

申格 电容

SH  NGE

外形图 Outline Drawing

干式直流滤波电容（定制品）

DC-Link Capacitor (Customized products)



应用

Applications

- ◆ 交通工具，如：电动车、混合动力汽车
- ◆ Transportation: EV or HEV

- ◆ 风能发电、太阳能发电用变频器上
- ◆ Used in inverters of wind power and solar power

- ◆ 焊接设备，电梯，电机驱动
- ◆ Welders, Elevators, Motor Driver systems



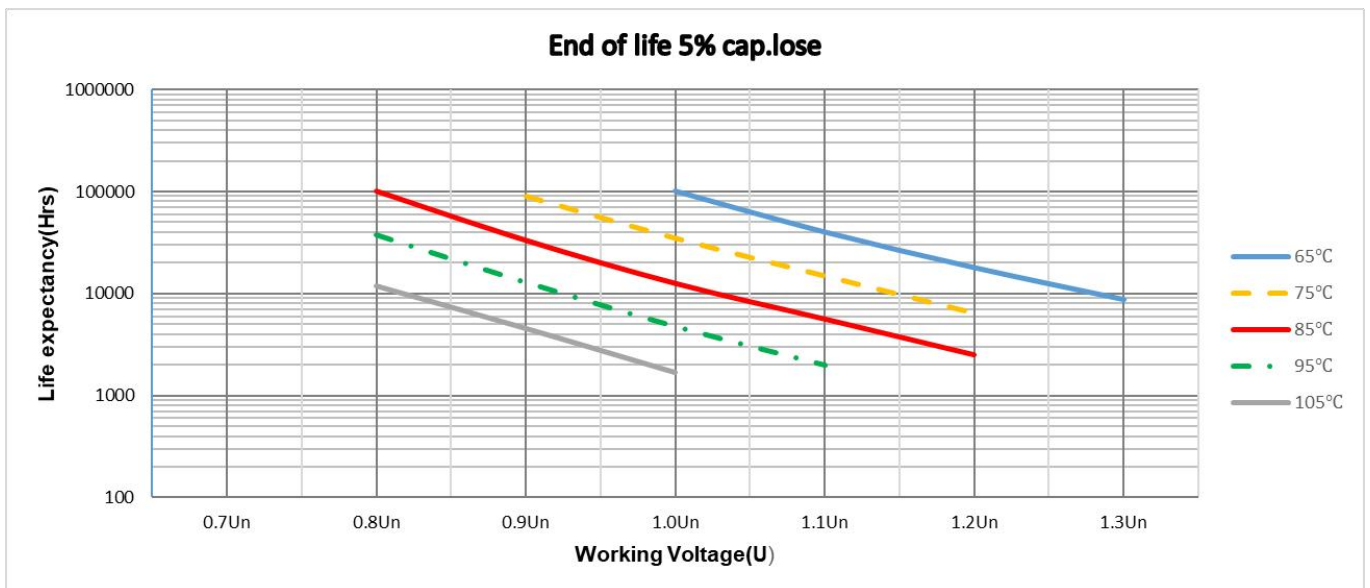
特征

Features

- ◆ 直流滤波电路中，可替代电解电容
- ◆ 低等效串联电阻，高纹波电流处理能力
- ◆ 低电感
- ◆ 寿命时间长
- ◆ 自愈特性
- ◆ 树脂灌封

- ◆ Used in DC-link circuits, can replace electrolytic capacitor
- ◆ Low ESR, high ripple current handling capabilities
- ◆ Low ESL
- ◆ Long Lifetime
- ◆ Self-healing property
- ◆ Filled with resin

预期寿命曲线图 Expected lifetime curve



新能源电容产品编码规则（18位）

The 18 digits part number is formed as follow.

型号代码：

Model type code:

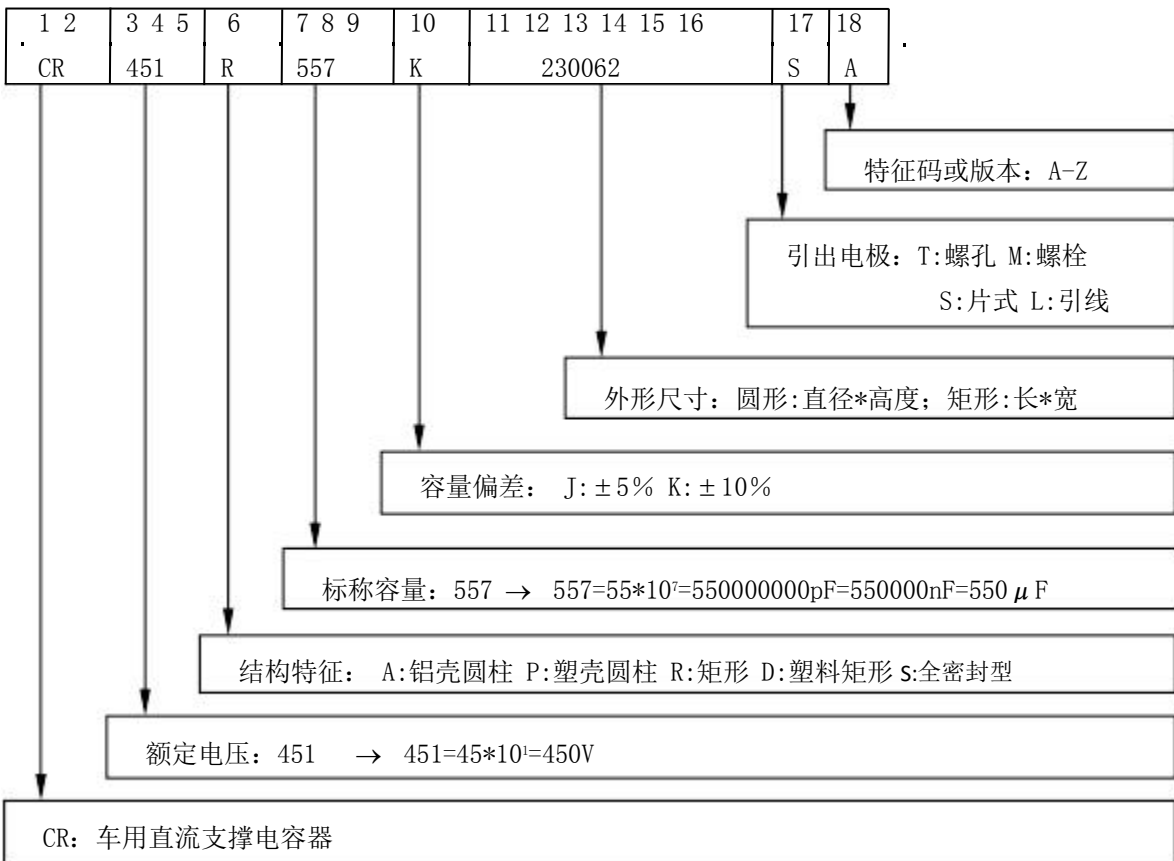
DL*** A: 铝壳圆形干式直流滤波电容器 (Dry-Typ, Aluminum case)

DL*** P: 塑壳圆形干式直流滤波电容器 (Dry-Typ, Plastic case)

DL*** R: 铝壳矩形干式直流滤波电容器 (Dry-Typ, Rectangular Aluminum case)

DL*** D: 塑壳矩形干式直流滤波电容器 (Dry-Typ, Rectangular Plastic case)

DL*** S: 全密封形干式电容器 (Dry-Typ, Sealing Type case)



范例： 车载直流支撑电容器 450V500 μF 10% 、片式
编码： CR451R557K230062S**



产品品号 Part number

CR901D108K230080**

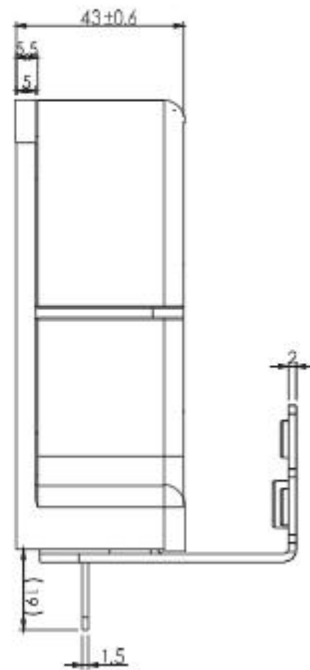
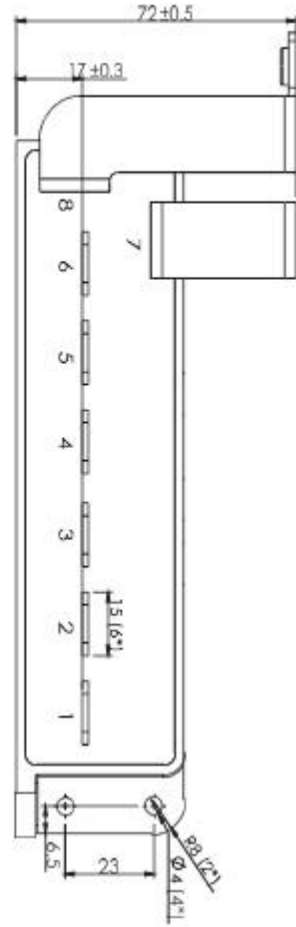
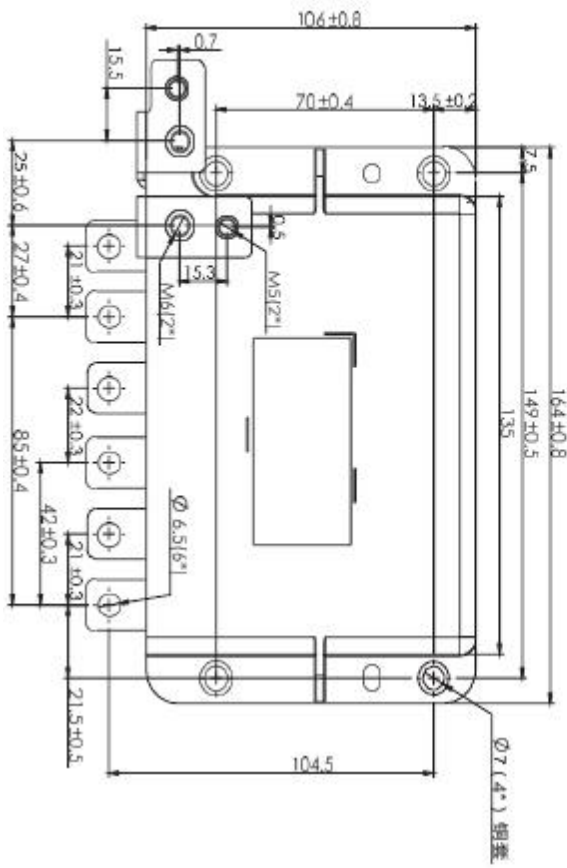
技术参数 Technical data

引用标准 Reference Standard	GB/T 17702(IEC 61071)、AEC Q200D-2010	
气候类别 Climatic Category	40/105/56	
工作温度范围 Operating Temperature Range	-40℃~105℃ $\theta_{hs} \leq 105^\circ\text{C}$	
储存温度范围 Storage Temperature Range	-40℃~105℃	
额定电压 (Un) Rated Voltage	900Vdc	
额定容量 (Cn) Reted Capacitance	1000 μF	
电容量允许偏 Capacitance Tolerance	$\pm 10\%$ (K)	
耐电压 Voltage Proof	极间 Between Terminals	1.5Un (10S, 20 $\pm 5^\circ\text{C}$)
	极壳 Between Terminals&Case	3KVac (10S, 50Hz, 20 $\pm 5^\circ\text{C}$)
介质损耗 $\text{tg } \delta_0$	0.0002	
IR×Cn	$\geq 10,000\text{S}$ (20℃, 100Vdc, 1min)	
等效串联电阻 ESR (10KHz)	0.2m Ω	
自感 Ls	15nH	
热阻 (热点到外壳) R _{thhc} (θ_{hs} to θ_{case})	1.2K/W	
最大纹波电流值 MAX. ripple I _{rms}	300A	
峰值电流 \hat{i}	8000A	
冲击峰值电流 \hat{i}_s	24000A	
冲击电压 U _s	1170Vdc	
爬电距离 Creepage distance	$\geq 5.5\text{mm}$	
电气距离 Clearance	$\geq 5.5\text{mm}$	
最大电极扭矩 Max Torque of terminals	5Nm	
预期寿命 Expected Lifetime	50,000 hours (Un, $\theta_{hs}=85^\circ\text{C}$)	15,000 hours (Un, $\theta_{hs}=105^\circ\text{C}$)
失效率 Failure rate	50FIT	
尺寸 Dimension (L*W*H)	220mm*145mm*80mm	
重量 Weight	$\approx 3\text{Kg}$	

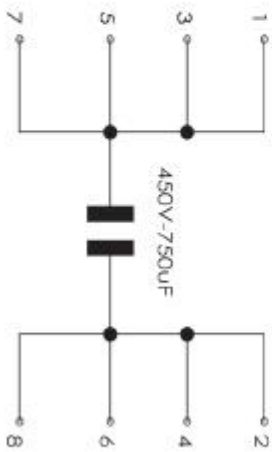
 θ_{case} : 外壳温度 Temperature of case

ESR : 电容内部串联电阻总和 The sum of all ohmic resistances occurring inside the capacitor

 θ_{hs} : $\theta_{case} + I_{rms} \times \text{ESR} \times R_{thhc}$ 



内部连接图



产品品号 Part number
DL501R857K203068S**

技术参数 Technical data

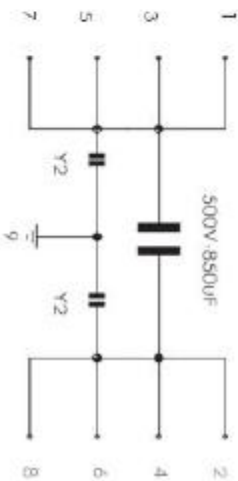
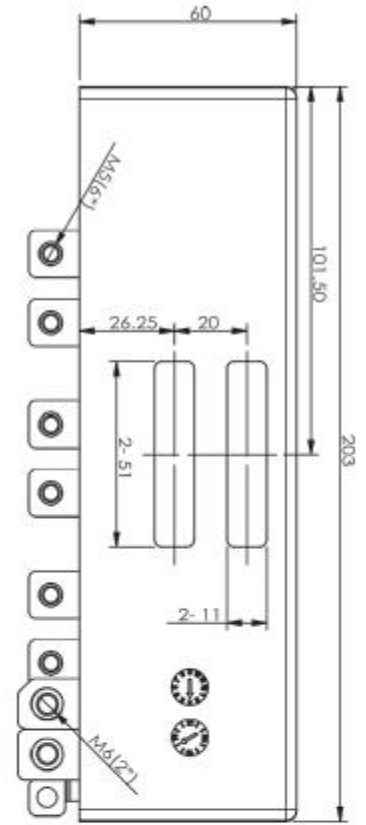
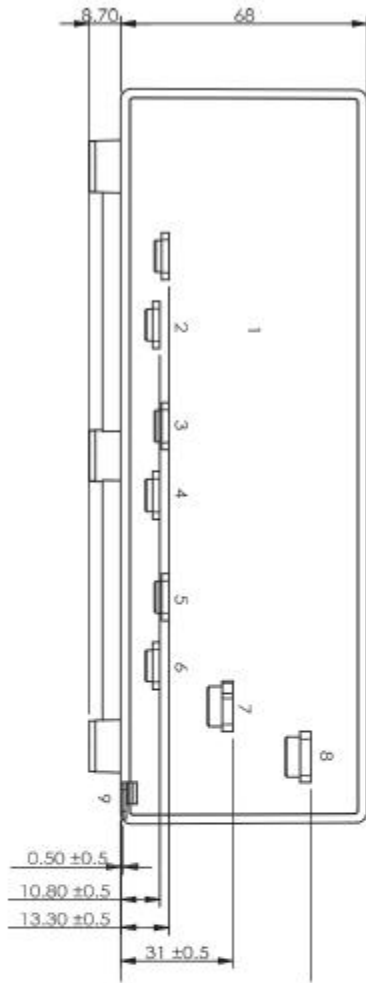
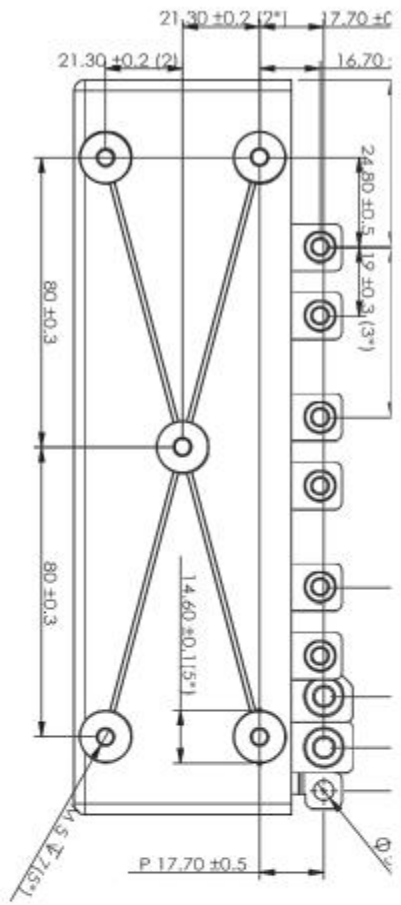
引用标准 Reference Standard	GB/T 17702 (IEC 61071)、AEC Q200D-2010	
气候类别 Climatic Category	40/105/56	
工作温度范围 Operating Temperature Range	-40℃~105℃ $\theta_{hs} \leq 105^\circ\text{C}$	
储存温度范围 Storage Temperature Range	-40℃~105℃	
额定电压 (Un) Rated Voltage	500Vdc	
额定容量 (Cn) Reted Capacitance	850 μF	
电容量允许偏差 Capacitance Tolerance	$\pm 10\%$ (K)	
耐电压 Voltage Proof	极间 Between Terminals	1.5Un (10S, 20 $\pm 5^\circ\text{C}$)
	极壳 Between Terminals&Case	3KVac (10S, 50Hz, 20 $\pm 5^\circ\text{C}$)
介质损耗 $\text{tg } \delta_0$	0.0002	
IR \times Cn	$\geq 10,000\text{S}$ (20℃, 100Vdc, 1min)	
等效串联电阻 ESR (10KHz)	0.51m Ω	
自感 Ls	$\leq 15\text{nH}$ @1MHz (measure at cebter of holes)	
热阻 (热点到外壳) R _{thhc} (θ_{hs} to θ_{case})	2.5K/W	
最大纹波电流值 Max. ripple I _{rms}	170A (Continuous @20KHz, $\theta_{cool} \leq 65^\circ\text{C}$, $\theta_{amb} \leq 65^\circ\text{C}$)	
峰值电流 \hat{I}	3,366A ($t \leq 10\mu\text{S}$, interval time $\geq 0.5\text{S}$)	
冲击峰值电流 \hat{I}_s	10,098A ($\leq 30\text{mS}$ every time, 1,000 times during lifetime)	
冲击电压 Us	667Vdc	
爬电距离 Creepage distance	$\geq 5.5\text{mm}$	
电气距离 Clearance	$\geq 5.5\text{mm}$	
预期寿命 Expected Lifetime	50,000 hours (Un, $\theta_{hs}=85^\circ\text{C}$)	15,000 hours (Un, $\theta_{hs}=105^\circ\text{C}$)
失效率 Failure rate	50FIT	
尺寸 Dimension (L*W*H)	203mm*68mm*60mm	
重量 Weight	$\approx 1.8\text{Kg}$	

θ_{case} : 外壳温度 Temperature of case.

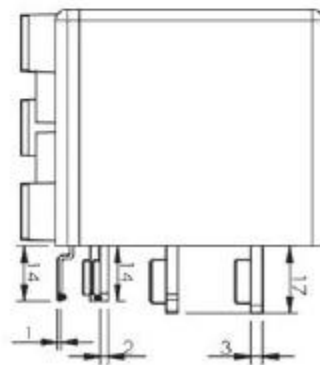
ESR : 电容内部串联电阻总和 The sum of all ohmic resistances occurring inside the capacitor.

θ_{hs} : $\theta_{case} + I_{rms}^2 \times ESR \times R_{thhc}$





内部连接图



产品品号 Part number
DL801R737K275072S**

技术参数 Technical data

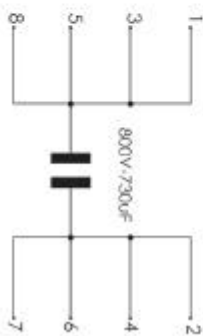
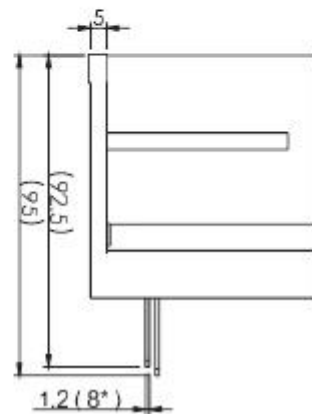
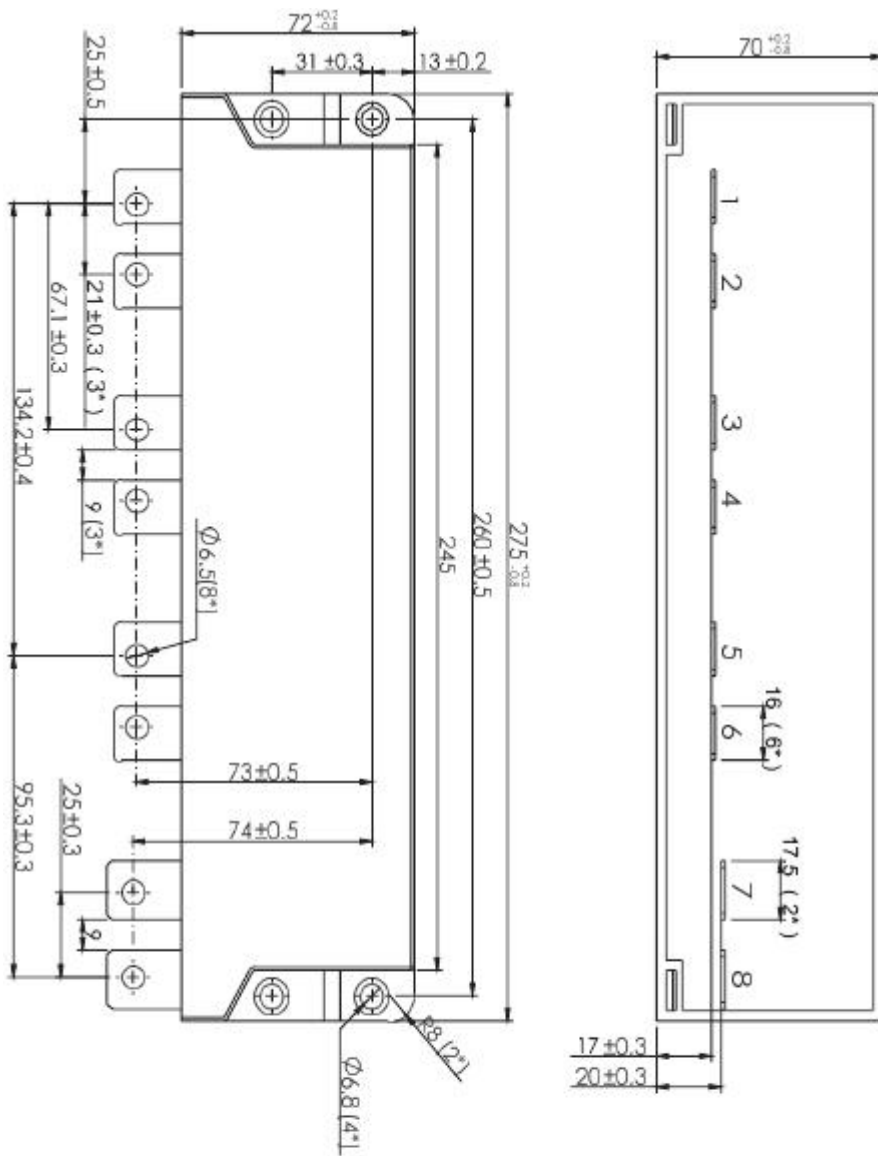
引用标准 Reference Standard	GB/T 17702(IEC 61071)、AEC Q200D-2010	
气候类别 Climatic Category	40/105/56	
工作温度范围 Operating Temperature Range	-40℃~105℃ $\theta_{hs} \leq 105^\circ\text{C}$	
储存温度范围 Storage Temperature Range	-40℃~105℃	
额定电压 (Un) Rated Voltage	800Vdc	
额定容量 (Cn) Reted Capacitance	730 μF	
电容量允许偏差 Capacitance Tolerance	$\pm 10\%$ (K)	
耐电压 Voltage Proof	极间 Between Terminals	1.5Un (10S, 20 $\pm 5^\circ\text{C}$)
	极壳 Between Terminals&Case	3KVac (10S, 50Hz, 20 $\pm 5^\circ\text{C}$)
介质损耗 $\text{tg } \delta_0$	0.0002	
IR \times Cn	$\geq 10,000\text{S}$ (20℃, 100Vdc, 1min)	
等效串联电阻 ESR (10KHz)	0.6m Ω	
自感 Ls	$\leq 25\text{nH}$ @1MHz(measure at cebter of holes)	
热阻 (热点到外壳) R _{thhc} (θ_{hs} to θ_{case})	1.6K/W	
最大纹波电流值 Max. ripple I _{rms}	150A (Continuous @20KHz, $\theta_{cool} \leq 85^\circ\text{C}$, $\theta_{amb} \leq 85^\circ\text{C}$)	
峰值电流 \hat{I}	5,000A ($t \leq 10\mu\text{S}$, interval time $\geq 1.2\text{S}$)	
冲击峰值电流 \hat{I}_s	15,000A ($\leq 30\text{mS}$ every time, 1,000 times during lifetime)	
冲击电压 U _s	1,067Vdc	
爬电距离 Creepage distance	$\geq 8.5\text{mm}$	
电气距离 Clearance	$\geq 8.5\text{mm}$	
预期寿命 Expected Lifetime	50,000 hours (Un, $\theta_{hs}=85^\circ\text{C}$)	15,000 hours (Un, $\theta_{hs}=105^\circ\text{C}$)
失效率 Failure rate	50FIT	
尺寸 Dimension (L*W*H)	275mm*72mm*70mm	
重量 Weight	$\approx 2.2\text{Kg}$	

θ_{case} : 外壳温度 Temperature of case.

ESR : 电容内部串联电阻总和 The sum of all ohmic resistances occurring inside the capacitor.

θ_{hs} : $\theta_{case} + I_{rms} \times \text{ESR} \times R_{thhc}$





内部连接图



