

大功率无感模块电阻 High-power non-inductive module resistor

HPK600-D01型 / HPK600-D01 series

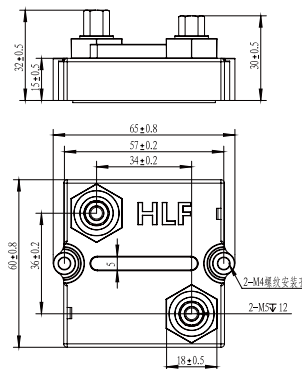
应用 Application

—— HPK600型通用大功率电阻器（厚膜，无感设计）。可应用于发电、特高压直流输电、变频器变速驱动、电力机车，船舶驱动等电气设备领域。

HPK600 type universal high-power resistor (thick film, non-inductive design). It can be applied to electric power generation, ultra-high voltage direct current transmission, variable frequency drive systems, electric locomotives, ship drives, and other electrical equipment fields.

产品特点 Product features

- 底板中心温度 $\leq 85^{\circ}\text{C}$ 时，额定功率600W
- When the temperature at the center of the base plate is $\leq 85^{\circ}\text{C}$, the rated power is 600W
- 特殊设计的外型结构，芯片固定与内壳内，并用高耐压硅橡胶灌封，内壳和外壳之间用弹簧联接，外壳用两个M4螺丝固定安装在散热器表面，能保证散热片附着压力在120N到160N之间。
- The specially designed external structure features a chip fixed inside the inner shell, which is encapsulated with high-voltage-resistant silicone rubber. The inner shell and outer shell are connected by springs, and the outer shell is fixed to the surface of the heat sink with two M4 screws, ensuring that the attachment pressure of the heat sink is between 120N and 160N.
- 原材料通过了UL94-V0
- The raw material has passed UL94-V0 certification



外型尺寸图
Outline drawing

订货示例 Order Example

—— 型号-阻值-精度-引出端结构-引出端螺母
Model - Resistance - Accuracy - Terminal Structure - Terminal Nut
HPK600-440R-2%-(1/2)-M5

电气规格 Electrical specifications

阻值范围 Resistance range: 0.50~1M Ω
阻值精度 Resistance accuracy: $\pm 2\%$ (G), $\pm 3\%$ (F), $\pm 5\%$ (J), $\pm 10\%$ (K)
温度系数 Temperature coefficient: $\pm 150\text{ppm}/^{\circ}\text{C}$ ($25^{\circ}\text{C}\sim 105^{\circ}\text{C}$)，其它温度系数要求可协商订货
soil 150ppm/ $^{\circ}\text{C}$ ($25^{\circ}\text{C}\sim 105^{\circ}\text{C}$), other temperature coefficient requirements can be negotiated during ordering
额定功率 Rated power: 85°C 额定功率600W，最大工作电压不超过5,000VDC。
600W at 85°C , with a maximum operating voltage not exceeding 5,000VDC.
短时间过负荷 Short-term overload: 1000W, 70°C , 10秒, $\text{AR} \leq \pm (0.4\%R + 0.001\Omega)$ 。
1000W, 70°C , 10 seconds, $\text{AR} \leq \pm (0.4\%R + 0.001\Omega)$..
峰值电流 Peak current: 在低阻值和窄脉冲条件下，最高可达1500Amp。
Under low resistance and narrow pulse conditions, it can reach up to 1500Amp.
绝缘层耐压 Insulation withstand voltage: 6KVrms, 50Hz, 1min, 根据要求最高可达12KVrms, 1min.
up to 12KVrms, 1min upon request.
局部放电 Partial discharge: 4KVrms, <10pC; 根据要求最高可达7KVrms<10pC. up to 7KVrms <10pC upon request.
绝缘阻值 Insulation resistance: 500V, 最小10G Ω 。
爬电距离 Creepage distance: 最小42mm
空间距离 Spatial distance: 最小14mm
电感 Inductance: $\leq 80\text{nH}$
分布电容 Distributed capacitance (Mass) : $\leq 110\text{pF}$
分布电容 Distributed capacitance (Parallel) : $\leq 40\text{pF}$
耐湿特性 Moisture resistance: 56天/ 40°C , RH $\geq 95\%$, $\text{AR} \leq \pm (0.25\%R + 0.001\Omega)$ 。56 days/ 40°C , RH $\geq 95\%$, $\text{AR} \leq \pm (0.25\%R + 0.001\Omega)$ 。
温度循环 Temperature cycling: $-55^{\circ}\text{C}/+125^{\circ}\text{C}$ (各0.5h)，5个周期, $\text{AR} \leq \pm (0.2\%R + 0.001\Omega)$ 。
 $-55^{\circ}\text{C}/+125^{\circ}\text{C}$ (each for 0.5h), 5 cycles, $\text{AR} \leq \pm (0.2\%R + 0.001\Omega)$ 。
高频振动 High-frequency vibration: MIL-Std-202, 方法204, 条件D, $\text{AR} \leq \pm (0.2\%R + 0.001\Omega)$ 。
MIL-Std-202, Method 204, Condition D, $\text{AR} \leq \pm (0.2\%R + 0.001\Omega)$ 。
功率耐久性 Power durability: 额定功率1,000h, 底板温度 85°C , $\text{AR} \leq \pm (0.4\%R + 0.001\Omega)$ 。
rated power for 1,000 hours, base plate temperature at 85°C , $\text{AR} \leq \pm (0.4\%R + 0.001\Omega)$ 。
工作温度范围 Operating temperature range: $-55^{\circ}\text{C}\sim +155^{\circ}\text{C}$
引出端安装 Lead-out terminal installation: M5/M4螺丝, 最大扭矩2.0Nm。M5/M4 screws, with a maximum torque of 2.0 Nm.
工厂、型式试验 Factory and Type Test Report: Q/HLF02-2023

降功率曲线（热阻）
Power reduction curve
(thermal resistance):
5.71KW/K(0.18K/W)

