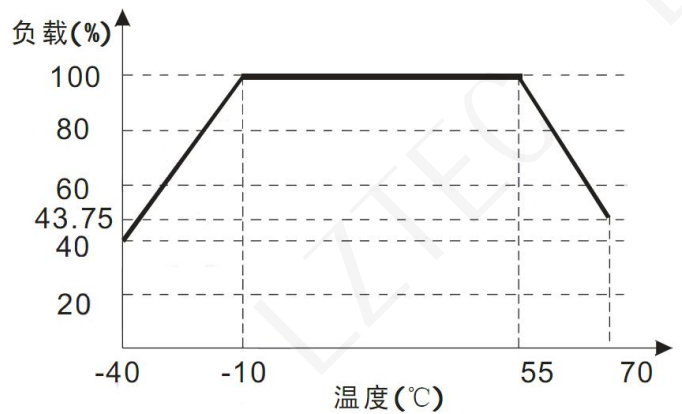
Input Voltage vs. Load Correlation



Input Voltage

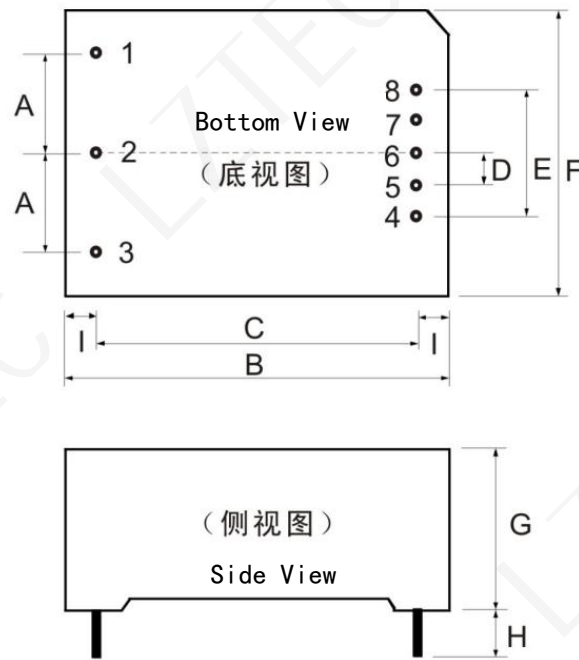
温度与负载关系图

Temperature vs. Load Correlation



Temperature

外观和尺寸 Mechanical Specifications

Unit: mm Tolerance: $\pm 0.5\text{mm}$

尺寸说明 Dimensions Note:

Mark	A	B	C	D	E	F	G	H
Dimensions	17.5	55	47	5	20	45	21	4

引脚定义 Pin Definition:

Pin	1	2	3	4	5	6	7	8
LHE10-20B	AC(L)	AC(N)	NC	-Vo	NP	NP	NP	+Vo
LHE10-20A	AC(L)	AC(N)	NC	-Vo	NP	COM	NP	+Vo
LHE10-20D	AC(L)	AC(N)	NC	-Vo1	+Vo1	NC	-Vo2	+Vo2
LHE10-20C	AC(L)	AC(N)	NC	-Vo1	+Vo1	-Vo2	COM	+Vo2

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