

新能源汽车用薄膜电容器

Film Capacitor For New Energy Vehicle



特点与用途

- 应用于直流滤波电路中;
- 等效串联电阻小, 能承受较大的纹波电流;
- 能承受高的峰值电流冲击;
- 自感小;
- 产品温度适用范围广, 寿命长;
- 采用耐高温聚丙烯安全薄膜设计, 自愈性强;
- 采用绝缘外壳, 导热性树脂灌封, 阻燃等级达到 UL94V-0级;
- 大功率电力电子设备作滤波或储能用;
- 交通工具, 如: 电动车和混合动力车;
- 焊接设备, 电梯, 电机驱动;
- 变速传动(驱动、牵引)。

Features & Applications

- Applicable to DC filter circuits.
- Low equivalent series resistance and able to withstand high ripple current.
- Able to withstand impacting of high-peak current.
- Low self-inductance.
- Suit for a wide range of application because of the product's temperature, long service life.
- High-temperature resistant metallized PP film, excellent self-healing performance.
- Insulated housing, potted with thermal conductive resin, the flame retardant level reaches UL94V-0.
- Applicable to high power electronic devices used as filtering or energy storage.
- Vehicles: eg. electromobile and hybrid power vehicle.
- Welding equipment, elevator, motor driving.
- Variable speed drive (drive and traction).



认证 Certification		
	中国 China	GB/T 17702-2013
	德国 Germany	IEC 61071:2007
AEC-Q200	美国 USA	AEC-Q200 REV D:2010

技术参数 Technical Parameter	
气候类别 Climatic Category	40/105/56
工作温度 Working Temperature	-40°C ~ +105°C (Under +85°C ~ +105°C, temperature increased by one degree, voltage reduced 1.35U _n) [θ _{max} (hotspot) ≤ +105°C]
存储温度 Storage Temperature	-40°C ~ +105°C
额定电压 Rated Voltage	400Vdc ~ 900Vdc
电容量范围 Range Of Capacitance	280 μF ~ 1800 μF
电容量允许偏差 Allowable Capacitance Deviation	±5%(J), ±10%(K)
极间测试电压 Voltage Test Between Terminals	1.5U _n (10s, 25°C ± 5°C)
极壳测试电压 Voltage Test Between Terminals And Case	3000Vac (60s, 50/60Hz, 25°C ± 5°C)
介质损耗角正切 Dielectric Dissipation Factor	2 × 10 ⁻⁴
过电压 Over-voltage	1.1U _n (30% of on-load-dur) 1.15U _n (30min/day) 1.2U _n (5min/day) 1.3U _n (1min/day) 1.5U _n (30ms every time, 1000times)
时间常数 Time Constant	≥ 10 000s (25°C ± 5°C, 500V)
等效串联电阻 Equivalent Series Resistance	0.1~1.0mΩ (10kHz)
自感 Self inductance	5nH ~ 40nH
最大纹波电流 Maximum Ripple Current	50A ~ 300A
最大峰值电流 Maximum Peak Current	2kA ~ 8kA
失效率 Loss Of Efficiency	50 FIT
最高使用海拔 Maximum Application Altitude	2000m
最高工作湿度 Maximum Working Humidity	65%, 93% RH
最大电极扭矩 Maximum Terminal Torque	4.5Nm
最大安装扭矩 Maximum Installation Torque	8.5Nm
灌封材料 Potting Material	导热性阻燃树脂 Thermal Conductive Resin
外壳材料 Material Of Case	PPS 根据用户要求定制
外形尺寸 Outline Dimension	According to customer's requests
预期寿命参考曲线参考YHK	Life expectancy reference curve refers to YHK



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特点与用途

- 采用耐高温聚丙烯薄膜介质, 加厚型金属化电极, 无感卷绕结构;
- 塑料外壳, 导热性环氧树脂封装;
- 产品体积小, 散热良好;
- 采用镀锡铜端子引出;
- 自感小、等效串联电阻低;
- 承受电流冲击能力强;
- 广泛应用于直流滤波电路中, 可代替电解电容器。
- 应用于电动车和混合动力车;
- 电机驱动、焊接设备、电梯。

Features & Applications

- High-temperature resistant PP film as dielectric, thickening metallized electrodes, no inductance winding structure.
- Plastic housing, potted with the thermally conductive epoxy resin.
- Small product size and excellent heat dissipation.
- Using tinned copper terminals as a lead.
- Low self-inductance and equivalent series resistance.
- Strong ability for withstanding impacting of current.
- Widely applicable to DC filter circuits and ideal to instead of electrolytic capacitor.
- Electromobile and hybrid power vehicle.
- Motor driving, welding equipment and elevator.



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技术参数 Technical Parameter	
气候类别 Climatic Category	40/85/56, 40/105/56
工作温度 Working Temperature	-40°C ~ +85°C/105°C (Under +85°C ~ +105°C, temperature increased by one degree, voltage reduced 1.35U _n) [θ _{max} (hotspot) ≤ +85°C/105°C]
存储温度 Storage Temperature	-40°C ~ +85°C/105°C
额定电压 Rated Voltage	600Vdc ~ 1500Vdc
电容量范围 Range Of Capacitance	35 μF ~ 600 μF
电容量允许偏差 Allowable Capacitance Deviation	±5%(J), ±10%(K)
极间测试电压 Voltage Test Between Terminals	1.5U _n (10s, 25°C ± 5°C)
极壳测试电压 Voltage Test Between Terminals And Case	4000Vac (60s, 50/60Hz, 25°C ± 5°C)
介质损耗角正切 Dielectric Dissipation Factor	2 × 10 ⁻⁴
过电压 Over-voltage	1.1U _n (30% of on-load-dur) 1.15U _n (30min/day) 1.2U _n (5min/day) 1.3U _n (1min/day) 1.5U _n (30ms every time, 1000times)
时间常数 Time Constant	≥ 5000s (100Vdc, 25°C ± 5°C)
最大电极扭矩 Maximum Terminal Torque	M5: 2.5Nm M8: 6.0Nm
最大安装扭矩 Maximum Installation Torque	3.0Nm
失效率 Loss Of Efficiency	100 FIT
预期寿命参考曲线 Life Expectancy Reference Curve	