



公司简介

HC实业股份有限公司是专业从事薄膜电容器和薄膜电容器用金属化膜的开发与生产的一家合资企业。公司拥有当今世界一流的生产设备，公司创立于1996年4月，专业生产跨接及抑制干扰用HQX-X2系列安规电容器。20年来，公司按照ISO9001:2008标准建立质量保证体系和ISO14000:2000环境管理体系，X2类安规电容器通过了德国的VDE、美国的UL、中国的CQC等十国安全认证，HQF系启动电容通过了美国的UL、中国的CQC安全认证，年生产能力可达到5亿只，销往台湾、香港、欧美、日本等十几个国家和地区，产量位于同行前列。

为拓展企业经营绩效，提高产品开发效率，公司整合了上游电容产业链，成立了中丽精工电子材料有限公司，专业生产各类半导体、元器件的专用金属化薄膜及注塑，设备主要从德国进口，最小生产厚度可达1.5 μm，方阻值可达到1Ω/□，同时提供波浪分切状，串联，安全结构薄膜。

HC秉承“持续稳定的质量，不断研发的产品，准确及时的交货，有利竞争的成本”的企业经营理念，不断引进世界先进的自动化生产设备和检测仪器仪表，并不断加强内部管理，由于业务的扩张及需求公司先后在广东东莞、江苏昆山共设有四个制造工厂，并在香港、深圳、珠海、上海、厦门设有下属公司，其它各大城市均设有驻外营业课。

1996年 HC创始

1996 HC founded

1998年 通过ISO9002 品质认证

1998 Through ISO9002 quality certification

2001年 台湾、香港、上海、珠海、深圳 公司成立

2001 Taiwan, Hongkong, Shanghai, Zhuhai, Shenzhen

2003年 上海保税区仓库设立

2003 The establishment of Shanghai Free Trade Zone

2004年 昆山工业园区破土动工占地55800 m²

2004 Kunshan Hengchuang Industrial Park ground covers an area of 55800 square meters

2005年 昆山中丽精工电子材料公司成立。引进了德国莱宝应用材料蒸镀机

2005 Kunshan Li Li Seiko Electronic Materials Co., Ltd.. The introduction of Germany LEYBOLD applied materials evaporation

2007年 薄膜电容的年产能达到10亿只，华东市场的覆盖率达到40%

2007 Annual production capacity of film capacitors reached 1 billion, East China market coverage reached 40%

2009年 投资了全套HITACHI的注塑设备6台

2009 Invested a full set of HITACHI injection molding equipment 6 units

2012年 引进了第二台薄膜蒸镀机，使薄膜的年产量突破了1000吨

2012 The introduction of second thin-film evaporation machine, so that the annual output of the film exceeded 1000 tons

2015年 企划新能源电容项目

2015 New energy capacitor project

2016年 新能源公司在无锡落成

2016 New Energy Company completed in Wuxi

2017年 新能源电容获得各行业客户认可

2017 New energy capacity to obtain customer recognition of various industries

2018年 预期新能源工业电容厂区破土动工

2018 New energy industry is expected to break the capacitor factory

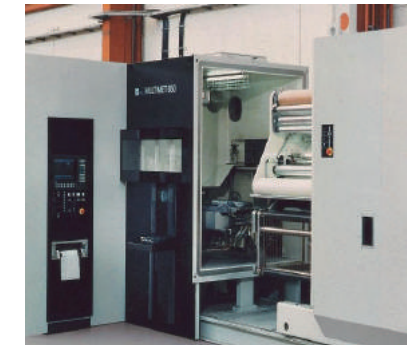
2020年 预期进军新能源行业5强

2020 Is expected to enter the new energy industry 5

2025年 成为行业领军企业

2025 To become the industry leader

工厂概况

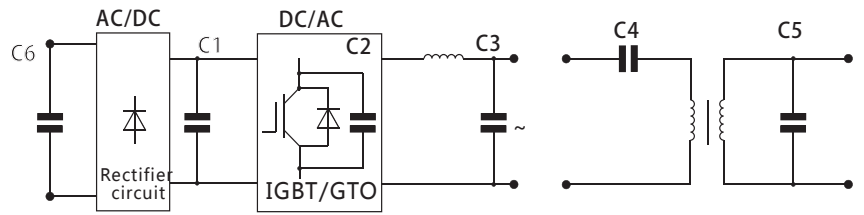


选型指南 Selection Guide

电容器选型指引 Guidelines for the selection of capacitors

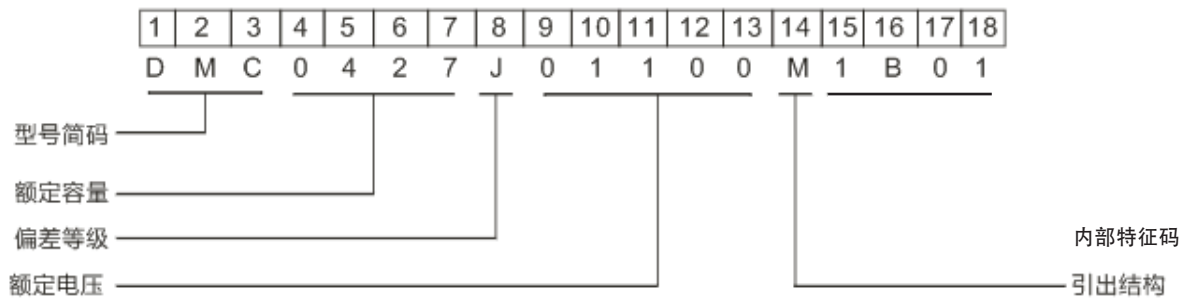
一. 应用说明 Application description

序号NO.	功能Function	对应类别
C1	直流滤波 DC-Filter	MKPD
C2	缓冲吸收Snubber	MKPS
C3	Lc谐振Resonant	MKPR
C4	隔直耦合Coupling	MKPD-MT
C5.C6	交流滤波AC-filter	MKPA



二. 物料号说明 Material number Description

编码总计由18位组成,编码信息包含:型号简码、容量(含偏差等级)、电压等级、产品外壳类型、卷绕结构、主体结构及产品特征代码。
The total encoding consists of 18 bits, encoding information includes: type of capacity (including brevity code, deviation level), voltage grade, shell type, winding structure, the main structure and characteristics of the product code.



第14位引出结构说明: M代表螺母, T代表螺杆, L代表插片, I代表镀锡铜线, S代表护套线, D代表非标定制引出。

常用标准术语 Terminologies

1. 额定容量 C_n Rated capacity C_n

设计电容器时所规定的电容量额定值。Nominal value of capacitance specified in the design of the capacitor.

2. 额定电压 U_n Rated voltage U_n

对应用IEC 60831-1/-2标准的电容器, 仅指设计电容器时规定的交流电压方均根值。

The application of IEC 60831-1/-2 standard capacitor, capacitor design regulations refer only to the AC voltage rms.

对应用IEC 61071标准的电容器, 可分为: For the application of IEC 61071 standard capacitor, can be divided into:

额定交流电压 U_{nac} : 设计电容器时所采用的反复型波形的任一极性的最高运行峰值周期电压。

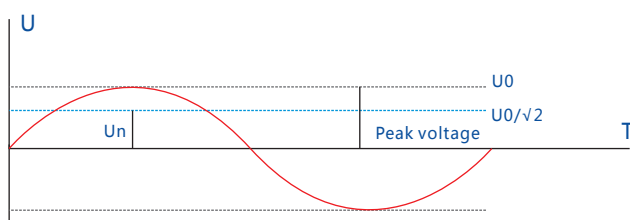
Rated AC voltage U_{nac} : the maximum operating peak period voltage of any polarity of the repetitive waveform used in the design of the capacitor.

额定直流电压 U_{ndc} : 设计电容器时所采用的非反复型波形的任一极性的可连续运行的最高运行峰值电压。其值应大于直流工作电压与纹波电压峰值之和。

The maximum operating peak voltage of a non repetitive waveform used in the design of a capacitor at rated DC voltage U_{ndc} . Its value should be greater than DC operating voltage and ripple voltage peak sum of values.

若仅采用交流额定电压或直流额定电压, 可直接用 U_n 来表示; 若同时采用这两种额定电压, 需要用 U_{nac} 与 U_{ndc} 加以区分。

If only the AC rated voltage or DC rated voltage can be directly used U_n to the table; if at the same time using these two rated voltage, need to use U_{nac} and U_{ndc} to distinguish.



3. 有效值电压 U_{rms} Effective value voltage U_{rms}

电容器在连续运行过程中允许出现的最大正弦交流电压的方均根值。The capacitor allows maximum sinusoidal AC voltage appearing in the process of continuous operation of the root mean square value.

4. 纹波电压 U_r Ripple voltage U_r

单向电压的峰到峰的交流分量。Peak to peak AC component.

5. 非周期冲击电压 U_s Non periodic impulse voltage U_s

由切换或系统中任何别的扰动所导致的峰值电压, 此电压只允许出现有限的次数, 且每次持续时间应比基本周期短。

The peak voltage caused by switching or any other disturbances in the system, this voltage only allows a limited number of times, and each duration should be shorter than the basic cycle.

6. 绝缘电压 U_i Insulation voltage U_i

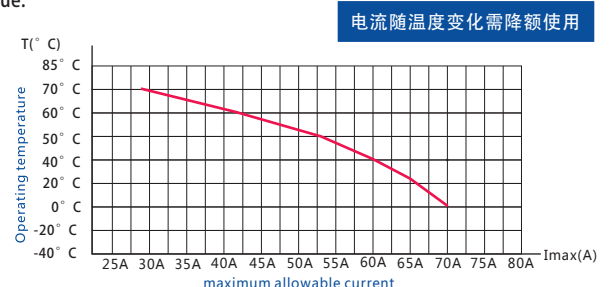
设计电容器时规定的电容器端子对外壳或对地交流电压的方均根值。若未作说明, 此绝缘电压等于额定电压除以根号2。

The capacitor terminal of the capacitor design provisions of the shell or AC voltage rms. If unspecified, the insulation voltage is equal to rated voltage divided by the square root of 2.

7. 最大电流 I_{max} Max current

连续运行时的最大电流的方均根值。

The maximum current continuous operation of the root mean square value.



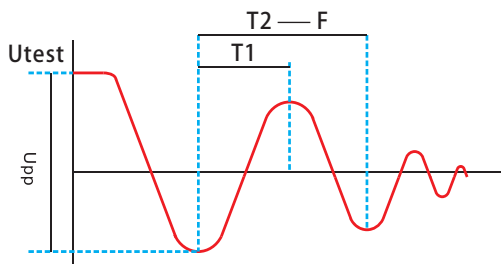
8.最大峰值电流 I_p Peak current

在连续运行中允许重复出现的最大的峰值电流。其数值为：
Maximum peak current allowed to occur in continuous operation.
Its numerical value is:

$$I_p = C_n \cdot (dv/dt)$$

其中 dv/dt 表示电压爬升速率，即在运行中允许重复出现的最大电压爬升速率，常用来代替 I_p 使用。

Dv/dt , which represents the voltage climbing rate, that is, in the operation of the maximum voltage to allow the maximum rate of climb, commonly used to replace the use of I_p .



9.最大冲击电流 I_s Maximum impact current

由切换或系统中任何别的扰动所导致的允许出现的峰值电流，此电流只允许出现有限的次数，且每次持续时间应比基本周期短。

The peak current, which is caused by the switch or any other disturbance in the system, allows for a limited number of times, and each time the duration should be shorter than the basic cycle.

10.串联电阻 R_s Series resistance

在规定的运行条件下，电容器的导体部分的等效电阻。串联电阻随温度升高而增大，其电阻温度系数为 0.004°C ，近似公式为：

Under specified conditions, the equivalent resistance of the conductor section of the capacitor is. The series resistance increases with the increase of temperature, and the temperature coefficient of resistance is 0.004°C :

$$R_s(T_2) = [1 + 0.004 \cdot (T_2 - T_1)] \cdot R_s(T_1)$$

11.等效串联电阻ESR Equivalent series resistance ESR

一个有效电阻，当它和所设计的电容器有相等电容值的理想电容器并联时，在规定的运行条件下，该电阻的损耗功率将等于该电容器中损耗的有功功率。

An effective resistance, when it is in parallel with the value of the capacitor with equal capacitance, Under the specified operating conditions, the loss power of the resistance will be equal to the active power loss of the capacitor.

12.介质损耗因素 $\tan \delta$ Dielectric loss factor

电容器的介质材料在额定频率下的损耗常数。聚丙烯薄膜的典型介质损耗因素 2×10^{-4} 。

Loss constant of dielectric material at rated frequency. The typical dielectric loss factor of polypropylene film 2×10^{-4} .

13.电容器损耗因素 $\tan \delta$ Capacitor loss factor

在规定频率的正弦波电压作用下，电容器的损耗功率除以电容器的无功功率，其值为等效串联电阻和容抗之比。

In the role of a prescribed frequency sine wave voltage, reactive power loss of power divided by the capacitor, the value of equivalent series resistance and capacitance ratio.

14.介质损耗功率 P_d Dielectric loss power

电容器的电介质由于极化或电导引起的损耗，其值为：

The dielectric loss due to polarization or electrical conductivity:

$$P_d = U_p \cdot U_p \cdot 3.14 \cdot f_0 \cdot C_n \cdot \tan \delta$$

直流电容器 DC capacitor: $U_p = U_r / 2$

交流电容器 AC capacitor: $U_p = \sqrt{2} U_{rms}$

GTO吸收电容器 Snubber: $U_p = U_{ndc} / 2$

f_0 : 施加在电容器上电压的基本频率

The fundamental frequency of the voltage applied to the capacitor.

C_n : 电容量 Capacitance

15.焦耳损耗功率 P_j Joule loss power

当电容器通过有效电流时，由于串联电阻 R_s 发热而引起的损耗，其值为：
 $P_j = I_{rms} \cdot I_{rms} \cdot R_s$

When the capacitor is passed through the effective current, the loss caused by the series resistance R_s is caused by the heat: $P_j = I_{rms} \cdot I_{rms} \cdot R_s$

16.电容器的损耗功率 P_t Power loss of capacitor

电容器所消耗的有功功率，由介质损耗与焦耳损耗组成，即
The active power consumed by the capacitor is composed of the dielectric loss and the Joule loss.

$$P_t = P_d + P_j = I_{rms} \cdot I_{rms} \cdot ESR$$

17.最大损耗功率 P_{max} Maximum power loss

在最高运行温度下电容器可以承载的最大损耗功率。

The maximum power loss can be carried by the capacitor at the highest operating temperature.

18.自感 L_s Stray inductance

电容器由于自身结构或组成的原因所表现出来的电感。

An inductance due to the cause of its own structure or composition.

19.谐振频率 f_r Resonant frequency

$$f_r = 1 / [2 \cdot \pi \cdot \sqrt{L_s \cdot C_n}]$$

20.额定频率 f_n Rated frequency

设计电容器时所规定的频率。

The frequency specified in the design of capacitors.

21.运行温度 θ_{case} The operating temperature

在电容器达到热平衡状态时的电介质最热点处温度。

When the capacitor reaches the thermal equilibrium state, the temperature of the dielectric is hot.

22.最高运行温度 θ_{max} Maximum operating temperature

电容器可以运行的最高外壳温度。

The maximum shell temperature that the capacitor can run.

23.最低运行温度 θ_{min} Minimum operating temperature

电容器可以运行的最低电介质温度。

Capacitor can run the lowest dielectric temperature.

24.冷却空气温度 θ_{amb} Cooling air temperature

在稳定状态条件下，在电容器组最热区域的两单元之间中途所测得的空气温度。如果仅涉及一单元。则指在离电容器外壳10CM且距其基底2/3高度处所测得的空气温度。

Under the steady state condition, the air temperature measured in the middle of the two unit of the hottest area of the capacitor group. If only one unit. Refers to the air temperature measured at the 10CM of the capacitor shell and the height of the base 2/3 of the capacitor.

25.外壳温升 $\Delta \theta_{case}$ Case temperature rise

外壳最热点温度和冷却空气温度之差。

The difference between the hot spot temperature of the shell and the temperature of the cooling air.

26.热阻 R_{th} Thermal resistance

热阻表征的电容器的发热功率每上升1瓦，电容器内最热点的温度在环境温度 θ_{amb} 的基础上升高的度数。

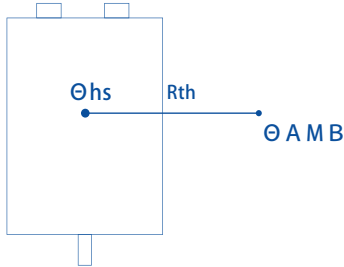
The heating power capacitor resistance characterization of each increase of 1 watt, a capacitor of the hottest temperature based on the ambient temperature on the degree of θ_{amb} .

R_{th} 由内部热点到外壳的热阻 R_{thhc} 与外壳到环境的热阻 R_{thca} 两部分组成。

R_{th} from the internal heat to the thermal resistance of the case and the shell to the environment of the thermal resistance R_{thca} two parts of the R_{thhc} .

27. 热点温度 θ_{hs} Hot spot temperature

电容器内部最热点处的温度。其值为：
Temperature of the hottest spot in capacitor. Its value is:
 $\theta_{hs} = \theta_{amb} + P_t * R_{th}$ 或者 (OR) $\theta_{hs} = \theta_{case} + P_t * R_{thhc}$



28. 容量温度系数 α Capacity temperature coefficient

电容器在规定的温度范围内容量随温度的变化率。通常以20°C时电容量为参考，用百万分之一每摄氏度 (10⁻⁶/°C) 表示。

The capacity of the capacitor in the specified temperature range with the change of temperature. Usually to 20 DEG C capacitance for reference, with each one in a million degrees Celsius (10⁻⁶/DEG C) said. (10⁻⁶/°C=1ppm/°C)

$$\alpha_i = (C_i - C_0) / [C_0 * (T_i - T_0)]$$

C_i: 电容器在温度T_i时的容量. Capacity of capacitors at temperature T_i.

C₀: 电容器在T₀(20±2) °C时的容量. Capacity of capacitors at T₀(20+2)°C

29. 气候类别 Climate category

电容器所属的气候类别用斜线分隔的三个数来表示

Said the three number is the capacitor with a slash separated climate category. (IEC60068-1: 如 40/85/56)

40: 下限类别温度 (-40°C) Lower class temperature

85: 上限类别温度 (+85°C) Upper class temperature

56: 稳态湿热实验的天数 (56天) The number of days of steady state damp heat test(56 days).

30. 绝缘电阻 (IR) / 时间常数 (t)

Insulation resistance (IR) / time constant (T)

绝缘电阻为电容器充电1分钟后所加的直流电压和流经电容器的漏电流值的比值，单位为MΩ。时间常数为绝缘电阻和电容量的乘积，通常以秒表示，

$$t[s] = IR[M\Omega] * C_n[\mu F]$$

The insulation resistance is the ratio of the DC voltage and the leakage current of the capacitor after charging for 1 minutes. The unit is M. The time constant is the product of the insulation resistance and capacitance, which is usually expressed in seconds, and the formula is as follows

$$t[s] = IR[M\Omega] * C_n[\mu F]$$

一般情况下，绝缘电阻用于描述小容量电容器的绝缘特性，时间常数用于描述大容量 (如: C_n>0.33 μF) 电容器的绝缘特性。

In general, the insulation resistance is used to describe the insulation characteristics of the small capacity capacitor, and the time constant is used to describe the insulation characteristics of large capacity

(e.g. C_n>0.33 F) capacitors.

31. 自愈性 (仅对金属化膜电容器)

Self healing (only for metal film capacitors)

电容器的电特性在发生局部电介质击穿后，迅速而基本的恢复到击穿前的值的过程。金属化膜的金属镀层，是通过真空蒸发的方法将金属沉积在薄膜上，厚度只有几十个纳米，当介质上存在弱点、杂质时，局部电击穿就可能发生，电击穿处的电弧放电所产生的能量足以使电击穿点邻近处的金属镀层蒸发，使击穿点与周围极板隔开，电容器电气性能即可恢复正常。

The electrical characteristics of the capacitor are rapidly and basically restored to the value of the breakdown prior to the occurrence of local dielectric breakdown. The metal coating metallized film, by vacuum evaporation of metal deposited on the film, the thickness of only a few tens of nanometers, when there are weaknesses, impurity medium, local breakdown may occur, the metal coating evaporation arc discharge breakdown of the energy generated by the electric breakdown point near enough to make. To separate the breakdown point and the surrounding plate capacitor electrical properties can be restored to normal.

32. 失效率 λ failure rate

表示元件在单位时间内发生失效的概率，数值上等于单位时间内失效的元件数与元件总数的比值。

其单位为FIT(也写成Fit或fit), 1FIT=1/(10⁹小时)。

举例：10000只元件在给定条件下工作10000小时出现了10只失效，则 $\lambda = 10 / (10000 * 10000) = 100FIT$ 。

The probability of failure of a component in a unit time is equal to the ratio of the number of components and the total number of components per unit time. Its units are FIT (also written as Fit or fit), 1FIT=1/(10⁹ hours). For example: 10000 components in a given condition 10000 hours of work appeared 10 failure, $\lambda = 10 / (10000 * 10000) = 100FIT$.

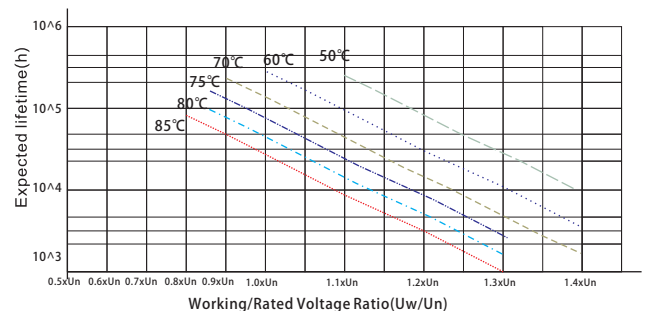
33. 电容器的预期寿命 Expected life of capacitor

薄膜电容器的选用取决于施加的最高电压，并受施加的电压电容器的预期寿命与电容器的运行电压及热点温度有关。对于应用在不同场合的电容器它们的设计寿命是不同的。一般而言，应用在直流滤波电路中的电容器，在额定电压及热点温度为70°C的应用条件下，它们的预期寿命可以达到100000小时。

The selection of the film capacitor depends on the maximum applied voltage, and the expected life of the applied voltage capacitor is related to the operating voltage and the hot spot temperature of the capacitor. Their design life is different for capacitors used on different occasions. In general, the application of capacitors in the DC filter circuit, in the rated voltage and hot temperature of 70 degrees Celsius application conditions, their life expectancy can be reached 100000 hours.

电容器的预期寿命是一个基于实践经验和理论计算的统计学数值。以下图片是电容器的预期寿命与运行电压及热点温度之间特性曲线，仅作为理论参考。对于工作条件与额定条件有差别的情况，可以联系我司的技术工程师。

The expected life of the capacitor is a statistical numerical value based on practical experience and theoretical calculation. The following picture is a characteristic curve between the expected life of the capacitor and the operating voltage and the hot spot temperature. For the conditions of work conditions and the difference of the situation, you can contact our technical engineer.



过电压 Over Voltage	1.1Un(30% of on-load-dur.)	系统调整 System adjustment
	1.15Un(30min/day)	
	1.2Un(5min/day)	
	1.3Un(1min/day)	系统切换 System Switch
1.5Un(100ms every time, 1000times during the lifetime)		



MKPD-AP



MKPD-MC



MKPD-PS



MKPD-MS



MKPD-MT



MKPS-TE



MKPS-P



MKPS-TC



MKPR-MT



MKPR-PC/PS



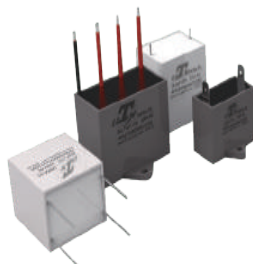
MKPA-MC



MKPA-MC



MKPA-MT



MKPA-PS



MKPA-S



MKPA-MO

MKPD-AP

直流母线电容



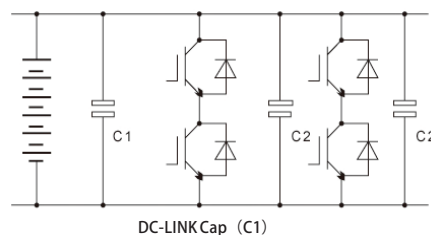
应用 / Application

- 针对节能环保新能源汽车配套的HEV/EV电驱控制器，为不同功率等级电驱提供解决方案；
- 广泛应用于DC-LINK电路中，作直流滤波储能。
- For energy saving and environmental protection of new energy vehicles supporting the HEV/EV electric drive controller for different power levels of electric drive to provide solutions.
- Widely used in DC-LINK circuit for DC filter energy storage.

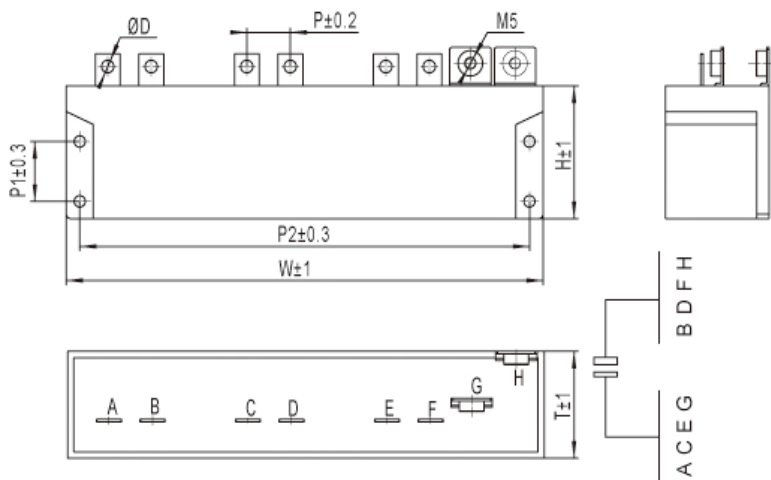
产品特点 / Introduction

- 采用特殊结构材料设计，自愈性好，低损耗角，低等效串联电阻，低温升；
- 叠式母排引出，低杂散电感，广泛应用于IGBT直联式安装；
- 高温高导材料灌注，在高温高湿复杂的应用环境下，可长期稳定工作。
- Special structure material design, self healing, low loss angle, low equivalent series resistance, low temperature rise;
- Stack type bus leads to low inductance, are widely used in the IGBT style, direct mounting;
- High temperature and high injection plastic perfusion, can long life work in high temperature and high humidity complex application environment.

典型应用电路 / Typical Circuit



外形图 / Outline Drawing



定制品说明

● 由于客户实际使用环境的不同，与设计布局的迥异。我们将根据客户提供的信息，最大合理化提供电容器设计方案。所以请务必给我们提供与电容相关的电气特性、机械配合信息，并与我们的设计人员密切保持沟通；我们将在第一时间为您拟定方案、制作技术规格书。

Because of the actual use of the environment, and the different design layout. According to the information provided by our customers, we will provide the most reasonable design scheme for the capacitor. So please be sure to provide us with the electrical characteristics of the electrical characteristics, machinery with information, and to maintain close communication with our designers; We will draw up a plan for you in the first time, the technical specification.

技术参数 / Technical Data

执行标准 Implemented standard	IEC61071、AEC Q200D
气候等级 Climatic Category	40/105/21
额定电压 (Un) Rated Voltage	200V.DC~1200V.DC
容量范围 (Cn) Capacitance range	200 μ F~2000 μ F
电驱功率范围 (KW) Electric Drive Power Range	10KW~300KW
容量偏差 Capacitance tolerance	$\pm 5\%$ (J)、 $\pm 10\%$ (K)
耐压 Withstand voltage	
极间 between terminals	1.5Un(VDC)/60S
极壳 between terminals and case	3000V.AC/50Hz, 10S
绝缘电阻 Insulation resistance	RixCn \geq 10000S(100VDC,60S@ 20°C)



DC-LINK CAPACITOR

MKPD-AP

直流母线电容

铜插片引出，安装简单方便

Plastic package, sealed with epoxy resin;

Copper leads, easy installation

耐压高，具有自愈性

Resistance to high voltage, with self-healing

自感 (ESL) 低，能有效降低反向电压

Low ESR, can effectively reduce the reverse voltage

容量大，体积小

Large capacity, small size

等效串联电阻小，能承受大的纹波电流

Low ESR, high ripple current handling capabilities



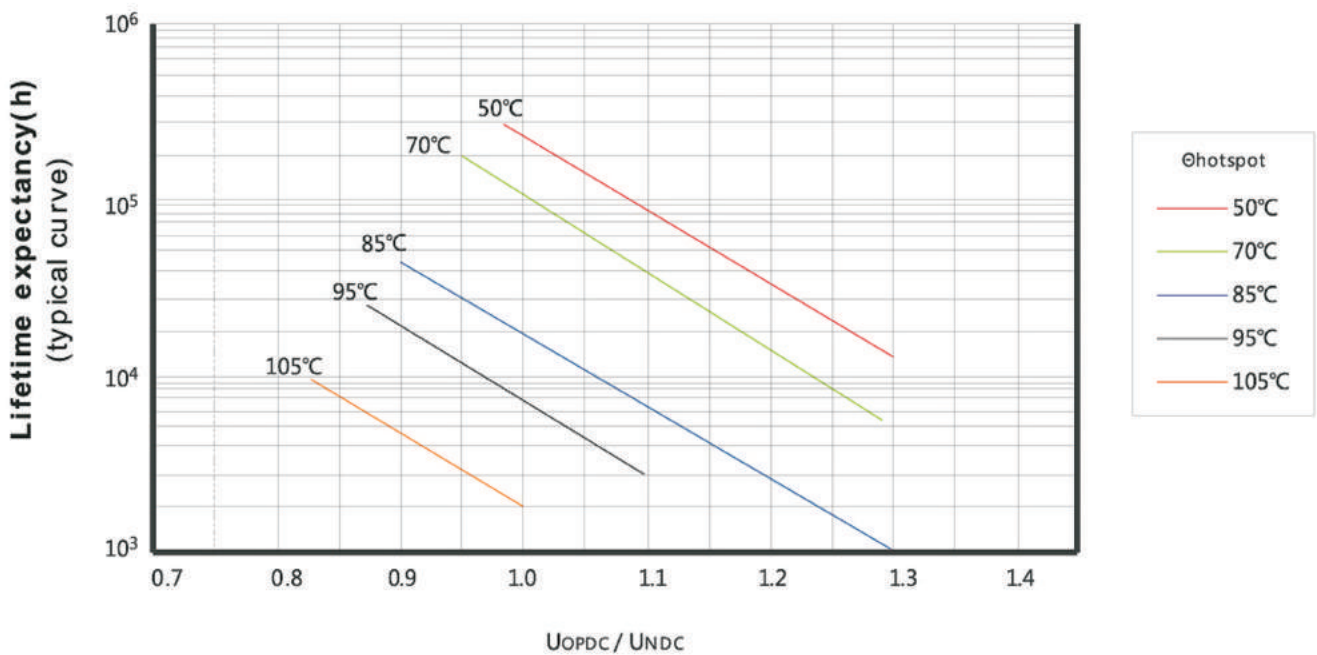
应用

- 广泛应用于电动车和混合动力汽车。

Application

- Widely used in EV and HEV.

预期寿命曲线图 Life expectancy in the graph



MKPD-MC

直流母线电容



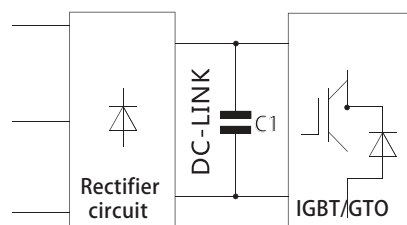
应用 / Application

- 广泛应用于DC-LINK电路中，作滤波储能用；
 - 能替代电解电容，性能更优，寿命更长；
 - 风能发电，光伏发电用逆变器；各种变频器；电动汽车及混合动力车；SVG、电焊机、电源设备。
- Widely used in DC-LINK circuit for filtering energy storage;
 - Can replace electrolytic capacitors,better performance and longer life;
 - Wind power,photovoltaic power inverter;electric vehcles and hybrid vehicles;SVG,welding equipment,power supplies equipment,for the DC link filter.

产品特点 / Introduction

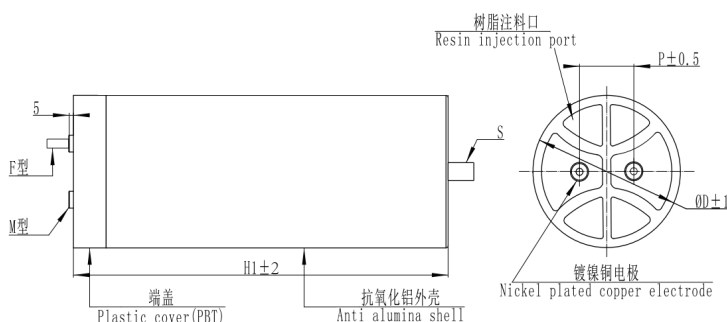
- 铝外壳封装，高温高导填充料注塑；
 - 铜螺母、铜螺杆引出，安装简单方便，阻燃定位盖绝缘；
 - 容值高，体积小，耐压高，自愈性强；
 - 大纹波电流，大DV/DT承受力。
- Aluminum housing package,high temperature and high conductive filler injection molding;
 - Copper nut,copper screw extraction,installation is simple and convenient,flame retardant positioning cover insulation;
 - High capacitance,small size,high pressure level,self healing;
 - Large ripple current,DV/DT bearing capacity.

典型应用电路 / Typical Circuit



外形图 / Outline Drawing

◆外形尺寸Outline dimension	Unit:mm					
ΦD	76	86	86	96	116	136
P	32	32	45	45	50	50
S	M12*16	M12*16	M12*16	M12*16	M16*25	M16*25
M螺母	M6*10	M6*10	M6*10	M6*10	M6*10	M6*10
F螺杆	M8*20	M8*20	M8*20	M8*20	M8*20	M8*20



技术参数 / Technical Data

执行标准Implemented standard	GB/T 17702、IEC61071
气候等级Climatic category	40/85/21
额定电压 (Un)Rated Voltage	450V.DC~4000V.DC
容量范围 (Cn)Capacitance range	10 μF~8800 μF
容量偏差Capacitance tolerance	±5%(J)、±10%(K)
耐电压Withstand voltage	
极间 between terminals	1.5Un(VDC)/60S
极壳 between terminals and case	2Ui+1000V.AC60S
绝缘电阻 Insulation resistence	RixCn ≥ 10000S(100VDC,10S@50Hz)

常用规格 / Dimension

Un 450V.DC													
Cn (μF)	φD (mm±1)	H (mm±2)	ESL (nH)	dv/dt (V/μS)	Ip(KA)	Is(KA)	Irms(A)	ESR (mΩ) @1KHz	Rth (K/W)	P (mm)	weight (Kg)	Part number	
380	76	75	50	10	3.8	11.4	45	2.2	4.5	32	0.5	DMC0387K00450*****	
500	76	100	40	8	4.0	12.0	65	1.5	3.2	32	0.6	DMC0507K00450*****	
750	76	130	50	5	3.8	11.3	65	1.6	3.0	32	0.75	DMC0757K00450*****	
1000	86	130	50	5	5.0	15.0	70	1.5	2.7	32	1.1	DMC108K00450*****	
650	86	100	40	5	3.3	9.8	75	1.2	3.0	32	0.9	DMC0657K00450*****	
1250	96	130	50	4	5.0	15.0	80	1	3.1	45	1.2	DMC1258K00450*****	
1800	116	130	50	4	7.2	21.6	85	0.8	3.5	50	1.6	DMC0188K00450*****	
1450	86	190	60	4	5.8	17.4	90	0.9	2.7	32	1.55	DMC1458K00450*****	
2700	116	190	60	3	8.1	24.3	100	0.8	2.5	50	2.45	DMC0278K00450*****	



MKPD-MC

直流母线电容

常用规格 / Dimension

Un 600V.DC												
Cn (μF)	φD (mm±1)	H (mm±2)	ESL (nH)	dv/dt (V/μS)	Ip(KA)	Is(KA)	Irms(A)	ESR (mΩ) @1KHz	Rth (K/W)	P (mm)	weight (Kg)	Part number
250	76	75	40	15	3.8	11.3	40	3.1	4.0	32	0.5	DMC0257K00600****
320	76	100	45	10	3.2	9.6	40	2.2	5.7	32	0.6	DMC0327K00600****
470	76	130	50	12	5.6	16.9	60	1.8	3.1	32	0.75	DMC0477K00600****
330	86	75	40	15	5.0	14.9	45	2.4	4.1	32	0.8	DMC0337K00600****
600	86	120	45	12	7.2	21.6	60	1.3	4.3	32	1.05	DMC0607K00600****
650	86	130	50	12	7.8	23.4	70	1.2	3.4	32	1.1	DMC0657K00600****
650	86	95	45	15	9.8	29.3	65	1.2	3.9	32	0.85	DMC0657K00600****
1000	86	180	50	8	8	32.0	70	1.5	2.7	32	1.5	DMC0108K00600****
420	96	75	45	15	6.3	18.9	50	2	4.0	45	0.75	DMC0427K00600****
800	96	130	50	12	9.6	28.8	75	1.5	2.4	45	1.2	DMC0807K00600****
950	116	100	45	10	9.5	28.5	90	1.2	2.1	50	1.25	DMC0957K00600****
1200	116	130	50	8	9.6	28.8	80	1.2	2.6	50	1.6	DMC0128K00600****
1800	116	180	80	8	14.4	43.2	80	1.2	2.6	50	2.4	DMC0188K00600****
2700	116	260	80	5	13.5	40.5	100	0.9	2.2	50	3.2	DMC0278K00600****
2500	136	180	60	5	12.5	37.5	100	0.8	2.5	50	3.7	DMC0258K00600****
3750	136	260	80	4	15.0	45.0	115	0.7	2.2	50	4.7	DMC3758K00600****
Un 700V.DC												
Cn (μF)	φD (mm±1)	H (mm±2)	ESL (nH)	dv/dt (V/μS)	Ip(KA)	Is(KA)	Irms(A)	ESR (mΩ) @1KHz	Rth (K/W)	P (mm)	weight (Kg)	Part number
200	76	75	40	15	3.0	9.0	40	4	3.1	32	0.5	DMC0207K00700****
400	76	130	45	15	6.0	18.0	60	2	2.8	32	0.75	DMC0407K00700****
420	76	130	50	15	6.3	18.9	60	2	2.8	32	0.75	DMC0427K00700****
600	86	125	50	15	9.0	27.0	45	3.2	3.1	32	1.05	DMC0607K00700****
550	86	130	50	12	6.6	19.8	65	1.8	2.6	32	1.1	DMC0557K00700****
680	96	130	45	12	8.2	24.5	75	1.5	2.4	45	1.2	DMC0687K00700****
720	96	125	45	12	8.6	25.9	55	2.6	2.5	45	1.15	DMC0727K00700****
1000	116	130	50	10	10.0	30.0	80	1	3.1	50	1.6	DMC0108K00700****
1000	96	180	60	10	10.0	30.0	75	1.2	3.0	45	1.6	DMC0108K00700****
1500	116	180	60	7	10.5	31.5	85	0.9	3.1	50	2.4	DMC0158K00700****
2000	116	230	70	7	14.0	42.0	85	0.8	3.5	50	3	DMC0208K00700****
2000	136	180	60	7	14.0	42.0	90	0.75	3.3	50	3.7	DMC0208K00700****
3000	136	230	70	5	15.0	45.0	100	0.7	2.9	50	4.2	DMC0308K00700****
3300	136	260	70	5	16.5	49.5	120	0.6	2.3	50	4.7	DMC0338K00700****
Un 800V.DC												
Cn (μF)	φD (mm±1)	H (mm±2)	ESL (nH)	dv/dt (V/μS)	Ip(KA)	Is(KA)	Irms(A)	ESR (mΩ) @1KHz	Rth (K/W)	P (mm)	weight (Kg)	Part number
110	86	80	45	20	2.2	6.6	75	2	1.8	32	0.8	DMC0117K00800****
150	86	95	45	20	3.0	9.0	80	1.5	2.1	32	0.85	DMC0157K00800****
250	86	75	45	15	3.8	11.3	45	3.1	3.2	32	0.8	DMC0257K00800****
360	86	130	55	12	4.3	13.0	65	2.2	2.2	32	1.1	DMC0367K00800****
470	86	130	45	12	5.6	16.9	70	2.8	1.5	32	1.1	DMC0477K00800****
600	96	130	55	10	6.0	18.0	75	2.2	1.6	45	1.2	DMC0607K00800****
730	86	180	60	10	7.3	21.9	75	1.8	2.3	32	1.5	DMC0737K00800****
750	86	180	60	12	9.0	27.0	75	1.8	2.0	32	1.5	DMC0757K00800****
1000	96	180	60	10	10.0	30.0	75	1.3	2.7	45	1.6	DMC0108K00800****
900	116	130	55	8	7.2	21.6	80	1.4	2.2	50	1.6	DMC0907K00800****
1400	116	180	65	7	9.8	29.4	80	0.9	3.5	50	2.4	DMC0148K00800****
1000	116	125	50	7	7.0	21.0	70	1.4	2.9	50	1.55	DMC0108K00800****
2000	116	230	70	5	10.0	30.0	85	0.9	3.1	50	3	DMC0208K00800****
2800	136	230	70	5	14.0	42.0	100	0.8	2.5	50	4.2	DMC0288K00800****



MKPD-MC

直流母线电容

常用规格 / Dimension

Un 900V.DC												
Cn (μ F)	φ D (mm \pm 1)	H (mm \pm 2)	ESL (nH)	dv/dt (V/ μ S)	Ip(KA)	Is(KA)	Irms(A)	ESR (m Ω) @1KHz	Rth (K/W)	P (mm)	weight (Kg)	Part number
160	76	75	40	15	3.0	9.0	35	3	5.4	32	0.5	DMC0167K00900****
320	76	130	50	15	5.0	14.9	60	3.2	1.7	32	0.75	DMC0327K00900****
350	76	125	50	15	5.0	15.0	40	2.8	4.5	32	0.75	DMC0357K00900****
210	86	75	40	15	3.2	9.5	40	2.2	5.7	32	0.8	DMC0217K00900****
450	86	125	50	12	5.4	16.2	50	2.7	3.0	32	1.1	DMC0457K00900****
420	86	130	50	12	5.0	15.1	65	2.5	1.9	32	1.1	DMC0427K00900****
490	86	120	45	10	4.9	14.7	70	1.8	2.3	32	1.05	DMC0497K00900****
510	86	120	45	10	5.1	15.3	70	1.8	2.3	32	1.05	DMC0517K00900****
660	86	180	60	10	6.6	19.8	70	1.8	2.0	32	1.5	DMC0667K00900****
900	86	230	70	10	9.0	27.0	65	2.1	2.3	32	1.8	DMC0907K00900****
580	96	125	50	10	5.8	17.4	55	3.3	2.0	45	1.2	DMC0587K00900****
540	96	130	50	7	3.8	11.3	75	1.5	2.4	45	1.2	DMC0547K00900****
630	116	100	55	7	4.4	13.2	60	2	2.8	50	1.3	DMC0637K00900****
860	116	125	55	7	6.0	18.1	60	2.2	2.5	50	1.55	DMC0867K00900****
810	116	130	60	7	5.7	17.0	80	1.2	2.6	50	1.6	DMC0817K00900****
1250	116	180	60	7	8.8	26.3	80	1.2	2.6	50	2.4	DMC1258K00900****
1700	116	230	60	5	8.5	25.5	80	1.1	2.8	50	3	DMC0178K00900****
1700	136	180	65	6	10.2	30.6	100	0.9	2.2	50	3.7	DMC0178K00900****
2400	136	230	70	5	12.0	36.0	100	0.95	2.1	50	4.2	DMC0248K00900****
Un 1100V.DC												
Cn (μ F)	φ D (mm \pm 1)	H (mm \pm 2)	ESL (nH)	dv/dt (V/ μ S)	Ip(KA)	Is(KA)	Irms(A)	ESR (m Ω) @1KHz	Rth (K/W)	P (mm)	weight (Kg)	Part number
130	76	75	40	15	1.9	5.6	35	4.5	3.6	32	0.5	DMC0137K01100****
260	76	130	45	15	3.8	11.3	60	2.8	2.0	32	0.75	DMC0267K01100****
280	76	125	50	12	3.3	9.9	35	4	4.1	32	0.75	DMC0287K01100****
170	86	75	50	15	2.6	7.7	45	5	2.0	32	0.8	DMC0177K01100****
360	86	125	55	12	4.3	13.0	35	2.5	6.5	32	1.1	DMC0367K01100****
330	86	130	45	15	5.0	15.0	65	2.8	1.7	32	1.1	DMC0337K01100****
420	86	136	45	12	5.0	15.0	60	2	2.8	32	1.15	DMC0427K01100****
420	86	155	45	12	5.0	15.0	65	1.5	3.2	32	1.25	DMC0427K01100****
470	86	180	60	10	4.7	14.1	70	1.8	2.3	32	1.5	DMC0477K01100****
500	86	180	60	10	5.0	15.0	70	1.8	2.3	32	1.5	DMC0507K01100****
600	86	225	70	10	6.0	18.0	80	1.2	2.6	32	1.8	DMC0607K01100****
600	96	130	50	10	6.0	18.0	75	1.8	2.0	45	1.2	DMC0607K01100****
680	86	225	70	12	8.2	24.5	65	2.5	1.9	32	1.8	DMC0687K01100****
720	86	230	70	12	8.6	25.9	65	2.5	1.9	32	1.8	DMC0727K01100****
460	96	125	65	10	4.6	13.8	55	3.2	2.1	45	1.2	DMC0467K01100****
520	96	180	65	12	6.2	18.7	75	1.5	2.4	45	1.6	DMC0527K01100****
500	116	100	70	10	5.0	15.0	55	2.5	2.6	50	1.3	DMC0507K01100****
680	116	125	70	10	6.8	20.4	60	2.8	2.0	50	1.6	DMC0687K01100****
650	116	130	75	10	6.5	19.5	75	1.3	2.7	50	1.6	DMC0657K01100****
1000	116	180	75	12	12.0	36.0	75	1.5	2.4	50	2.4	DMC0108K01100****
1200	116	230	80	8	9.6	28.8	80	1.5	2.1	50	3	DMC0128K01100****
1200	116	230	75	12	14.4	43.2	105	0.9	2.0	50	3	DMC0128K01100****
1250	116	230	75	12	15.0	45.0	80	1.5	2.1	50	3	DMC1258K01100****
1300	116	230	75	12	15.6	46.8	80	1.5	2.1	50	3	DMC0138K01100****
1400	136	180	70	7	9.8	29.4	85	1.3	2.1	50	3.7	DMC0148K01100****
1700	136	230	70	5	8.5	25.5	100	1.4	1.4	50	4.2	DMC0178K01100****
1900	136	230	75	5	9.5	28.5	100	1.2	1.7	50	4.2	DMC0198K01100****
2800	136	335	80	5	14.0	42.0	120	0.8	1.7	50	6.1	DMC0288K01100****
3060	136	345	80	5	15.3	45.9	120	0.9	1.5	50	6.2	DMC3068K01100****
3200	136	335	80	5	16.0	48.0	120	0.85	1.6	50	6.1	DMC0328K01100****



DC-LINK CAPACITOR

MKPD-MC

直流母线电容

常用规格 / Dimension

Un 1200V.DC												
Cn (μ F)	φ D (mm \pm 1)	H (mm \pm 2)	ESL (nH)	dv/dt (V/ μ S)	Ip(KA)	Is(KA)	Irms(A)	ESR (m Ω) @1KHz	Rth (K/W)	P (mm)	weight (Kg)	Part number
170	86	75	40	15	2.6	7.7	45	4.5	2.2	32	0.8	DMC0177K01200*****
420	76	145	50	15	6.3	18.9	30	12	1.9	32	0.85	DMC0427K01200*****
330	86	130	45	15	5.0	15.0	65	2.8	1.7	32	1.1	DMC0337K01200*****
420	86	136	45	12	5.0	15.0	65	2	2.4	32	1.15	DMC0427K01200*****
420	86	155	45	12	5.0	15.0	70	1.5	2.7	32	1.25	DMC0427K01200*****
420	116	95	50	10	4.2	12.6	75	1.4	2.2	50	1.2	DMC0427K01200*****
450	86	160	55	12	5.4	16.2	70	2.9	1.4	32	1.3	DMC0457K01200*****
470	86	180	60	12	5.6	16.9	70	2.8	1.5	32	1.5	DMC0477K01200*****
470	86	225	60	12	5.6	16.9	70	2.8	1.5	32	1.8	DMC0477K01200*****
550	86	145	55	12	6.6	19.8	55	5	1.1	32	1.2	DMC0557K01200*****
600	86	225	60	10	6.0	18.0	80	1.2	2.6	32	1.8	DMC0607K01200*****
600	86	225	70	10	6.0	18.0	60	2.2	2.5	32	1.8	DMC0607K01200*****
600	96	130	50	10	6.0	18.0	75	1.8	2.0	45	1.2	DMC0607K01200*****
680	86	225	70	12	8.2	24.5	65	2.5	1.9	32	1.8	DMC0687K01200*****
500	116	100	65	10	5.0	15.0	55	2.6	2.5	50	1.2	DMC0507K01200*****
680	116	125	65	10	6.8	20.4	50	2.8	2.9	50	1.55	DMC0687K01200*****
650	116	130	65	10	6.5	19.5	80	1.8	1.7	50	1.6	DMC0657K01200*****
1000	116	180	70	7	7.0	21.0	75	1.3	2.7	50	2.4	DMC0108K01200*****
1200	116	230	70	7	8.4	25.2	75	1.3	2.7	50	3	DMC0128K01200*****
1250	116	230	70	7	8.8	26.3	75	1.2	3.0	50	3	DMC1258K01200*****
1400	136	180	75	7	9.8	29.4	85	1.1	2.5	50	3.7	DMC0148K01200*****
1700	136	230	80	5	8.5	25.5	85	1	2.8	50	4.2	DMC0178K01200*****
850	136	125	70	8	6.8	20.4	75	1.6	2.2	50	1.9	DMC0857K01200*****
950	136	125	60	8	7.6	22.8	80	1.1	2.8	50	2.4	DMC0957K01200*****
1200	116	180	80	8	9.6	28.8	80	1	3.1	50	2.4	DMC0128K01200*****
1200	116	180	60	5	6.0	18.0	100	0.8	2.5	50	2.4	DMC0128K01200*****
1500	136	180	70	5	7.5	22.5	100	0.9	2.2	50	3.7	DMC0158K01200*****
2700	136	335	80	5	13.5	40.5	110	0.85	1.9	50	6.1	DMC0278K01200*****
Un 1300V.DC												
Cn (μ F)	φ D (mm \pm 1)	H (mm \pm 2)	ESL (nH)	dv/dt (V/ μ S)	Ip(KA)	Is(KA)	Irms(A)	ESR (m Ω) @1KHz	Rth (K/W)	P (mm)	weight (Kg)	Part number
230	86	125	50	15	5.7	17.1	35	5	3.3	32	1.1	DMC0237K01300*****
210	86	130	50	15	3.2	9.5	70	2	2.0	32	1.1	DMC0217K01300*****
330	86	180	60	15	5.0	14.9	65	3	1.6	32	1.5	DMC0337K01300*****
470	86	230	70	12	5.6	16.9	65	3.2	1.5	32	1.8	DMC0477K01300*****
410	116	130	65	12	4.9	14.8	80	1.8	1.7	50	1.6	DMC0417K01300*****
650	116	180	65	10	6.5	19.5	85	2	1.4	50	2.4	DMC0657K01300*****
880	116	230	80	10	8.8	26.4	85	2.2	1.3	50	3	DMC0887K01300*****
900	136	180	70	7	6.3	18.9	100	1.6	1.3	50	3.7	DMC0907K01300*****
1200	136	230	80	7	8.4	25.2	105	1.5	1.2	50	4.2	DMC0128K01300*****
Un 1500V.DC												
Cn (μ F)	φ D (mm \pm 1)	H (mm \pm 2)	ESL (nH)	dv/dt (V/ μ S)	Ip(KA)	Is(KA)	Irms(A)	ESR (m Ω) @1KHz	Rth (K/W)	P (mm)	weight (Kg)	Part number
160	86	125	50	15	5.7	17.1	35	5	3.3	32	1.1	DMC0167K01500*****
160	86	130	50	15	2.4	7.2	60	3.5	1.6	32	1.1	DMC0167K01500*****
240	86	180	55	15	3.6	10.8	60	4	0.9	32	1.5	DMC0247K01500*****
320	86	230	55	12	3.8	11.5	60	3.5	1.6	32	1.8	DMC0327K01500*****
300	116	130	55	12	3.6	10.8	75	2	1.8	50	1.6	DMC0307K01500*****
470	116	180	60	10	4.7	14.1	75	2.8	1.3	50	2.4	DMC0477K01500*****
650	116	230	60	10	6.5	19.5	80	2.8	1.1	50	3	DMC0657K01500*****
660	136	180	60	7	4.6	13.9	100	1.8	1.1	50	3.7	DMC0667K01500*****
900	136	230	70	6	5.4	16.2	105	1.2	1.5	50	4.2	DMC0907K01500*****
1000	136	260	80	5	5.0	15.0	120	0.9	1.5	50	4.7	DMC0108K01500*****

MKPD-MC

直流母线电容

常用规格 / Dimension

Un 1800V.DC												
Cn (μ F)	φ D (mm \pm 1)	H (mm \pm 2)	ESL (nH)	dv/dt (V/ μ S)	I _p (KA)	I _s (KA)	I _{rms} (A)	ESR (m Ω) @1KHz	R _{th} (K/W)	P (mm)	weight (Kg)	Part number
130	86	125	55	15	5.7	17.1	35	5	3.3	32	1.1	DMC0137K01800****
120	86	130	55	15	1.8	5.4	60	2.5	2.2	32	1.1	DMC0127K01800****
180	86	180	60	15	2.7	8.1	65	2	2.4	32	1.5	DMC0187K01800****
260	86	230	70	12	3.1	9.4	60	3	1.9	32	1.8	DMC0267K01800****
230	116	130	60	12	2.8	8.3	80	2	1.6	50	1.6	DMC0237K01800****
360	116	180	65	10	3.6	10.8	80	2	1.0	50	2.4	DMC0367K01800****
500	116	230	70	10	5.0	15.0	75	3	1.2	50	3	DMC0507K01800****
510	136	180	70	7	3.6	10.7	100	2	1.0	50	3.7	DMC0517K01800****
680	136	230	70	7	4.8	14.3	95	2	1.1	50	4.2	DMC0687K01800****
Un 2000V.DC												
Cn (μ F)	φ D (mm \pm 1)	H (mm \pm 2)	ESL (nH)	dv/dt (V/ μ S)	I _p (KA)	I _s (KA)	I _{rms} (A)	ESR (m Ω) @1KHz	R _{th} (K/W)	P (mm)	weight (Kg)	Part number
100	86	125	55	15	1.5	4.5	35	3.8	4.3	32	1.1	DMC0107K02000****
90	86	130	55	15	1.4	4.1	65	2.5	1.9	32	1.1	DMC0906K02000****
150	86	180	60	15	2.3	6.8	60	3.5	1.6	32	1.5	DMC0157K02000****
200	86	230	70	12	2.4	7.2	65	2	2.4	32	1.8	DMC0207K02000****
180	116	130	65	10	1.8	5.4	75	2.5	1.4	50	1.6	DMC0187K02000****
280	116	180	70	10	2.8	8.4	70	2	2.0	50	2.4	DMC0287K02000****
380	116	230	80	10	3.8	11.4	80	2	1.6	50	3	DMC0387K02000****
400	136	180	60	7	2.8	8.4	100	1.6	1.3	50	3.7	DMC0407K02000****
550	136	230	70	7	3.9	11.6	100	1.5	1.3	50	4.2	DMC0557K02000****
850	136	335	80	5	4.3	12.8	120	1.1	1.3	50	6.1	DMC0857K02000****
Un 2200V.DC												
Cn (μ F)	φ D (mm \pm 1)	H (mm \pm 2)	ESL (nH)	dv/dt (V/ μ S)	I _p (KA)	I _s (KA)	I _{rms} (A)	ESR (m Ω) @1KHz	R _{th} (K/W)	P (mm)	weight (Kg)	Part number
320	116	230	70	12	3.8	11.5	85	2	1.4	50	2.4	DMC0327K02200****
385	116	295	75	10	3.9	11.6	115	1.1	1.4	50	3.1	DMC3857K02200****
450	136	230	75	7	3.2	9.5	100	1.3	1.5	50	4.2	DMC0457K02200****
670	136	335	80	5	3.4	10.1	120	1	1.4	50	6.1	DMC0677K02200****
Un 2800V.DC												
Cn (μ F)	φ D (mm \pm 1)	H (mm \pm 2)	ESL (nH)	dv/dt (V/ μ S)	I _p (KA)	I _s (KA)	I _{rms} (A)	ESR (m Ω) @1KHz	R _{th} (K/W)	P (mm)	weight (Kg)	Part number
160	116	180	70	30	4.8	14.4	75	2.2	1.6	50	2.4	DMC0167K02800****
210	116	230	75	25	5.3	15.8	70	2.8	1.5	50	3	DMC0217K02800****
225	136	180	75	20	4.5	13.5	85	2	1.4	50	3.7	DMC2257K02800****
300	136	230	80	15	4.5	13.5	80	2.5	1.3	50	4.2	DMC0307K02800****
Un 3200V.DC												
Cn (μ F)	φ D (mm \pm 1)	H (mm \pm 2)	ESL (nH)	dv/dt (V/ μ S)	I _p (KA)	I _s (KA)	I _{rms} (A)	ESR (m Ω) @1KHz	R _{th} (K/W)	P (mm)	weight (Kg)	Part number
115	116	180	70	40	4.6	13.8	70	3.5	1.2	50	2.4	DMC1157K03200****
160	116	230	70	35	5.6	16.8	70	3.2	1.3	50	3.1	DMC0167K03200****
160	136	180	75	30	4.8	14.4	85	3	0.9	50	4.2	DMC0167K03200****
225	136	230	80	25	5.6	16.9	80	3.5	0.9	50	6.1	DMC2257K03200****
Un 4000V.DC												
Cn (μ F)	φ D (mm \pm 1)	H (mm \pm 2)	ESL (nH)	dv/dt (V/ μ S)	I _p (KA)	I _s (KA)	I _{rms} (A)	ESR (m Ω) @1KHz	R _{th} (K/W)	P (mm)	weight (Kg)	Part number
70	116	230	70	50	3.5	10.5	85	3.5	1.2	50	2.4	DMC0706K04000****
95	116	295	75	40	3.8	11.4	115	3.6	1.1	50	3.1	DMC0956K04000****
100	136	230	75	35	3.5	10.5	100	3	0.9	50	4.2	DMC0107K04000****
135	136	335	80	30	4.1	12.2	120	3.5	0.9	50	6.1	DMC1357K04000****

MKPD-MC

直流母线电容



铜螺母 / 螺杆引出, 塑料定位盖
绝缘, 安装简单方便
Copper nut / screw leads, insulated
plastic cover positioning, easy
installation



耐压高, 具有自愈性
Resistance to high voltage, with
self-healing

高纹波电流, 高dv/dt承受能力
High ripple current, high dv/dt
withstand capability

铝圆外壳封装, 干式树脂灌注
Aluminum round housing package,
Sealed with resin

容量大, 体积小
Large capacity, small size

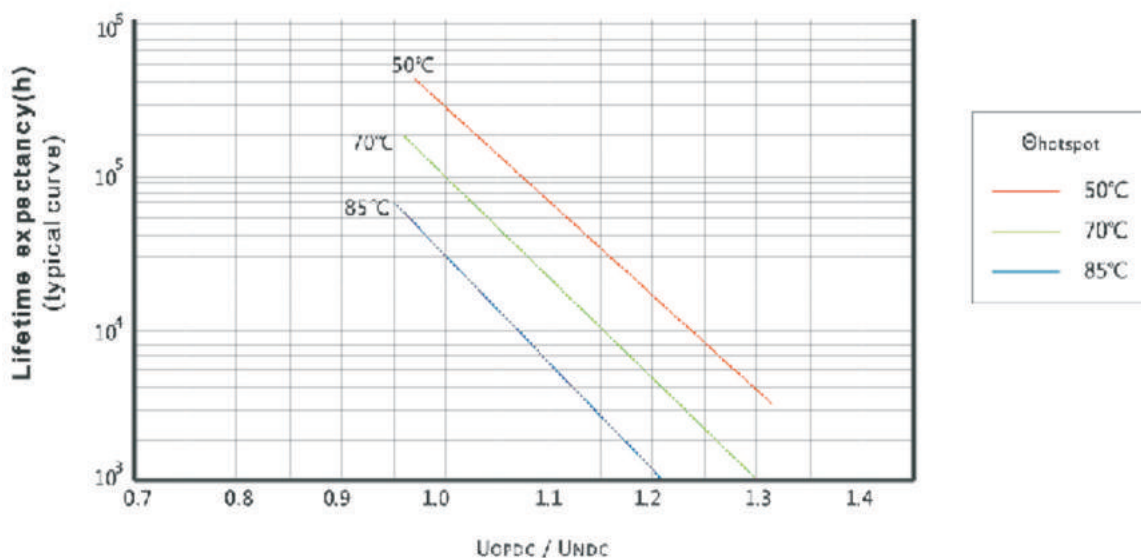
应用

- 广泛应用于DC-Link电路中, 作滤波储能用。
- 能替代电解电容, 性能更优, 寿命更长。
- 光伏逆变器, 风电变流器; 各种变频器及逆变电源; 纯电动及混合动力汽车; SVG, SVC等各类电能质量管理设备。

Application

- Widely used in DC-Link circuit for filtering energy storage.
- Can replace electrolytic capacitors, better performance and longer life.
- Pv inverter, wind power converter; All kinds of frequency converter and inverter power supply; Pure electric and hybrid cars; SVG, SVC devices and other kinds of power quality management.

预期寿命曲线图 Life expectancy in the graph





MKPD-PS

直流母线电容



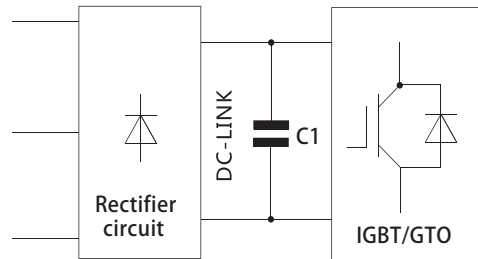
应用 / Application

- 广泛应用于DC-LINK电路中，作滤波储能用；
- 风能发电，光伏发电用逆变器；各种变频器；电动汽车及混合动力车；SVG、APF，电焊机、电源设备等直流母线高频滤波场合。
- Widely used in DC-LINK circuit for filtering energy storage;
- Wind power generation, inverter for photovoltaic power generation; various inverter; electric and hybrid vehicle; SVG, APF, Electric welding machine, power supply equipment, such as DC bus high frequency filter

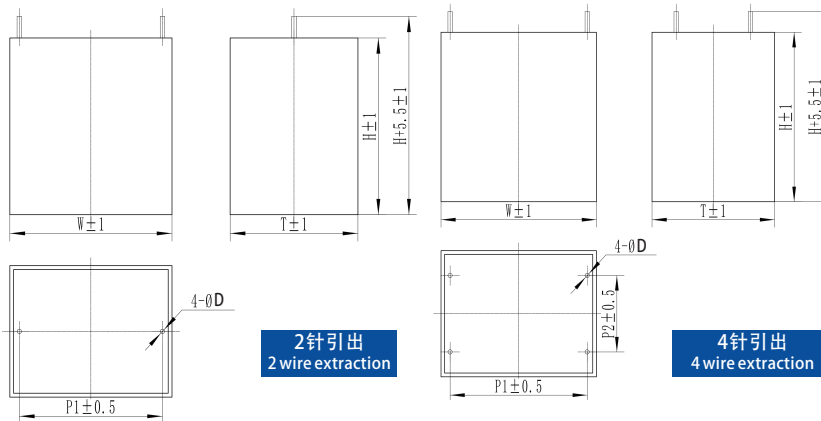
产品特点 / Introduction

- 塑料方壳封装，阻燃环氧树脂注塑；
- 镀锡铜线引出，体积小，安装简单方便；
- 无感式结构，ESL低、ESR小，温升高，寿命长等特点；
- 高脉冲电流，高DV/DT承受能力。
- Plastic package, flame retardant epoxy resin injection molding;
- Tin plated copper wire leads, small size, simple and convenient installation;
- Non inductive structure, ESL low, ESR small, low temperature rise, long life and so on;
- High pulse current, high DV/DT bearing capacity.

典型应用电路 / Typical Circuit



外形图 / Outline Drawing



W(mm)	P1(mm)	P2(mm)
42.5	37.5	20.3
57.5	52.5	20.3

技术参数 / Technical Data

执行标准 Implemented standard	GB/T 17702、IEC61881
工作温度范围 Operating temperature range	-40° C~85° C
额定电压 (Un) Rated Voltage	450V.DC~2000V.DC
容量范围 (Cn) Capacitance range	8 μF~150 μF
容量偏差 Capacitance tolerance	±5%(J)、±10% (K)
耐电压 Withstand voltage	
极间 between terminals	1.5Un(VDC)/10S
极壳 between terminals and case	2*Ui+1000V.AC @50HZ/60S
绝缘电阻 Insulation resistance	RixCn ≥ 10000S (100VDC, 60S@ 20°C)



DC-LINK CAPACITOR

MKPD-PS

直流母线电容

常用规格 / Dimension

Un 450V.DC(85°C) 500V (70°C)													
Cn (μF)	number of wires	φD (mm)	W (mm)	T (mm)	H (mm)	安装孔距(mm) P1 P2		ESR (mΩ)	ESL (nH)	dv/dt (V/μS)	Ipk (A)	Irms(A)	Part number
20	2	1.2	42.5	24.5	27.5	37.5		7	10	40	800	11	DPS0206J00450*****
45	4	1.2	42.5	29	37	37.5	20.3	6	10	40	1800	17	DPS0456J00450*****
60	4	1.2	42.5	33	45	37.5	20.3	4.5	15	40	2400	18.5	DPS0606J00450*****
75	4	1.2	57.5	30	45	52.5	20.3	3.2	15	20	1500	18	DPS0756J00450*****
100	4	1.2	57.5	35	50	52.5	20.3	3	15	20	2000	22	DPS0107J00450*****
120	4	1.2	57.5	38	54	52.5	20.3	2.8	15	20	2400	25	DPS0127J00450*****
150	4	1.2	57.5	42.5	56	52.5	20.3	2.5	15	20	3000	28	DPS0157J00450*****
Un 700V.DC (85°C) 800V (70°C)													
Cn (μF)	number of wires	φD (mm)	W (mm)	T (mm)	H (mm)	安装孔距(mm) P1 P2		ESR (mΩ)	ESL (nH)	dv/dt (V/μS)	Ipk (A)	Irms(A)	Part number
10	2	1.2	42.5	24.5	27.5	37.5		10	10	40	400	10	DPS0106J00700*****
20	4	1.2	42.5	24	44	37.5	20.3	7.5	10	40	800	12	DPS0206J00700*****
25	4	1.2	42.5	29	37	37.5	20.3	6	10	40	1000	12	DPS0256J00700*****
40	4	1.2	42.5	33	45	37.5	20.3	5.5	10	40	1600	13	DPS0406J00700*****
50	4	1.2	57.5	30	45	52.5	20.3	5.5	15	20	1000	18	DPS0506J00700*****
60	4	1.2	57.5	35	50	52.5	20.3	5	15	20	1200	20	DPS0606J00700*****
75	4	1.2	57.5	35	50	52.5	20.3	4.5	15	20	1500	22	DPS0756J00700*****
80	4	1.2	57.5	38	54	52.5	20.3	4	15	20	1600	22	DPS0806J00700*****
90	4	1.2	57.5	42.5	56	52.5	20.3	3.5	15	20	1800	25	DPS0906J00700*****
100	4	1.2	57.5	42.5	56	52.5	20.3	3.2	15	20	2000	27.5	DPS0107J00700*****
Un 800V.DC (85°C) 900V (70°C)													
Cn (μF)	number of wires	φD (mm)	W (mm)	T (mm)	H (mm)	安装孔距(mm) P1 P2		ESR (mΩ)	ESL (nH)	dv/dt (V/μS)	Ipk (A)	Irms(A)	Part number
15	2	1.2	42.5	24	44	37.5		10	10	40	600	10	DPS0156J00800*****
20	4	1.2	42.5	29	37	37.5	20.3	7.5	10	40	800	12	DPS0206J00800*****
30	4	1.2	42.5	33	45	37.5	20.3	4.5	10	40	1200	16	DPS0306J00800*****
35	4	1.2	57.5	30	45	52.5	20.3	5.5	15	20	700	14	DPS0356J00800*****
50	4	1.2	57.5	35	50	52.5	20.3	4.5	15	20	1000	18	DPS0506J00800*****
60	4	1.2	57.5	38	54	52.5	20.3	4.5	15	20	1200	20	DPS0606J00800*****
70	4	1.2	57.5	42.5	56	52.5	20.3	3.5	15	20	1400	22	DPS0706J00800*****
Un 1100V.DC(85°C) 1200V (70°C)													
Cn (μF)	number of wires	φD (mm)	W (mm)	T (mm)	H (mm)	安装孔距(mm) P1 P2		ESR (mΩ)	ESL (nH)	dv/dt (V/μS)	Ipk (A)	Irms(A)	Part number
10	2	1.2	42.5	24	44	37.5		11	10	40	429	11	DPS0106J1100*****
15	4	1.2	42.5	29	37	37.5	20.3	8	10	40	600	15	DPS0156J1100*****
20	4	1.2	42.5	33	45	37.5	20.3	5	10	40	800	18	DPS0206J1100*****
25	4	1.2	57.5	35	50	52.5	20.3	6	15	25	625	17	DPS0256J1100*****
30	4	1.2	57.5	35	50	52.5	20.3	5	15	25	750	18	DPS0306J1100*****
45	4	1.2	57.5	38	54	52.5	20.3	4.5	15	25	1125	18.5	DPS0456J1100*****
50	4	1.2	57.5	42.5	56	52.5	20.3	3.5	15	25	1250	20	DPS0506J1100*****
55	4	1.2	57.5	42.5	56	52.5	20.3	3.5	15	25	1375	21	DPS0556J1100*****
Un 1200V.DC(85°C) 1500V (70°C)													
Cn (μF)	number of wires	φD (mm)	W (mm)	T (mm)	H (mm)	安装孔距(mm) P1 P2		ESR (mΩ)	ESL (nH)	dv/dt (V/μS)	Ipk (A)	Irms(A)	Part number
12	4	1.2	57.5	30	45	52.5	20.3	11	15	40	480	13	DPS0126J01200*****
20	4	1.2	42.5	40	55	37.5	20.3	7	15	50	1000	16	DPS0206J01200*****
25	4	1.2	57.5	42.5	56	52.5	20.3	7	15	40	1000	20	DPS0256J01200*****
Un 1800V.DC(85°C) 2000V (70°C)													
Cn (μF)	number of wires	φD (mm)	W (mm)	T (mm)	H (mm)	安装孔距(mm) P1 P2		ESR (mΩ)	ESL (nH)	dv/dt (V/μS)	Ipk (A)	Irms(A)	Part number
8	4	1.2	57.5	30	45	52.5	20.3	12	15	50	400	13	DPS0805J01800*****
10	4	1.2	57.5	35	50	52.5	20.3	10	15	50	500	17	DPS0106J01800*****
15	4	1.2	57.5	42.5	56	52.5	20.3	8	15	40	750	20	DPS0156J01800*****



DC-LINK CAPACITOR

MKPD-MS

直流母线电容



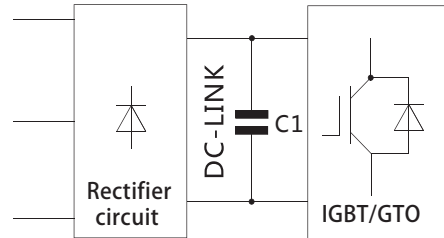
应用 / Application

- 广泛应用于DC-LINK电路中，作滤波储能用；
- 能替代电解电容，性能更优，寿命更长；
- 风能发电，光伏发电用逆变器；各种变频器；电动汽车及混合动力车；SVG、电焊机、电源等作DC-LINK用。
- Widely used in DC-LINK circuit for filtering energy storage;
- Can replace electrolytic capacitors,better performance and longer life;
- Wind power,photovoltaic power inverter;electric vchcles and hybrid vehicles;SVG,welding equipment,power supplies,for the DC link filter

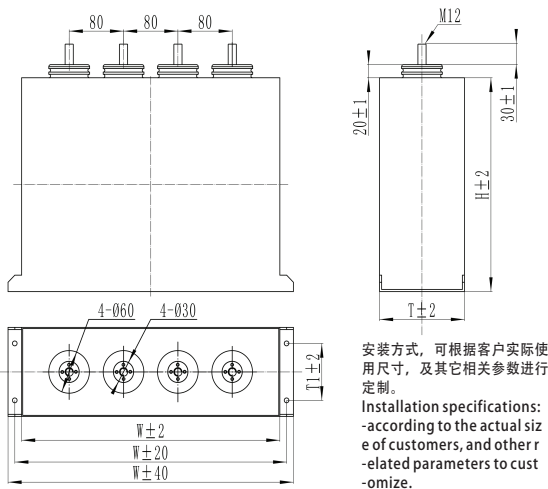
产品特点 / Introduction

- 金属外壳封装，高温高导填充料注塑；
- 引出形式多样化选择，便于应用现场安装；
- 容值高，体积小，耐压高，自愈性强；
- 大纹波电流，DV/DT承受力。
- Metal enclosure package,high temperature and high conductive filler injection molding;
- Out of the form of diversification, easy to apply on-site installation;
- High capacitance,small size,high pressure level,self healing;
- Large ripple current,DV/DT bearing capacity.

典型应用电路 / Typical Circuit



外形图 / Outline Drawing



订制品 / Customized Products

引出方式及材质 Extraction methods and materials

引出方式 Extraction method	螺帽型 Nut type	螺柱型 Screw type	材质 Material
螺母型 Nut type	M6*Φ15	方块电极 Block electrode	M6、M8 螺孔/Screw
	M8*Φ20	外壳材质 Shell material	
螺柱型 Screw type	M8	不锈钢、铝 Stainless steel, aluminum	
	M10	引出材质 Lead material	
	M12	紫铜 Copper	

技术参数 / Technical Data

执行标准 Implemented standard	IEC61070、IEC61881
气候等级 Climatic category	40/85/21
额定电压 (Un) Rated Voltage	450V.DC~6000V.DC
容量范围 (Cn) Capacitance range	30 μF~20000 μF
容量偏差 Capacitance tolerance	±5%(J)、±10% (K)
耐电压 Withstand voltage	
极间 between terminals	1.5Un(VDC)/10S
极壳 between terminals and case	2Ui+1000V.AC(60S)
绝缘电阻 Insulation resistence	RixCn ≥ 10000S (100VDC,@50HZ 60S)



DC-LINK CAPACITOR

MKPD-MS

直流母线电容

常用规格 / Dimension

Un 1200V.DC Us 1800V Ur 300V										
Cn (μF)	W (mm)	T (mm)	H (mm)	dv/dt (V/μS)	Ip(KA)	Irms(A)	ESR (mΩ) @10KHz	Rth (K/W)	≈weight (Kg)	Part number
3300	340	125	245	8	26.4	150	0.95	0.7	22.4	PDS0338K01200*****
5000	420	125	300	7	35.0	180	0.8	0.6	32.8	PDS0508K01200*****
7500	420	125	430	5.5	41.3	200	0.66	0.6	44.8	PDS0758K01200*****
5000	340	235	190	8	40.0	200	1.1	0.3	32.8	PDS0508K01200*****
10000	340	235	350	6	60.0	250	0.8	0.3	58.4	PDS0109K01200*****
5000	420	235	175	8	40.0	200	1	0.4	36	PDS0508K01200*****
7500	420	235	245	7	52.5	250	0.9	0.3	49.6	PDS0758K01200*****
10000	420	235	300	7	70.0	250	0.8	0.3	61.6	PDS0109K01200*****
15000	420	235	430	5	75.0	300	0.6	0.3	84	PDS0159K01200*****
Un 1500V.DC Us 2250V Ur 450V										
Cn (μF)	W (mm)	T (mm)	H (mm)	dv/dt (V/μS)	Ip(KA)	Irms(A)	ESR (mΩ) @10KHz	Rth (K/W)	≈weight (Kg)	Part number
1200	340	125	190	10	12.0	120	1.1	0.9	17.6	PDS0128K01500*****
3000	340	125	420	8	24.0	180	0.66	0.7	37.6	PDS0308K01500*****
2000	420	125	245	10	20.0	150	0.95	0.7	26.4	PDS0208K01500*****
4000	420	125	430	8	32.0	200	0.66	0.6	44.8	PDS0408K01500*****
5000	340	235	350	8	40.0	250	0.8	0.3	58.4	PDS0508K01500*****
4000	420	235	245	10	40.0	250	0.9	0.3	49.6	PDS0408K01500*****
8000	420	235	430	8	64.0	300	0.6	0.3	84	PDS0808K01500*****
Un 2000V.DC Us 3000V Ur 600V										
Cn (μF)	W (mm)	T (mm)	H (mm)	dv/dt (V/μS)	Ip(KA)	Irms(A)	ESR (mΩ) @10KHz	Rth (K/W)	≈weight (Kg)	Part number
1000	340	125	245	12	12.0	150	0.95	0.7	22.4	PDS0108K02000*****
1500	340	125	350	10	15.0	180	0.72	0.6	31.2	PDS0158K02000*****
2000	420	125	360	10	20.0	200	0.72	0.5	39.2	PDS0208K02000*****
2400	420	125	430	9	21.6	200	0.66	0.6	44.8	PDS0248K02000*****
3200	340	235	350	10	32.0	250	0.8	0.3	46.4	PDS0328K02000*****
4000	420	235	360	10	40.0	280	0.7	0.3	58.4	PDS0408K02000*****
4800	420	235	430	9	43.2	300	0.6	0.3	67.2	PDS0488K02000*****
Un 2200V.DC Us 3300V Ur 600V										
Cn (μF)	W (mm)	T (mm)	H (mm)	dv/dt (V/μS)	Ip(KA)	Irms(A)	ESR (mΩ) @10KHz	Rth (K/W)	≈weight (Kg)	Part number
2000	420	235	245	12	24.0	150	0.9	0.7	40	PDS0208K02200*****
2750	420	235	300	10	27.5	200	0.8	0.5	49.6	PDS2758K02200*****
3500	420	235	360	10	35.0	200	0.7	0.5	58.4	PDS0358K02200*****
Un 3000V.DC Us 4500V Ur 800V										
Cn (μF)	W (mm)	T (mm)	H (mm)	dv/dt (V/μS)	Ip(KA)	Irms(A)	ESR (mΩ) @10KHz	Rth (K/W)	≈weight (Kg)	Part number
1050	420	235	245	20	21.0	150	0.9	0.7	40	PDS1058K03000*****
1400	420	235	300	15	21.0	200	0.8	0.5	49.6	PDS0148K03000*****
1800	420	235	360	15	27.0	200	0.7	0.5	58.4	PDS0188K03000*****
Un 4000V.DC Us 6000V Ur 1000V										
Cn (μF)	W (mm)	T (mm)	H (mm)	dv/dt (V/μS)	Ip(KA)	Irms(A)	ESR (mΩ) @10KHz	Rth (K/W)	≈weight (Kg)	Part number
600	420	235	245	20	12.0	150	0.9	0.7	40	PDS0607K04000*****
800	420	235	300	20	16.0	200	0.8	0.5	49.6	PDS0807K04000*****
1000	420	235	360	20	20.0	200	0.7	0.5	58.4	PDS0108K04000*****



MKPD-MT

直流母线电容



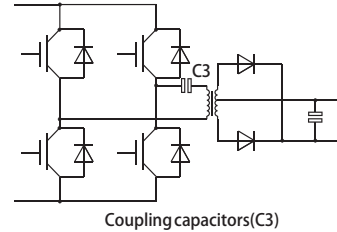
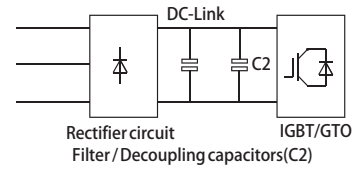
应用 / Application

- 广泛应用于DC-LICK电路中，作高频滤波和退耦用途；
- 广泛应用于电力电子电路中，作隔直耦合用途。
- Widely used in DC-LICK circuit for High-frequency and decoupling;
- Widely used in power electronic circuits,for coupling purposes.

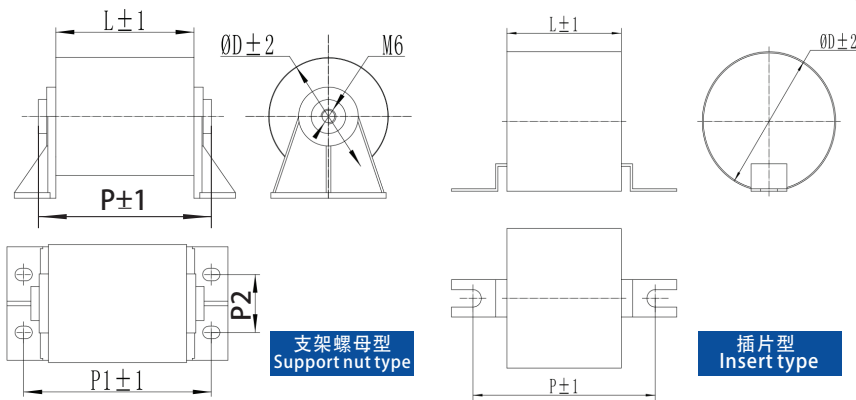
产品特点 / Introduction

- 迈拉胶带封装，阻燃环氧树脂注塑；
- 安装灵活方便，引出方式可多样化选择；
- 无感式结构，ESL低、ESR小，高频大电流承受能力，温升低，寿命长等特点。
- Mylar tape package, flame retardant epoxy resin injection molding;
- The installation is flexible and convenient, and the way of ext raction canbe varied;
- Non inductive structure, ESL low, ESR small, high frequency and high current capacity, temperature low, long life and other characteristics.

典型应用电路 / Typical Circuit



外形图 / Outline Drawing



技术参数 / Technical Data

执行标准 Implemented standard	GB/T 17702、IEC61071
气候等级 Climatic category	40/85/21
额定电压 (Un) Rated Voltage	350V.DC~2000V.DC
容量范围 (Cn) Capacitance range	10 μ F~200 μ F
容量偏差 Capacitance tolerance	$\pm 5\%$ (J)、 $\pm 10\%$ (K)
耐电压 Withstand voltage	
极间 between terminals	1.5Un(VDC)/10S
绝缘电阻 Insulation resisitance	RixCn $\geq 10000S$ (100VDC,60S@20°C)



DC-LINK CAPACITOR

MKPD-MT

直流母线电容

常用规格 / Dimension

Un 350V.DC; Us 525V;Ur 100V								
Cn (μF)	φD (mm)	L (mm)	ESR (mΩ) @10KHz	ESL (nH)	dv/dt (V/μS)	Ipk (A)	Irms(A)	Part number
20	38	40	3.3	25	60	1200	30	DMT0206J00350*****
30	38	50	3.2	25	50	1500	30	DMT0306J00350*****
40	45	50	3	25	50	2000	35	DMT0406J00350*****
50	49	50	3	25	50	2500	40	DMT0506J00350*****
60	54	50	3	25	50	3000	45	DMT0606J00350*****
70	58	50	3	25	50	3500	50	DMT0706J00350*****
80	55	60	3	25	40	3200	50	DMT0806J00350*****
100	61	60	2.9	25	40	4000	55	DMT0107J00350*****
Un 700V.DC; Us 1050V;Ur 200V								
Cn (μF)	φD (mm)	L (mm)	ESR (mΩ) @10KHz	ESL (nH)	dv/dt (V/μS)	Ipk (A)	Irms(A)	Part number
20	38	40	3.3	25	60	1200	30	DMT0206J00700*****
30	45	40	3.2	25	60	1800	40	DMT0306J00700*****
40	45	50	3	25	50	2000	35	DMT0406J00700*****
50	49	50	3	25	50	2500	40	DMT0506J00700*****
60	54	50	3	25	50	3000	45	DMT0606J00700*****
70	58	50	3	25	50	3500	50	DMT0706J00700*****
80	55	60	3	25	40	3200	50	DMT0806J00700*****
100	61	60	2.9	25	40	4000	55	DMT0107J00700*****
Un 800V.DC; Us 1200V;Ur 250V								
Cn (μF)	φD (mm)	L (mm)	ESR (mΩ) @10KHz	ESL (nH)	dv/dt (V/μS)	Ipk (A)	Irms(A)	Part number
20	44	40	2.9	25	60	1200	40	DMT0206J00800*****
30	54	40	2.7	25	80	2400	45	DMT0306J00800*****
30	40	60	2.8	25	50	1500	35	DMT0306J00800*****
40	62	40	2.5	25	80	3200	55	DMT0406J00800*****
40	52	50	2.7	25	60	2400	45	DMT0406J00800*****
40	46	60	3.2	25	60	2400	40	DMT0406J00800*****
50	69	40	2.1	25	80	4000	60	DMT0506J00800*****
50	59	50	2.4	25	60	3000	50	DMT0506J00800*****
50	52	60	2.5	25	60	3000	45	DMT0506J00800*****
60	64	50	2.3	25	60	3600	55	DMT0606J00800*****
60	56	60	2.4	25	60	3600	50	DMT0606J00800*****
70	70	50	2	25	60	4200	60	DMT0706J00800*****
70	62	60	2.2	25	60	4200	55	DMT0706J00800*****
80	73	50	2.1	25	60	4800	60	DMT0806J00800*****
80	65	60	2.5	25	60	4800	60	DMT0806J00800*****
100	82	50	1.8	25	60	6000	75	DMT0107J00800*****
100	72	60	2.2	25	50	5000	65	DMT0107J00800*****
Un 1100V.DC; Us 1650V;Ur 300V								
Cn (μF)	φD (mm)	L (mm)	ESR (mΩ) @10KHz	ESL (nH)	dv/dt (V/μS)	Ipk (A)	Irms(A)	Part number
10	42	40	3.4	25	60	600	35	DMT0106J1100*****
20	50	50	3.1	25	60	1200	40	DMT0206J1100*****
20	65	40	3	25	60	1200	60	DMT0206J1100*****
30	60	50	3.1	25	60	1800	55	DMT0306J1100*****
40	69	50	2.7	25	60	2400	60	DMT0406J1100*****
50	68	60	2.6	25	50	2500	60	DMT0506J1100*****
60	75	60	2.2	25	50	3000	70	DMT0606J1100*****
70	81	60	1.9	25	50	3500	70	DMT0706J1100*****
80	86	60	1.6	25	50	4000	75	DMT0806J1100*****



IGBT SNUBBER CAPACITOR

MKPS-TE

IGBT,GTO缓冲吸收



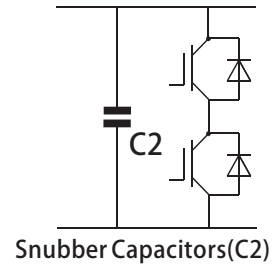
应用 / Application

- IGBT缓冲吸收;
- 广泛应用于电力电子设备中开关器件关断时的尖峰电压, 尖峰电流吸收保护。
- IGBT Snubber;
- Widely used in power electronic equipment when the peak voltage, peak current absorption protection.

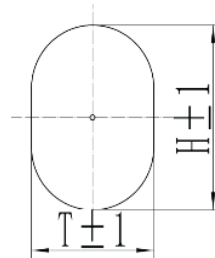
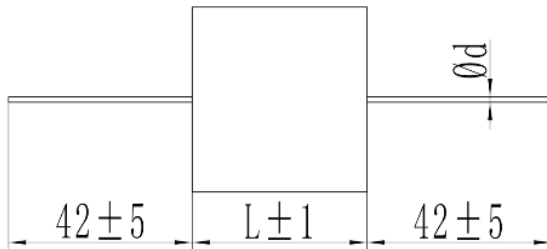
产品特点 / Introduction

- 迈拉胶带封装, 阻燃环氧树脂注塑;
- 镀锡铜线引出, 方便安装;
- 无感式结构, ESL低、ESR小, 高脉冲电流, 高DV/DT承受能力; 耐压高, 损耗小, 温升低, 寿命长等特点。
- Mylar tape, Sealed with epoxy resin;
- Tin plated copper wire lead, convenient installation;
- Non inductive structure, ESL low, ESR small, high pulse current, high DV/DT bearing capacity, high pressure, low loss, low temperature rise, long life and so on.

典型应用电路 / Typical Circuit



外形图 / Outline Drawing



扁形
Sector

技术参数 / Technical Data

执行标准 Implemented standard	GB/T 17702、IEC61071
气候等级 Climatic category	40/105/56
额定电压 (Un) Rated Voltage	630V.DC~4000V.DC
容量范围 (Cn) Capacitance range	0.0068 μF~10 μF
容量偏差 Capacitance tolerance	±5%(J)、±10% (K)
耐电压 Withstand voltage	
极间 between terminals	1.5Un(VDC)/10S
绝缘电阻 Insulation resistance	RixCn ≥ 5000S (100VDC,60S@20°C)



MKPS-TE

IGBT,GTO缓冲吸收

常用规格 / Dimension

Un630V.DC;Urms400V.AC;Us 945V									
Cn (μ F)	L (mm \pm 1)	T (mm \pm 1)	H (mm \pm 1)	φ d (mm)	ESL (nH)	dv/dt (V/ μ S)	IpK(A)	Irms(A)	Part number
0.22	32	9.5	17.5	0.8	23	300	66	5.3	STE0224J00630*****
0.33	32	12	20	1	22	200	66	6.5	STE0334J00630*****
0.47	32	14.5	22.5	1	21	220	103.4	8.3	STE0474J00630*****
0.68	32	18	26	1	20	180	122.4	9.5	STE0684J00630*****
1	37	11	19	1	28	150	150	7.6	STE0105J00630*****
1.5	37	13.5	21.5	1	27	150	225	9.5	STE0155J00630*****
2	37	16	24	1.2	24	130	260	10.2	STE0205J00630*****
2.5	37	18	26	1.2	25	120	300	10.5	STE0255J00630*****
3	37	20	28	1.2	30	110	330	10.8	STE0305J00630*****
3.3	37	21	29	1.2	30	110	363	11.2	STE0335J00630*****
4	57	27	36.5	1.2	32	220	880	12.8	STE0405J00630*****
4.7	57	28	40.5	1.2	32	200	940	13.8	STE0475J00630*****
5.6	57	31	33.5	1.2	32	185	1036	13.5	STE0565J00630*****
6.8	37	29	41.5	1.2	28	100	680	13.8	STE0685J00630*****
6.8	57	34	46.5	1.2	30	180	1224	14.2	STE0685J00630*****
Un 1000V.DC;Urms 500V.AC;Us 1500V									
Cn (μ F)	L (mm \pm 1)	T (mm \pm 1)	H (mm \pm 1)	φ d (mm)	ESL (nH)	dv/dt (V/ μ S)	IpK(A)	Irms(A)	Part number
0.15	32	10	17.5	0.8	20	1100	165	5.5	STE0154J01000*****
0.22	32	12	20	1	21	1000	220	7.3	STE0224J01000*****
0.33	32	15.5	23	1	21	1000	330	8.7	STE0334J01000*****
0.47	32	18.5	26	1.2	23	1000	470	10.5	STE0474J01000*****
0.47	44	14	22	1.2	24	900	423	9.5	STE0474J01000*****
0.68	32	20	32.5	1.2	25	900	612	10.8	STE0684J01000*****
0.68	44	17	25	1.2	26	800	544	10.2	STE0684J01000*****
1	44	21.5	29.5	1.2	27	900	900	11	STE0105J01000*****
1.5	44	26	35.5	1.2	29	900	1350	12	STE0155J01000*****
1.5	57	21	29	1.2	30	700	1050	12.2	STE0155J01000*****
2	44	28	40.5	1.2	30	800	1600	13.2	STE0205J01000*****
2	57	24	33.5	1.2	32	600	1200	12.8	STE0205J01000*****
2.2	44	30	42.5	1.2	32	600	1320	13.8	STE0225J01000*****
2.2	57	25	34.5	1.2	32	500	1100	13.5	STE0225J01000*****
2.5	57	25	38	1.2	33	500	1250	14.2	STE0255J01000*****
3	57	28	40.5	1.2	34	480	1440	15.6	STE0305J01000*****
3.3	57	29.5	42	1.2	35	450	1485	16.5	STE0335J01000*****
3.5	57	30.5	43	1.2	35	450	1575	17.2	STE0355J01000*****
4.7	57	35	50.5	1.2	36	420	1974	17.8	STE0475J01000*****
5.6	57	38.5	65	1.2	38	400	2240	18.2	STE0565J01000*****
Un 1200V.DC;Urms 550V.AC;Us 1800V									
Cn (μ F)	L (mm \pm 1)	T (mm \pm 1)	H (mm \pm 1)	φ d (mm)	ESL (nH)	dv/dt (V/ μ S)	IpK(A)	Irms(A)	Part number
0.1	32	8.5	16	0.8	20	1300	130	6	STE0104J01200*****
0.15	32	10	17.5	1	20	1200	180	7.5	STE0154J01200*****
0.22	32	13	21	1	22	1200	264	8.3	STE0224J01200*****
0.33	32	16	24	1	23	1200	396	9	STE0334J01200*****
0.47	32	17.5	30	1.2	23	1200	564	9.5	STE0474J01200*****
0.47	44	15	23	1.2	26	1100	517	9.8	STE0474J01200*****
0.68	32	21.5	34	1.2	25	1100	517	10	STE0684J01200*****
0.68	44	18.5	26.5	1.2	27	1000	680	11.7	STE0684J01200*****
1	44	23	31	1.2	28	1000	1000	12.4	STE0105J01200*****
1.5	44	26.5	39	1.2	30	950	1425	13.5	STE0155J01200*****
1.5	57	22.5	30.5	1.2	29	900	1350	12.6	STE0155J01200*****
2	44	29	45	1.2	30	800	1600	14.2	STE0205J01200*****



MKPS-TE

IGBT,GTO缓冲吸收

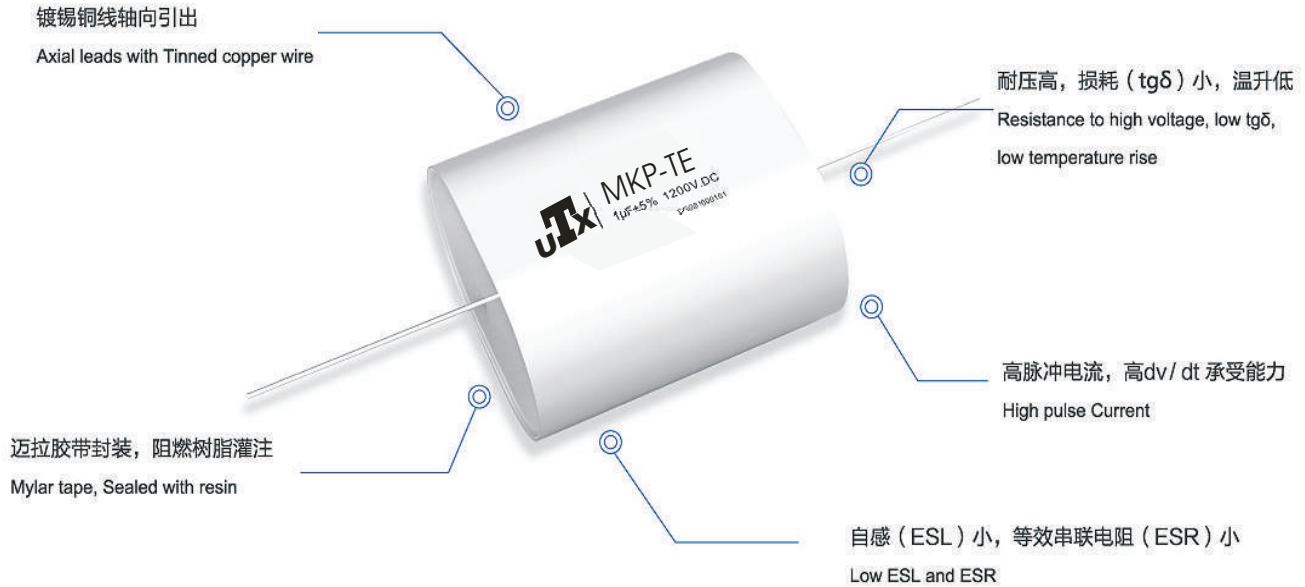
常用规格 / Dimension

Un 1200V.DC;Urms 550V.AC;Us 1800V									
Cn (μF)	L (mm±1)	T (mm±1)	H (mm±1)	φd (mm)	ESL (nH)	dv/dt (V/μS)	IpK(A)	Irms(A)	Part number
2	57	26.5	34.5	1.2	30	750	1500	13.8	STE0205J01200****
2.2	44	31	47	1.2	32	800	1760	14.5	STE0225J01200****
2.2	57	27.5	35.5	1.2	35	700	1540	14.5	STE0225J01200****
3	57	29	44.5	1.2	37	500	1500	17.2	STE0305J01200****
3.3	57	30.5	46	1.2	38	450	1485	17.8	STE0335J01200****
4.7	57	38	53.5	1.2	38	420	1974	18.2	STE0475J01200****
Un 1700V.DC;Urms 575V.AC;Us 2550V									
Cn (μF)	L (mm±1)	T (mm±1)	H (mm±1)	φd (mm)	ESL (nH)	dv/dt (V/μS)	IpK(A)	Irms(A)	Part number
0.1	32	9.5	17.5	0.8	25	1300	130	7.5	STE0104J01700****
0.15	32	12	20	1	24	1200	180	8.5	STE0154J01700****
0.22	32	15	23	1	24	1200	264	9.3	STE0224J01700****
0.33	32	18.5	26.5	1	22	1200	396	9.9	STE0334J01700****
0.33	44	13.5	21.5	1.2	29	1100	363	10.2	STE0334J01700****
0.47	44	16	24	1.2	28	1000	470	11.2	STE0474J01700****
0.68	44	20	28	1.2	27	1000	680	11.7	STE0684J01700****
1	44	24	33.5	1.2	26	900	900	12.4	STE0105J01700****
1	57	19.5	27.5	1.2	33	850	850	10.8	STE0105J01700****
1.5	44	28	40.5	1.2	25	800	1200	13.5	STE0155J01700****
1.5	57	24	32	1.2	33	750	1125	13.5	STE0155J01700****
2	44	31.5	47	1.2	24	750	1500	14.2	STE0205J01700****
2	57	27.5	37	1.2	32	650	1300	12.8	STE0205J01700****
2.2	44	33.5	49	1.2	34	700	1540	15.6	STE0225J01700****
2.2	57	29	40	1.2	32	600	1320	14.5	STE0225J01700****
3	57	31	46.5	1.2	30	560	1680	17.2	STE0305J01700****
3.3	57	33	48.5	1.2	29	500	1650	17.6	STE0335J01700****
4	57	37	52.5	1.2	28	450	1800	18.2	STE0405J01700****
Un 2000V.DC;Urms 700V.AC;Us 3000V									
Cn (μF)	L (mm±1)	T (mm±1)	H (mm±1)	φd (mm)	ESL (nH)	dv/dt (V/μS)	IpK(A)	Irms(A)	Part number
0.068	32	9	17	1	23	1500	102	6.9	STE0683J02000****
0.1	32	11.5	19.5	1	22	1500	150	8.2	STE0104J02000****
0.1	37	10.5	18.5	1	26	1450	145	8	STE0104J02000****
0.22	32	17.5	25.5	1.2	21	1400	308	9.1	STE0224J02000****
0.22	37	16	24	1.2	25	1300	286	9	STE0224J02000****
0.33	37	20	28	1.2	24	1250	412.5	9.5	STE0334J02000****
0.33	44	18	26	1.2	30	1200	396	10.2	STE0334J02000****
0.47	44	19.5	32	1.2	29	1100	517	12.4	STE0474J02000****
0.68	44	24	36.5	1.2	28	1000	680	14.2	STE0684J02000****
0.68	57	18.5	31	1.2	27	900	612	14.2	STE0684J02000****
1	57	23.5	36	1.2	31	950	950	14.5	STE0105J02000****
1.5	57	29.5	42	1.2	31	850	1275	14.5	STE0155J02000****
2	57	33	48.5	1.2	31	750	1500	16.5	STE0205J02000****
2.2	57	35	50.5	1.2	30	700	1540	17.8	STE0225J02000****
Un 3000V.DC;Urms 750V.AC;Us 4500V									
Cn (μF)	L (mm±1)	T (mm±1)	H (mm±1)	φd (mm)	ESL (nH)	dv/dt (V/μS)	IpK(A)	Irms(A)	Part number
0.047	44	13.5	21.5	1	20	2000	94	8.5	STE0683J03000****
0.068	44	17	25	1	20	1800	122.4	10.5	STE0683J03000****
0.1	44	20.5	28.5	1.2	20	1500	150	12.4	STE0104J03000****
0.15	44	26	34	1.2	22	1350	202.5	13.8	STE0154J03000****
0.22	44	29	41.5	1.2	22	1200	264	14.5	STE0224J03000****



MKPS-TE

IGBT,GTO缓冲吸收



应用

- IGBT 缓冲吸收。
- 广泛应用于电力电子设备中开关器件关断时的尖峰电压, 尖峰电流吸收保护。

Application

- IGBT Snubber.
- Widely used in power electronic equipment when the peak voltage, peak current absorption protection.

性能参数 Technical data

工作温度范围 / Operating temperature range	Max.Operating temperature.,Top,max : + 85°C
	Upper category temperature : + 85°C
	Lower category temperature : - 40°C
容量范围 (C _N) / Capacitance range	0.1μF~5.6μF
额定电压 (U _N) / Rated voltage	630V.DC~2000V.DC
容量偏差 / Cap.tol	± 5% (J) ; ± 10% (K)
耐电压 / Withstand voltage	1.5 DC / 10S
损耗角正切 / Dissipation factor	tgδ ≤ 0.0005 C < 1μF f = 10KHz
	tgδ ≤ 0.001 C ≥ 1μF f = 10KHz
绝缘电阻 / Insulation resistance	C ≤ 0.33μF R _s ≥ 30000 MΩ (at 20°C 100V.DC 60S)
	C > 0.33μF R _s ×C ≥ 10000S (at 20°C 100V.DC 60S)



IGBT SNUBBER CAPACITOR

MKPS-P

IGBT,GTO缓冲吸收



应用 / Application

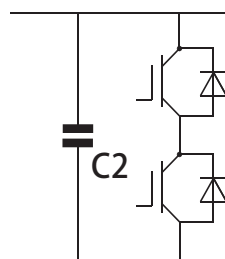
- IGBT缓冲吸收;
- 广泛应用于电力电子设备中开关器件关断时的尖峰电压, 尖峰电流吸收保护。
- IGBT Snubber;
- Widely used in power electronic equipment when the peak voltage, peak current absorption protection.

产品特点 / Introduction

- 塑料外壳封装, 阻燃环氧树脂灌注;
- 镀锡铜插片引出, 方便IGBT各种孔距安装;
- 耐高压, 损耗小, 温升低;
- 自感 (ESL) 小, 等效串联电阻 (ESR) 小;
- 高脉冲电流, 高dv/dt承受能力。

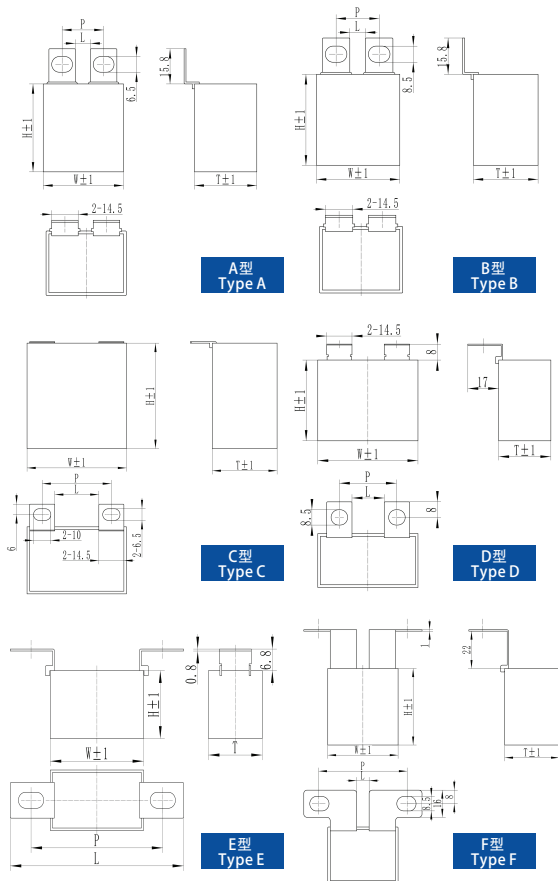
- Plastic, Sealed with epoxy resin;
- Tin-plated copper inserts leads, easy installation for IGBT;
- Resistance to high voltage, low, low temperature rise;
- low ESL and ESR;
- High pulse Current.

典型应用电路 / Typical Circuit



Snubber Capacitors(C2)

外形图 / Outline Drawing



外形类型描述 / Type description

项目	W	L	P	Output
Type A	42.5	10.5	22~29	M6
	57.5	10.5	22~29	M6
	57.5	25.5	37~44	M6
Type B	42.5	10.5	24~26	M8
	42.5	8	21~23	M8
	57.5	10.5	24~26	M8
	57.5	24	37~39	M8
Type C	42.5	10.5	22~29	M6
	57.5	10.5	22~29	M6
	57.5	25.5	37~44	M6
Type D	42.5	10.5	24~26	M8
	42.5	8.5	22~24	M8
	57.5	10.5	24~26	M8
	57.5	23.5	37~39	M8
Type E	42.5	80.5	60.5~64.5	M6
	57.5	95.5	75.5~79.5	M6
Type F	57.5	21	51.5~62.5	M6



MKPS-P

IGBT,GTO缓冲吸收

技术参数 / Technical Data

执行标准Implemented standard	GB/T 17702、IEC61071
气候等级Climatic category	40/85/21
额定电压 (Un)Rated Voltage	630V.DC~4000V.DC
容量范围 (Cn)Capacitance range	0.0068 μ F~10 μ F
容量偏差Capacitance tolerance	\pm 5%(J)、 \pm 10% (K)
耐电压Withstand voltage	
极间 between terminals	1.5Un(VDC)/10S
绝缘电阻Insulation resistance	RixCn \geq 5000S (100VDC,60S@20°C)

常用规格 / Dimension

Un 700V.DC,Urms400V.AC;Us1050V										
Cn (μ F)	W (mm \pm 1)	T (mm \pm 1)	H (mm \pm 1)	type	ESR (m Ω) @10KHz	ESL (nH)	dv/dt (V/ μ S)	Ip(A)	Irms(A)	Part number
0.47	42.5	24.5	27.5	A/B/C/D/E	12	25	500	235	8	PSP0474J00700****
0.68	42.5	24.5	27.5	A/B/C/D/E	10	25	480	326.4	10	PSP0684J00700****
1	42.5	24.5	27.5	A/B/C/D/E	8	24	450	450	12	PSP0105J00700****
1.5	42.5	33.5	35.5	A/B/C/D/E	7	25	430	645	5	PSP0155J00700****
2	42.5	33	35.5	A/B/C/D/E	6	24	420	840	15	PSP0205J00700****
2.5	42.5	33	45	A/B/C/D/E	6	23	400	1000	18	PSP0255J00700****
3	42.5	33	45	A/B/C/D/E	5.5	22	380	1140	20	PSP0305J00700****
3	57.5	30	45	A/B/C/D/E/F	5	26	350	1050	22	PSP0305J00700****
3.5	42.5	33	45	A/B/C/D/E	5	23	350	1225	25	PSP0355J00700****
3.5	57.5	30	45	A/B/C/D/E/F	6	25	300	1050	22	PSP0355J00700****
4.7	57.5	35	50	A/B/C/D/E/F	5	28	280	1316	25	PSP0475J00700****
5.6	57.5	38	54	A/B/C/D/E/F	4	30	250	1400	25	PSP0565J00700****
6	57.5	38	54	A/B/C/D/E/F	3.5	33	230	1380	28	PSP0605J00700****
6.8	57.5	42.5	56	A/B/C/D/E/F	3.2	32	220	1496	32	PSP0685J00700****
8	57.5	42.5	56	A/B/C/D/E/F	2.8	30	200	1600	33	PSP0805J00700****
Un 1000V.DC,Urms500V.AC;Us1500V										
Cn (μ F)	W (mm \pm 1)	T (mm \pm 1)	H (mm \pm 1)	type	ESR (m Ω) @10KHz	ESL (nH)	dv/dt (V/ μ S)	Ip(A)	Irms(A)	Part number
0.47	42.5	24.5	27.5	A/B/C/D/E	11	25	1000	470	10	PSP0474J01000****
0.68	42.5	24.5	27.5	A/B/C/D/E	8	25	800	544	12	PSP0684J01000****
1	42.5	33.5	35.5	A/B/C/D/E	6	24	800	800	15	PSP0105J01000****
1.5	42.5	33	45	A/B/C/D/E	6	24	700	1050	15	PSP0155J01000****
2	42.5	33	45	A/B/C/D/E	5	22	700	1400	20	PSP0205J01000****
2.5	57.5	30	45	A/B/C/D/E/F	5	30	600	1500	22	PSP0255J01000****
3	57.5	35	50	A/B/C/D/E/F	4	30	600	1800	25	PSP0305J01000****
3.3	57.5	35	50	A/B/C/D/E/F	3.5	28	550	1815	25	PSP0335J01000****
3.5	57.5	38	54	A/B/C/D/E/F	3.5	28	500	1750	25	PSP0355J01000****
4	57.5	38	54	A/B/C/D/E/F	3.2	26	500	2000	28	PSP0405J01000****
4.7	57.5	42.5	56	A/B/C/D/E/F	3	25	420	1974	30	PSP0475J01000****
5.6	57.5	42.5	56	A/B/C/D/E/F	2.8	24	400	2240	32	PSP0565J01000****



IGBT SNUBBER CAPACITOR

MKPS-P

IGBT,GTO缓冲吸收

常用规格 / Dimension

Un 1200V.DC,Urms550V.AC;Us1800V											
Cn (μF)	W (mm±1)	T (mm±1)	H (mm±1)	type	ESR (mΩ) @10KHz	ESL (nH)	dv/dt (V/μS)	Ip(A)	Irms(A)	Part number	
0.47	42.5	24.5	27.5	A/B/C/D/E	11	24	1200	564	10	PSP0474J01200*****	
0.68	42.5	33.5	35.5	A/B/C/D/E	7	23	1100	748	12	PSP0684J01200*****	
1	42.5	33.5	35.5	A/B/C/D/E	6	22	800	800	14	PSP0105J01200*****	
1.5	42.5	33	45	A/B/C/D/E	5	20	800	1200	15	PSP0155J01200*****	
2	57.5	30	45	A/B/C/D/E/F	4	30	750	1500	20	PSP0205J01200*****	
2.5	57.5	35	50	A/B/C/D/E/F	4	28	700	1750	25	PSP0255J01200*****	
3	57.5	35	50	A/B/C/D/E/F	4	27	600	1800	25	PSP0305J01200*****	
3.3	57.5	38	54	A/B/C/D/E/F	4	27	550	1815	28	PSP0335J01200*****	
3.5	57.5	38	54	A/B/C/D/E/F	3.5	25	500	1750	28	PSP0355J01200*****	
4	57.5	42.5	56	A/B/C/D/E/F	3.5	25	450	1800	30	PSP0405J01200*****	
4.7	57.5	42.5	56	A/B/C/D/E/F	3.2	23	420	1974	32	PSP0475J01200*****	
Un 1700V.DC,Urms575V.AC;Us2250V											
Cn (μF)	W (mm±1)	T (mm±1)	H (mm±1)	type	ESR (mΩ) @10KHz	ESL (nH)	dv/dt (V/μS)	Ip(A)	Irms(A)	Part number	
0.33	42.5	24.5	27.5	A/B/C/D/E	12	25	1300	429	9	PSP0334J01700*****	
0.47	42.5	24.5	27.5	A/B/C/D/E	10	24	1300	611	10	PSP0474J01700*****	
0.68	42.5	33.5	35.5	A/B/C/D/E	8	23	1300	884	12	PSP0684J01700*****	
1	42.5	33	45	A/B/C/D/E	7	22	1200	1200	15	PSP0105J01700*****	
1.5	42.5	33	45	A/B/C/D/E	6	22	1200	1800	18	PSP0155J01700*****	
1.5	57.5	30	45	A/B/C/D/E/F	5	31	1200	1800	20	PSP0155J01700*****	
2	57.5	30	45	A/B/C/D/E/F	5	30	1100	2200	22	PSP0205J01700*****	
2.5	57.5	35	50	A/B/C/D/E/F	4	28	1100	2750	25	PSP0255J01700*****	
3	57.5	38	54	A/B/C/D/E/F	4	27	700	2100	25	PSP0305J01700*****	
3.3	57.5	38	54	A/B/C/D/E/F	3.8	26	600	1980	28	PSP0335J01700*****	
3.5	57.5	42.5	56	A/B/C/D/E/F	3.5	25	500	1750	30	PSP0355J01700*****	
4	57.5	42.5	56	A/B/C/D/E/F	3.2	25	450	1800	32	PSP0405J01700*****	
Un 2000V.DC,Urms700V.AC;Us3000V											
Cn (μF)	W (mm±1)	T (mm±1)	H (mm±1)	type	ESR (mΩ) @10KHz	ESL (nH)	dv/dt (V/μS)	Ip(A)	Irms(A)	Part number	
0.22	42.5	24.5	27.5	A/B/C/D/E	15	25	1500	330	10	PSP0224J02000*****	
0.33	42.5	33.5	35.5	A/B/C/D/E	12	24	1500	495	12	PSP0334J02000*****	
0.47	42.5	33.5	35.5	A/B/C/D/E	11	23	1400	658	15	PSP0474J02000*****	
0.68	42.5	33	45	A/B/C/D/E	8	22	1200	816	18	PSP0684J02000*****	
0.68	57.5	30	45	A/B/C/D/E/F	7	30	1100	748	20	PSP0684J02000*****	
0.82	42.5	33	45	A/B/C/D/E	7	28	1200	984	22	PSP0824J02000*****	
1	57.5	30	45	A/B/C/D/E/F	6	28	1100	1100	25	PSP0105J02000*****	
1.5	57.5	35	50	A/B/C/D/E/F	5	25	1000	1500	28	PSP0155J02000*****	
2	57.5	38	54	A/B/C/D/E/F	5	24	800	1600	28	PSP0205J02000*****	
2.2	57.5	42.5	56	A/B/C/D/E/F	4	23	700	1540	32	PSP0225J02000*****	
Un 3000V.DC,Urms750V.AC;Us4500V											
Cn (μF)	W (mm±1)	T (mm±1)	H (mm±1)	type	ESR (mΩ) @10KHz	ESL (nH)	dv/dt (V/μS)	Ip(A)	Irms(A)	Part number	
0.15	42.5	33	45	A/B/C/D/E	18	28	2500	375	25	PSP0154J03000*****	
0.22	42.5	33	45	A/B/C/D/E	15	27	2200	484	28	PSP0224J03000*****	
0.22	57.5	35	50	A/B/C/D/E/F	15	25	2000	330	20	PSP0224J03000*****	
0.33	57.5	35	50	A/B/C/D/E/F	12	24	1800	495	20	PSP0334J03000*****	
0.47	57.5	38	54	A/B/C/D/E/F	11	23	1600	752	22	PSP0474J03000*****	
0.68	57.5	42.5	56	A/B/C/D/E/F	8	22	1500	1020	28	PSP0684J03000*****	



MKPS-P

IGBT,GTO缓冲吸收

镀锡铜插片引出，方便IGBT各种孔距安装

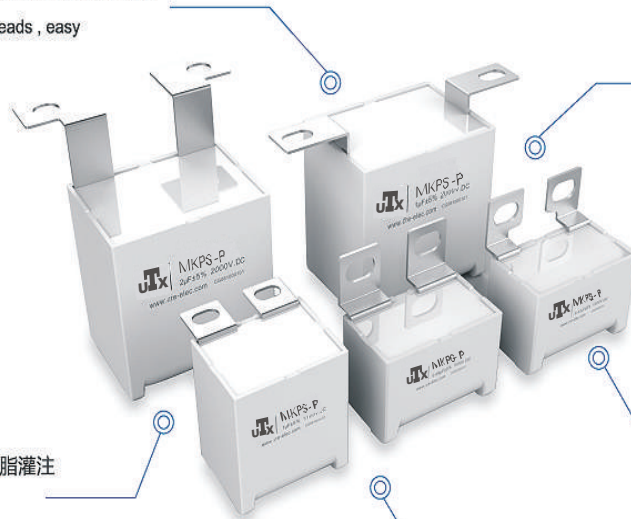
Tin-plated copper inserts leads, easy installation for IGBT

耐压高，损耗 (tgδ) 小，温升低
Resistance to high voltage, low tgδ, low temperature rise

高脉冲电流，高dv/dt承受能力
High pulse Current

塑料外壳封装，阻燃树脂灌注
Plastic, Sealed with resin

自感 (ESL) 小，等效串联电阻 (ESR) 小
Low ESL and ESR



应用

- IGBT 缓冲吸收。
- 广泛应用于电力电子设备中开关器件关断时的尖峰电压，尖峰电流吸收保护。

Application

- IGBT Snubber.
- Widely used in power electronic equipment when the peak voltage, peak current absorption protection.

性能参数 Technical data

工作温度范围 / Operating temperature range	Max.Operating temperature.,Top,max : + 105°C
	Upper category temperature : + 85°C
	Lower category temperature : - 40°C
容量范围 (C _N) / Capacitance range	0.1μF ~ 5.6μF
额定电压 (U _N) / Rated voltage	700V.DC ~ 3000V.DC
容量偏差 / Cap.tol	± 5% (J) ; ± 10% (K)
耐电压 / Withstand voltage	1.5U _N DC / 10S
损耗角正切 / Dissipation factor	tgδ ≤ 0.0005 C < 1μF f = 10KHz
	tgδ ≤ 0.001 C ≥ 1μF f = 10KHz
绝缘电阻 / Insulation resistance	C ≤ 0.33μF R _s ≥ 30000 MΩ (at20°C 100V.DC 60S)
	C > 0.33μF R _s × C ≥ 10000S (at20°C 100V.DC 60S)



IGBT SNUBBER CAPACITOR

MKPS-TC

IGBT,GTO缓冲吸收



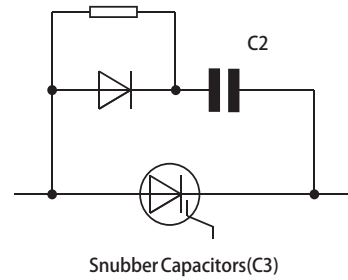
应用 / Application

- GTO缓冲吸收;
- 广泛应用于电力电子设备中开关器件关断时的尖峰电压, 尖峰电流吸收保护。
- GTO Snubber;
- Widely used in power electronic equipment when the peak voltage, peak current absorption protection.

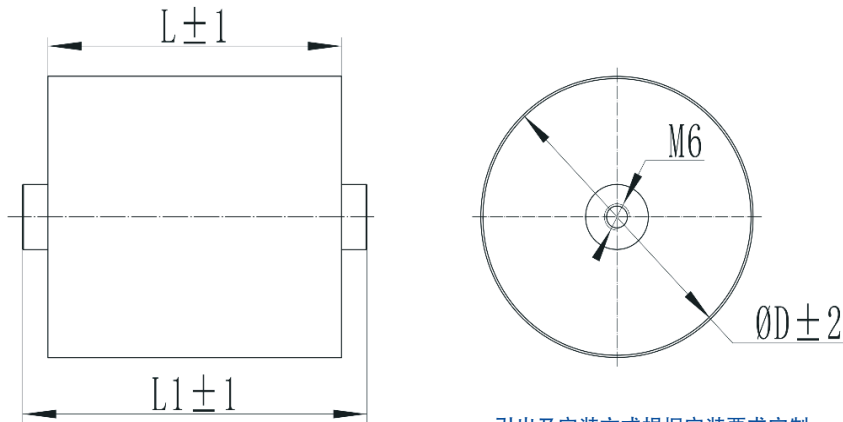
产品特点 / Introduction

- 迈拉胶带封装, 阻燃环氧树脂注塑;
- 镀锡铜线, 铜螺母引出, 方便安装;
- 无感式结构, ESL低、ESR小, 高脉冲电流, 高DV/DT承受能力; 耐压高, 损耗小, 温升低, 寿命长等特点。
- Mylar tape, Sealed with epoxy resin;
- Tinned copper wire, copper nut, easy installation;
- Non inductive structure, ESL low, ESR small, high pulse current, high DV/DT bearing capacity, high pressure, low loss, low temperature rise, long life and so on.

典型应用电路 / Typical Circuit



外形图 / Outline Drawing



引出及安装方式根据安装要求定制

技术参数 / Technical Data

执行标准 Implemented standard	GB/T 17702、IEC61071
气候等级 Climatic category	40/85/21
额定电压 (Un) Rated Voltage	3000V.DC~20000V.DC
容量范围 (Cn) Capacitance range	0.068 μ F~3 μ F
容量偏差 Capacitance tolerance	\pm 5%(J)、 \pm 10% (K)
耐电压 Withstand voltage	
极间 between terminals	1.35Un(VDC)/10S
绝缘电阻 Insulation resistance	RixCn \geq 5000S (100VDC,60S@20 $^{\circ}$ C)



IGBT SNUBBER CAPACITOR

MKPS-TC

IGBT,GTO缓冲吸收

常用规格 / Dimension

Un 3000V.DC								
Cn (μ F)	φ D (mm)	L (mm)	L1 (mm)	ESL (nH)	dv/dt (V/ μ S)	Ipk (A)	Irms(A)	Part number
0.22	35	44	52	25	1100	242	30	STC0224J03000*****
0.33	43	44	52	25	1000	330	35	STC0334J03000*****
0.47	51	44	52	22	850	399	45	STC0474J03000*****
0.68	61	44	52	22	800	544	55	STC0684J03000*****
1	74	44	52	20	700	700	65	STC0105J03000*****
1.2	80	44	52	20	650	780	75	STC0125J03000*****
1.5	52	70	80	30	600	900	45	STC0155J03000*****
2	60	70	80	30	500	1000	55	STC0205J03000*****
3	73	70	80	30	400	1200	65	STC0305J03000*****
4	83	70	80	30	350	1400	70	STC0405J03000*****
Un 6000V.DC								
Cn (μ F)	φ D (mm)	L (mm)	L1 (mm)	ESL (nH)	dv/dt (V/ μ S)	Ipk (A)	Irms(A)	Part number
0.22	43	60	72	25	1500	330	35	STC0224J06000*****
0.33	52	60	72	25	1200	396	45	STC0334J06000*****
0.47	62	60	72	25	1000	470	50	STC0474J06000*****
0.68	74	60	72	22	900	612	60	STC0684J06000*****
1	90	60	72	22	800	900	75	STC0105J06000*****
Un 7000V.DC								
Cn (μ F)	φ D (mm)	L (mm)	L1 (mm)	ESL (nH)	dv/dt (V/ μ S)	Ipk (A)	Irms(A)	Part number
0.22	45	57	72	25	1100	242	30	STC0224J07000*****
0.68	36	80	92	28	1000	680	25	STC0684J07000*****
1	43	80	92	28	850	850	30	STC0105J07000*****
1.5	52	80	92	25	800	1200	35	STC0155J07000*****
1.8	57	80	92	25	700	1260	40	STC0185J07000*****
2	60	80	92	23	650	1300	45	STC0205J07000*****
3	73	80	92	22	500	1500	50	STC0305J07000*****
Un 8000V.DC								
Cn (μ F)	φ D (mm)	L (mm)	L1 (mm)	ESL (nH)	dv/dt (V/ μ S)	Ipk (A)	Irms(A)	Part number
0.33	35	90	102	30	1100	363	25	STC0334J08000*****
0.47	41	90	102	28	1000	470	30	STC0474J08000*****
0.68	49	90	102	28	850	578	35	STC0684J08000*****
1	60	90	102	25	800	800	40	STC0105J08000*****
1.5	72	90	102	25	700	1050	45	STC0155J08000*****
2	83	90	102	25	650	1300	50	STC0205J08000*****
Un 10000V.DC								
Cn (μ F)	φ D (mm)	L (mm)	L1 (mm)	ESL (nH)	dv/dt (V/ μ S)	Ipk (A)	Irms(A)	Part number
0.33	45	114	124	35	1500	495	30	STC0334J10000*****
0.47	54	114	124	35	1300	611	35	STC0474J10000*****
0.68	65	114	124	35	1200	816	40	STC0684J10000*****
1	78	114	124	35	1000	1000	55	STC0105J10000*****
1.5	95	114	124	35	800	1200	70	STC0155J10000*****

MKPR-MT

谐振电容



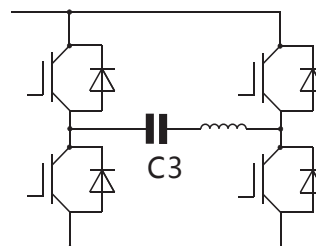
应用 / Application

- 应用于电力电子设备中的串/并联谐振;
- 电焊机, 电源, 感应加热设备等谐振场合。
- Widely used in power electronic devices in series/parallel resonant circuit;
- Widely used in welding, power supplies, induction heating equipment resonance occasions.

产品特点 / Introduction

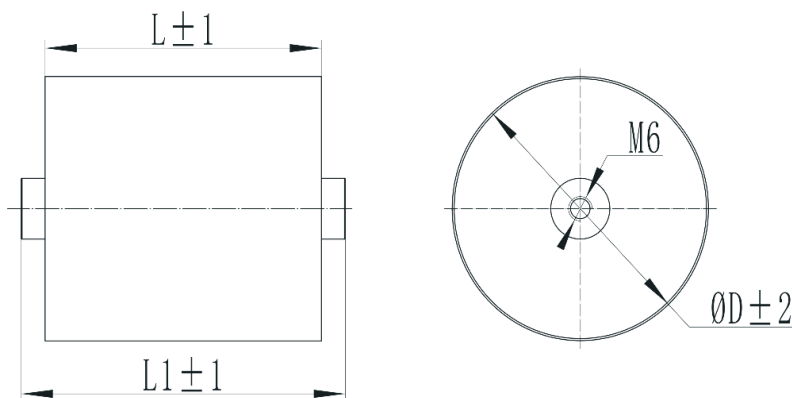
- 迈拉胶带封装, 阻燃环氧树脂注塑;
- 铜螺母引出, 方便安装;
- 无感式结构, ESL低、ESR小, 高脉冲电流, 高DV/DT承受能力; 耐压高, 损耗小, 温升低, 寿命长等特点。
- Mylar tape, Sealed with epoxy resin;
- Copper nut lead, convenient installation;
- Non inductive structure, ESL low, ESR small, high pulse current, high DV/DT bearing capacity, high pressure, low loss, low temperature rise, long life and so on.

典型应用电路 / Typical Circuit



Resonance Capacitors(C3)

外形图 / Outline Drawing



技术参数 / Technical Data

执行标准Implemented standard	GB/T 3984、IEC60110
气候等级Climatic category	40/85/21
额定电压 (Un)Rated Voltage	1000V.DC~4000V.DC
容量范围 (Cn)Capacitance range	0.01 μ F~10 μ F
容量偏差Capacitance tolerance	\pm 5%(J)、 \pm 10% (K)
耐电压Withstand voltage	
极间 between terminals	1.5Un(VDC)/10S
绝缘电阻Insulation resistance	RixCn \geq 5000S (100VDC,60s@20 $^{\circ}$ C)



MKPR-MT

谐振电容

常用规格 / Dimension

Un 1200V.DC Urms 500V.AC Upeak 710V									
Cn (μF)	φD (mm)	L (mm)	ESR @100KHz (mΩ)	ESL (nH)	dv/dt (V/μS)	Ip(A)	Irms(A)	Qn (kVar)	Part number
1	38	40	4.8	27	900	900	35	15.8	RMT0105J01200*****
1.5	46	40	3.2	25	800	1200	45	20.3	RMT0155J01200*****
2	53	40	2.4	25	750	1500	50	22.5	RMT0205J01200*****
2	38	47	2.4	28	720	1440	33	14.9	RMT0205J01200*****
3	64	40	1.6	23	680	2040	60	27.0	RMT0305J01200*****
3	45	47	2.1	27	620	1860	40	18.0	RMT0305J01200*****
4	52	47	1.6	26	550	2200	45	20.3	RMT0405J01200*****
5	58	47	1.3	25	500	2500	53	23.9	RMT0505J01200*****
6	63	47	1.1	23	450	2700	58	26.1	RMT0605J01200*****
7	68	47	0.9	22	450	3150	60	27.0	RMT0705J01200*****
8	73	47	0.8	20	400	3200	65	29.3	RMT0805J01200*****
Un 2000V.DC Urms 750V.AC Upeak 1050V									
Cn (μF)	φD (mm)	L (mm)	ESR @100KHz (mΩ)	ESL (nH)	dv/dt (V/μS)	Ip(A)	Irms(A)	Qn (kVar)	Part number
1	41	40	4.0	27	1100	1100	38	25.7	RMT0105J02000*****
1.5	50	40	2.7	26	1000	1500	48	32.4	RMT0155J02000*****
2	58	40	2.0	25	900	1800	55	37.1	RMT0205J02000*****
2	49	60	2.0	26	850	1700	45	30.4	RMT0205J02000*****
3	70	40	1.3	23	750	2250	65	43.9	RMT0305J02000*****
3	59	60	1.9	25	650	1950	55	37.1	RMT0305J02000*****
4	81	40	1.4	22	600	2400	75	50.6	RMT0405J02000*****
4	68	60	1.4	23	550	2200	62	41.9	RMT0405J02000*****
5	76	60	1.1	22	500	2500	70	47.3	RMT0505J02000*****
6	83	60	0.9	21	480	2880	75	50.6	RMT0605J02000*****
Un 3000V.DC Urms 1200V.AC Upeak 1700V									
Cn (μF)	φD (mm)	L (mm)	ESR @100KHz (mΩ)	ESL (nH)	dv/dt (V/μS)	Ip(A)	Irms(A)	Qn (kVar)	Part number
0.33	43	44	7.2	26	1800	594	40	43.2	RMT0334J03000*****
0.47	51	44	5.5	25	1700	799	48	51.8	RMT0474J03000*****
0.5	53	44	4.8	25	1600	800	50	54.0	RMT0504J03000*****
0.68	61	44	3.5	24	1500	1020	56	60.5	RMT0684J03000*****
0.75	64	44	3.2	24	1400	1050	60	64.8	RMT0754J03000*****
0.8	66	44	4.0	23	1350	1080	62	67.0	RMT0804J03000*****
1	74	44	3.2	22	1300	1300	70	75.6	RMT0105J03000*****
1.2	81	44	2.7	21	1250	1500	75	81.0	RMT0125J03000*****
1.5	90	44	2.1	20	1200	1800	80	86.4	RMT0155J03000*****
Un 4000V.DC Urms 1500V.AC Upeak 2100V									
Cn (μF)	φD (mm)	L (mm)	ESR @100KHz (mΩ)	ESL (nH)	dv/dt (V/μS)	Ip(A)	Irms(A)	Qn (kVar)	Part number
0.08	46	60	10.0	28	3000	240	40	51.0	RMT0803J4000*****
0.1	51	60	8.0	27	2850	285	45	57.4	RMT0104J4000*****
0.12	56	60	6.6	26	2750	330	50	63.8	RMT0124J4000*****
0.15	63	60	8.5	25	2500	375	58	74.0	RMT0154J4000*****
0.18	64	60	7.1	25	2400	432	60	76.5	RMT0184J4000*****
0.25	80	60	5.1	23	2200	550	75	95.6	RMT0254J4000*****
0.33	52	60	3.9	23	2000	660	48	61.2	RMT0334J4000*****
0.47	62	60	5.1	22	1800	846	58	74.0	RMT0474J4000*****
0.5	64	60	4.8	22	1700	850	60	76.5	RMT0504J4000*****
0.68	75	60	3.5	20	1600	1088	70	89.3	RMT0684J4000*****
0.75	78	60	3.2	20	1500	1125	72	91.8	RMT0754J4000*****



RESONANT CAPACITOR

MKPR-PC/PS

谐振电容



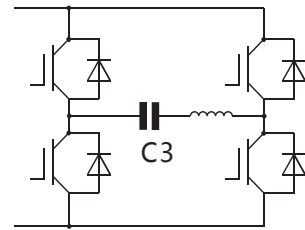
应用 / Application

- 应用于电力电子设备中的串/并联谐振;
- 电焊机, 电源, 感应加热设备等谐振场合。
- Widely used in power electronic devices in series/parallel resonant circuit;
- Widely used in welding, power supplies, induction heating equipment resonance occasions.

产品特点 / Introduction

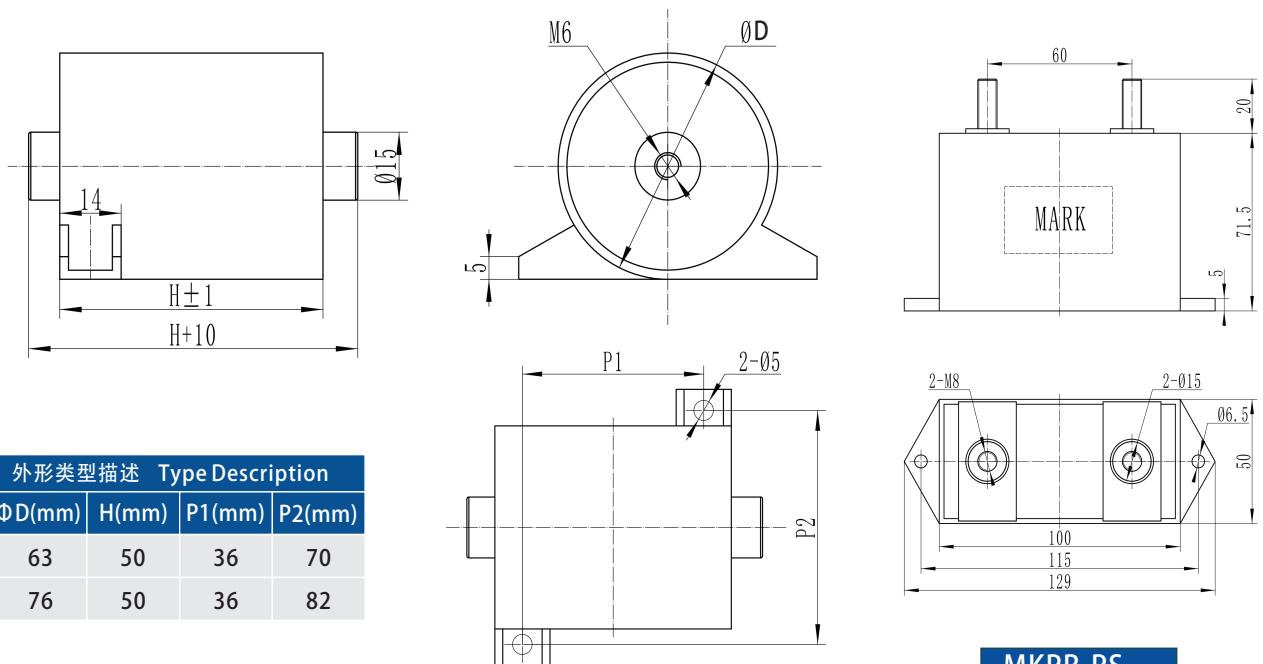
- 塑料外壳封装, 阻燃环氧树脂注塑;
- 铜螺母引出, 方便安装;
- 无感式结构, ESL低、ESR小, 高脉冲电流, 高DV/DT承受能力; 耐压高, 损耗小, 温升低, 寿命长等特点。
- Plastic packaging, Sealed with epoxy resin;
- Copper nut lead, convenient installation;
- Non inductive structure, ESL low, ESR small, high pulse current, high DV/DT bearing capacity, high pressure, low loss, low temperature rise, long life and so on.

典型应用电路 / Typical Circuit



Resonance Capacitors(C3)

外形图 / Outline Drawing



MKPR-PC

MKPR-PS



RESONANT CAPACITOR

MKPR-PC/PS

谐振电容

技术参数 / Technical Data

执行标准 Implemented standard	GB/T 3984、IEC60110
气候等级 Climatic category	40/85/21
额定电压 (Un) Rated Voltage	1200V.DC~4000V.DC
容量范围 (Cn) Capacitance range	1 μ F~8 μ F
容量偏差 Capacitance tolerance	$\pm 5\%$ (J)、 $\pm 10\%$ (K)
耐电压 Withstand voltage	
极间 between terminals	1.5Un(VDC)/10S
绝缘电阻 Insulation resistance	RixCn $\geq 5000S$ (100VDC,60@20°C)

常用规格 / Dimension

Un 1200V.DC Urms 500V.AC									
Cn (μ F)	ϕ D (mm)	H (mm)	ESL (nH)	dv/dt (V/ μ S)	Ip(KA)	Irms(A)	ESR 100kHz (m Ω)	Part number	
2	63	50	20	500	1.0	30	3.2	RPC0205J01200*****	
3	63	50	22	500	1.5	35	3	RPC0305J01200*****	
4	63	50	22	400	1.6	45	2.8	RPC0405J01200*****	
5	63	50	23	400	2.0	50	2.5	RPC0505J01200*****	
6	76	50	25	350	2.1	60	2	RPC0605J01200*****	
7	76	50	25	300	2.1	65	1.5	RPC0705J01200*****	
Un 1600V.DC Urms 600V.AC									
Cn (μ F)	ϕ D (mm)	H (mm)	ESL (nH)	dv/dt (V/ μ S)	Ip(KA)	Irms(A)	ESR 100kHz (m Ω)	Part number	
2	63	50	20	700	1.4	30	3.2	RPC0205J1600*****	
3	63	50	22	600	1.8	35	3	RPC0305J1600*****	
4	63	50	22	550	2.2	45	2.8	RPC0405J1600*****	
5	76	50	23	500	2.5	55	2.3	RPC0505J1600*****	
6	76	50	25	450	2.7	65	2.2	RPC0605J1600*****	
Un 2000V.DC Urms 700V.AC									
Cn (μ F)	ϕ D (mm)	H (mm)	ESL (nH)	dv/dt (V/ μ S)	Ip(KA)	Irms(A)	ESR 100kHz (m Ω)	Part number	
2	63	50	20	800	1.6	50	3	RPC0205J2000*****	
3	63	50	22	700	2.1	55	2.8	RPC0305J2000*****	
4	76	50	22	600	2.4	65	2.5	RPC0405J2000*****	
MKPR-PS Un 3000V.DC Urms 1500V.AC									
Cn (μ F)	W (mm)	T (mm)	H (mm)	ESL (nH)	dv/dt (V/ μ S)	Ip(KA)	Irms(A)	ESR 100kHz (m Ω)	Part number
0.8	100	50	71.5	25	1000	800	80	6	RPC0804J01500***** 螺杆螺母引出型

◆ 插针式引出型可根据客户实际应用场合要求进行定制

MKPA-MC

交流滤波电容



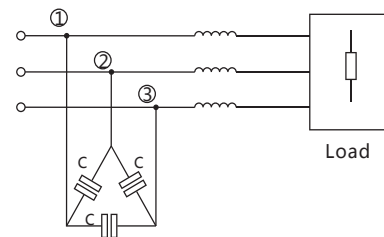
应用 / Application

- 广泛应用于电力电子设备中作交流滤波用；
- 在大功率UPS，开关电源，变频器等设备中作交流滤波，治理谐波及提高功率因数。
- Widely used in power electronic equipment used for the AC filler;
- In the high-power UPS, switching power supply, inverter and other equipment for the AC filler, harmonics and improve power factor control.

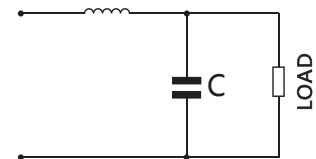
产品特点 / Introduction

- 铝外壳封装，高温高导填充料注塑；
- 铜螺母、铜螺杆引出，安装简单方便，阻燃定位盖绝缘；
- 容值高，体积小，耐压高，自愈性强；
- 承受高谐波电流，高DV/DT承受力。
- Aluminum housing package, high temperature and high conductive filler injection molding;
- Copper nut, copper screw extraction, installation is simple and convenient, flame retardant positioning cover insulation;
- High capacitance, small size, high pressure level, self healing;
- High frequency harmonic current, high DV/DT bearing capacity.

典型应用电路 / Typical Circuit

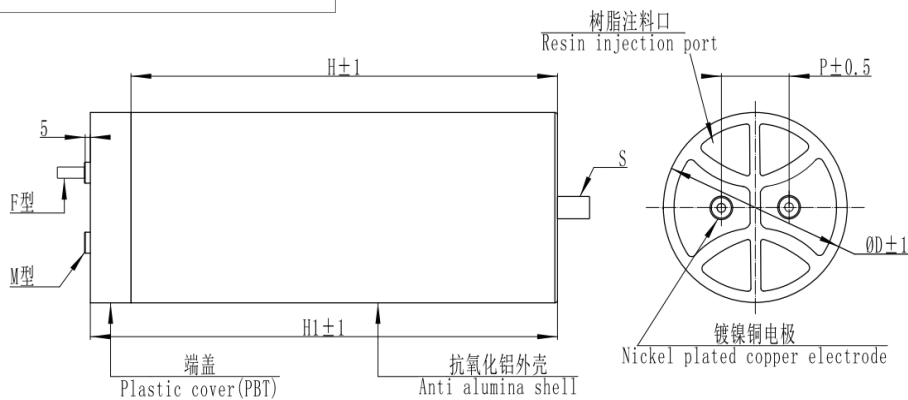


AC Filter Capacitance (C)



AC Filter Capacitance (C)

外形图 / Outline Drawing



◆外形尺寸Outline dimension

Unit:mm

ΦD	76	86	86	96	116	136
P	32	32	45	45	50	50
S	M12*16	M12*16	M12*16	M12*16	M16*25	M16*25
M螺母	M6*10	M6*10	M6*10	M6*10	M6*10	M6*10
F螺杆	M8*20	M8*20	M8*20	M8*20	M8*20	M8*20

◆规格参数Specification parameter



AC FILLER CAPACITOR

MKPA-MC

交流滤波电容

技术参数 / Technical Data

执行标准 Implemented standard	GB/T 17702、IEC61071
气候等级 Climatic category	40/85/21
额定电压 (Un) Rated Voltage	330V.AC-3000V.AC
容量范围 (Cn) Capacitance range	10 μ F~1500 μ F
容量偏差 Capacitance tolerance	$\pm 5\%$ (J)、 $\pm 10\%$ (K)
耐电压 Withstand voltage	
极间 between terminals	2.15Un(VAC)/10S
极壳 between terminals and case	2Ui+1000V.AC@50HZ60S
绝缘电阻 Insulation resistance	RixCn $\geq 10000S$ (100VDC.60S)

常用规格 / Dimension

Un=330V.AC Us=1200V												
Cn (μ F)	φ D (mm)	H (mm)	ESL (nH)	dv/dt (V/ μ S)	Ip (KA)	Is (KA)	Irms(A)	ESR (m Ω) @1KHz	Rth (K/W)	P (mm)	weight (Kg)	Part number
80	76	80	40	80	6.4	19.2	30	4	4.2	32	0.5	AMC0806K00330*****
120	86	80	40	70	8.4	25.2	40	2.8	3.3	32	0.7	AMC0127K00330*****
150	96	80	45	70	10.5	31.5	50	3.5	1.7	45	0.75	AMC0157K00330*****
230	86	130	50	60	13.8	41.4	70	2.4	1.3	32	1.1	AMC0237K00330*****
300	96	130	50	50	15.0	45.0	75	2.8	1.0	45	1.2	AMC0307K00330*****
420	116	130	60	50	21.0	63.0	80	1.9	1.2	50	1.6	AMC0427K00330*****
Un=450V.AC Us=1520V												
Cn (μ F)	φ D (mm)	H (mm)	ESL (nH)	dv/dt (V/ μ S)	Ip (KA)	Is (KA)	Irms(A)	ESR (m Ω) @1KHz	Rth (K/W)	P (mm)	weight (Kg)	Part number
50	76	80	40	90	4.5	13.5	30	4	4.2	32	0.5	AMC0506K00450*****
65	86	80	50	80	5.2	15.6	40	2.8	3.3	32	0.7	AMC0656K00450*****
80	96	80	45	80	6.4	19.2	50	3.5	1.7	45	0.75	AMC0806K00450*****
100	76	130	50	70	7.0	21.0	60	3.2	1.3	32	0.75	AMC0107K00450*****
160	96	130	50	50	8.0	24.0	75	2.8	1.0	45	1.2	AMC0167K00450*****
250	116	130	60	50	12.5	37.5	80	1.9	1.2	50	1.6	AMC0257K00450*****
Un=690V.AC Us=2100V												
Cn (μ F)	φ D (mm)	H (mm)	ESL (nH)	dv/dt (V/ μ S)	Ip (KA)	Is (KA)	Irms(A)	ESR (m Ω) @1KHz	Rth (K/W)	P (mm)	weight (Kg)	Part number
40	76	130	50	100	4.0	12.0	30	2.8	6.0	32	0.75	AMC0406K00690*****
50	76	150	45	90	4.5	13.5	35	2.4	5.1	32	0.85	AMC0506K00690*****
60	86	130	45	80	4.8	14.4	40	2.2	4.3	32	1.1	AMC0606K00690*****
65	86	150	50	80	5.2	15.6	45	1.8	4.1	32	1.2	AMC0656K00690*****
75	96	130	50	80	6.0	18.0	50	1.5	4.0	45	1.2	AMC0756K00690*****
80	96	150	55	75	6.0	18.0	60	1.2	3.5	45	1.3	AMC0806K00690*****
120	116	150	65	50	6.0	18.0	75	0.6	4.4	50	1.8	AMC0127K00690*****
Un=850V.AC Us=2850V												
Cn (μ F)	φ D (mm)	H (mm)	ESL (nH)	dv/dt (V/ μ S)	Ip (KA)	Is (KA)	Irms(A)	ESR (m Ω) @1KHz	Rth (K/W)	P (mm)	weight (Kg)	Part number
25	76	130	50	110	2.8	8.3	35	1.5	8.2	32	0.75	AMC0256K00850*****
30	76	150	60	100	3.0	9.0	40	1.2	7.8	32	0.85	AMC0306K00850*****
32	86	130	45	100	3.2	9.6	50	1.15	5.2	32	1.1	AMC0326K00850*****
45	86	150	50	90	4.1	12.2	50	1.05	5.7	32	1.2	AMC0456K00850*****
40	96	130	50	90	3.6	10.8	50	1	6.0	45	1.2	AMC0406K00850*****
60	96	150	60	85	5.1	15.3	60	0.9	4.6	45	1.3	AMC0606K00850*****
60	116	130	60	80	4.8	14.4	65	0.85	4.2	50	1.6	AMC0606K00850*****
90	116	150	65	75	6.8	20.3	75	0.8	3.3	50	1.8	AMC0906K00850*****



AC FILLER CAPACITOR

MKPA-MC

交流滤波电容



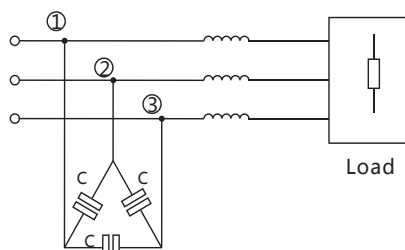
应用 / Application

- 广泛应用于电力电子设备中作交流滤波用；
- 在大功率UPS，开关电源，变频器等设备中作交流滤波，治理谐波及提高功率因数。
- Widely used in power electronic equipment used for the AC filter;
- In the high-power UPS, switching power supply, inverter and other equipment for the AC filter, harmonics and improve power factor control.

产品特点 / Introduction

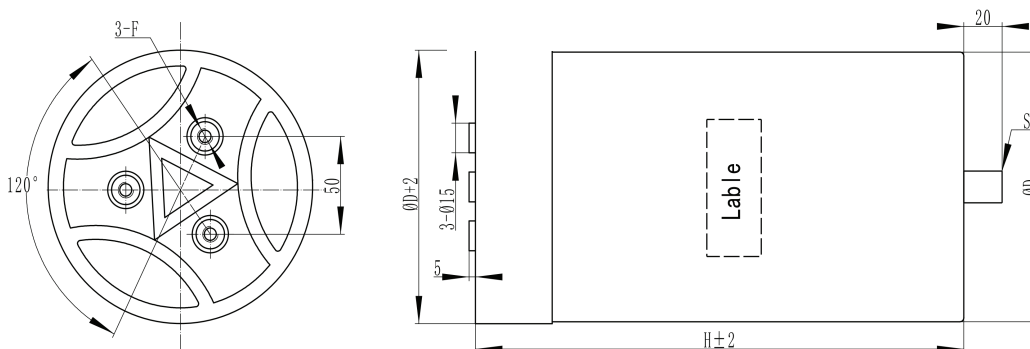
- 铝外壳封装，高温高导填充料注塑；
- 铜螺母、铜螺杆引出，安装简单方便，阻燃定位盖绝缘；
- 容值高，体积小，耐压高，自愈性强；
- 承受高谐波电流，高DV/DT承受力。
- Aluminum housing package, high temperature and high conductive filler injection molding;
- Copper nut, copper screw extraction, installation is simple and convenient, flame retardant positioning cover insulation;
- High capacitance, small size, high pressure level, self healing;
- High frequency harmonic current, high DV/DT bearing capacity.

典型应用电路 / Typical Circuit



AC Filter Capacitance(C)

外形图 / Outline Drawing



外形类型描述		Type description		
ΦD(mm)	P(mm)	S(mm)	F(mm)	
116	50	M16*25	M6*10	M8*20
136	50	M16*25	M6*10	M8*20
			螺母	螺杆



AC FILLER CAPACITOR

MKPA-MC

交流滤波电容

技术参数 / Technical Data

执行标准 Implemented standard	GB/T 17702、IEC61071
气候等级 Climatic category	40/85/21
额定电压 (Un) Rated Voltage	400V.AC~850V.AC
容量范围 (Cn) Capacitance range	3*10 μF~3*300 μF
容量偏差 Capacitance tolerance	±5%(J)、±10% (K)
耐电压 Withstand voltage	
极间 between terminals	2.15Un(VAC)/10S
极壳 between terminals and case	2Ui+1000V.AC@50HZ60S
绝缘电阻 Insulation resistance	RixCn ≧ 10000S (100VDC.60S)

常用规格 / Dimension

Un=450V.AC Us=1350V													
Cn (μF)	φD (mm)	H (mm)	ESL (nH)	dv/dt (V/μS)	I _p (KA)	I _s (KA)	I _{rms} (A)	ESR (mΩ) @1KHz	R _{th} (K/W)	P (mm)	weight (kg)	Part number	
3*110	116	130	100	60	6.6	19.8	3×50	3×0.78	4.5	43.5	1.6	AMC0117K00450*****	
3*145	116	180	110	50	7.3	21.8	3×60	3×0.72	3.8	43.5	2.4	AMC1457K00450*****	
3*175	116	210	120	50	8.8	26.3	3×75	3×0.67	3.5	43.5	2.7	AMC1757K00450*****	
3*200	136	230	125	40	8.0	24.0	3×85	3×0.6	2.1	52	4.2	AMC0207K00450*****	
Un=500V.AC Us=1520V													
Cn (μF)	φD (mm)	H (mm)	ESL (nH)	dv/dt (V/μS)	I _p (KA)	I _s (KA)	I _{rms} (A)	ESR (mΩ) @1KHz	R _{th} (K/W)	P (mm)	weight (kg)	Part number	
3*100	116	180	100	80	8.0	24.0	3×45	3×0.78	4.5	43.5	2.6	AMC0107K00500*****	
3*120	116	230	120	70	8.4	25.2	3×50	3×0.72	3.8	43.5	3	AMC0127K00500*****	
3*125	136	180	110	40	5.0	15.0	3×70	3×0.67	3.5	52	3.2	AMC1257K00500*****	
3*135	136	230	130	50	6.8	20.3	3×80	3×0.6	2.1	52	4.2	AMC1357K00500*****	
Un=690V.AC Us=2100V													
Cn (μF)	φD (mm)	H (mm)	ESL (nH)	dv/dt (V/μS)	I _p (KA)	I _s (KA)	I _{rms} (A)	ESR (mΩ) @1KHz	R _{th} (K/W)	P (mm)	weight (kg)	Part number	
3*49	116	230	120	70	3.4	10.3	3×56	3×0.55	2.1	43.5	3	AMC0496K00690*****	
3*55.7	136	230	130	90	5.0	15.0	3×56	3×0.4	2.1	52	4.2	AMC5576K00690*****	
Un=850V.AC Us=2580V													
Cn (μF)	φD (mm)	H (mm)	ESL (nH)	dv/dt (V/μS)	I _p (KA)	I _s (KA)	I _{rms} (A)	ESR (mΩ) @1KHz	R _{th} (K/W)	P (mm)	weight (kg)	Part number	
3*41.5	116	230	120	80	3.0	9.0	3×56	3×0.55	2.1	43.5	3	AMC4156K00850*****	
3*55.7	136	230	130	50	0.4	1.2	3×104	3×0.45	1.8	52	4.2	AMC5576K00850*****	



AC FILLER CAPACITOR

MKPA-MT

交流滤波电容



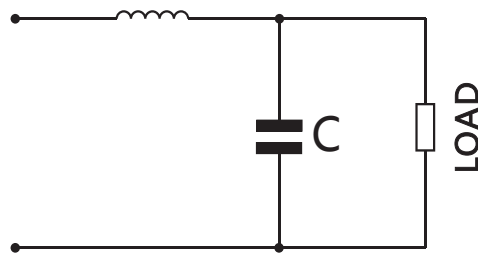
应用 / Application

- 广泛应用于电力电子设备中作交流滤波用；
- 在大功率UPS，开关电源，变频器等设备中作交流滤波，治理谐波及提高功率因数。
- Widely used in power electronic equipment used for the AC filler;
- In the high-power UPS,switching power supply,inverter and other equipment for the AC filler, harmonics and improve power factor control.

产品特点 / Introduction

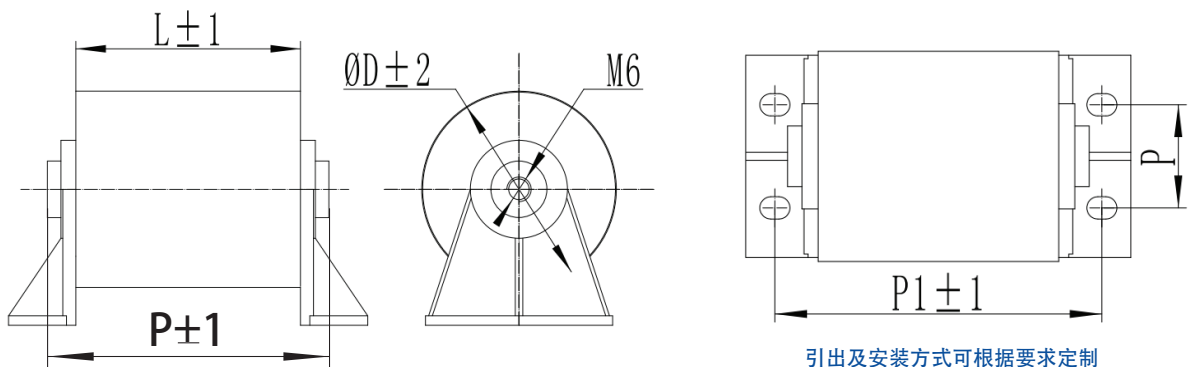
- 迈拉胶带封装，阻燃环氧树脂注塑；
- 安装灵活方便，引出方式可多样化选择；
- 无感式结构，ESL低、ESR小，高频大电流承受能力，温升低，寿命长等特点。
- Mylar tape,Sealed with epoxy resin;
- The installation is flexible and convenient,and the way of extraction canbe varied;
- Non inductive structure,ESL low,ESR small,high frequency and high current capacity,low temperature rise,long life and other characteristics.

典型应用电路 / Typical Circuit



AC Filter Capacitance(C)

外形图 / Outline Drawing





AC FILLER CAPACITOR

MKPA-MT

交流滤波电容

技术参数 / Technical Data

执行标准 Implemented standard	GB/T 17702、IEC61071
工作温度范围 Operating temperature range	-40°C~85°C
额定电压 (Un) Rated Voltage	330V.AC~690V.AC
容量范围 (Cn) Capacitance range	5 μ F~50 μ F
容量偏差 Capacitance tolerance	\pm 5%(J)、 \pm 10% (K)
耐电压 Withstand voltage	
极间 between terminals	2.15Un(VAC)/10S
极壳 between terminals and case	3000V.AC/10S (50Hz)
绝缘电阻 Insulation resistance	RixCn \geq 5000S (100VDC,60S@20°C)

常用规格 / Dimension

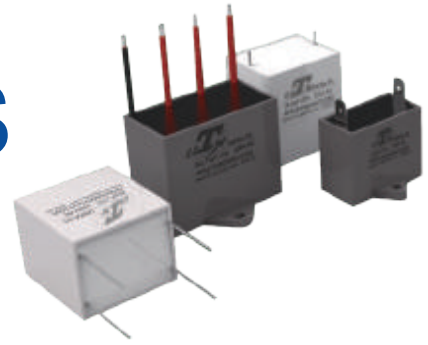
Un=330V.AC								
Cn (μ F)	φ D (mm)	L (mm)	ESR @10KHz (m Ω)	ESL (nH)	dv/dt (V/ μ S)	Ipk (A)	Irms(A)	Part number
6.8	35	40	9.4	27	100	680	30	AMT0685J00330*****
8	38	40	8.0	25	80	640	35	AMT0805J00330*****
10	42	40	6.4	25	75	750	40	AMT0106J00330*****
15	51	40	5.3	28	70	1050	48	AMT0156J00330*****
20	59	40	4.0	23	65	1300	55	AMT0206J00330*****
30	71	40	2.7	27	60	1800	68	AMT0306J00330*****
40	74	50	2.0	26	55	2200	70	AMT0406J00330*****
50	82	50	1.6	25	50	2500	75	AMT0506J00330*****
Un=450V.AC								
Cn (μ F)	φ D (mm)	L (mm)	ESR @10KHz (m Ω)	ESL (nH)	dv/dt (V/ μ S)	Ipk (A)	Irms(A)	Part number
6.8	35	40	9.4	27	100	680	30	AMT0685J00450*****
8	38	40	8.0	25	80	640	35	AMT0805J00450*****
10	42	40	6.4	25	75	750	40	AMT0106J00450*****
15	51	40	5.3	28	70	1050	48	AMT0156J00450*****
20	59	40	4.0	23	65	1300	55	AMT0206J00450*****
30	71	40	2.7	27	60	1800	68	AMT0306J00450*****
40	74	50	2.0	26	55	2200	70	AMT0406J00450*****
50	82	50	1.6	25	50	2500	75	AMT0506J00450*****
Un=690V.AC								
Cn (μ F)	φ D (mm)	L (mm)	ESR @10KHz (m Ω)	ESL (nH)	dv/dt (V/ μ S)	Ipk (A)	Irms(A)	Part number
5	35	60	9.6	27	180	900	30	AMT0505J00690*****
6.8	40	60	7.0	26	150	1020	35	AMT0685J00690*****
8	44	60	7.0	25	120	960	38	AMT0805J00690*****
10	49	60	6.4	26	110	1100	45	AMT0106J00690*****
15	59	60	4.2	23	100	1500	55	AMT0156J00690*****
20	68	60	3.2	25	90	1800	62	AMT0206J00690*****
25	76	60	2.5	22	80	2000	70	AMT0256J00690*****
30	83	60	2.1	23	80	2400	75	AMT0306J00690*****



AC FILLER CAPACITOR

MKPA-PS

交流滤波电容



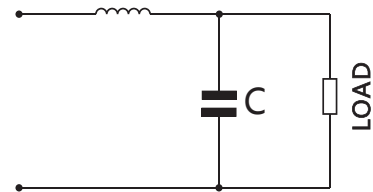
应用 / Application

- 广泛应用于电力电子设备中作交流滤波用;
- Widely used in power electronic equipment used for the AC filler;

产品特点 / Introduction

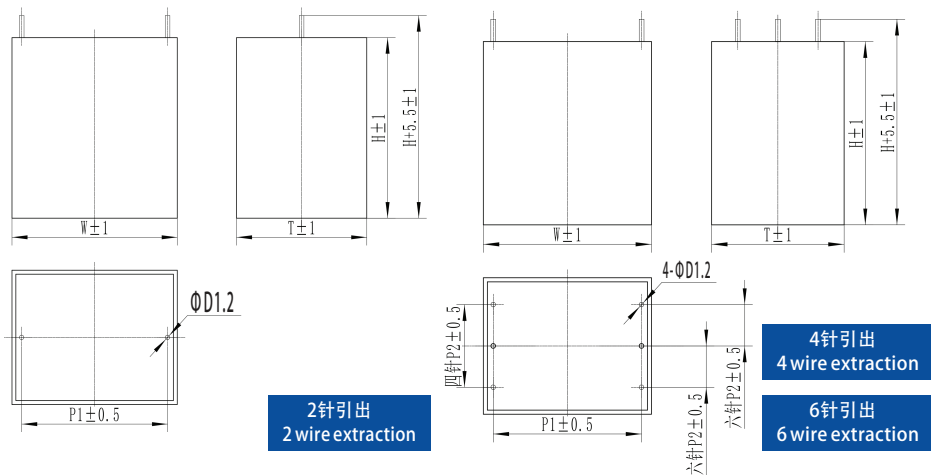
- 塑料方壳封装, 阻燃环氧树脂注塑;
- 体积小, 引出安装简单方便;
- 无感式结构, ESL低、ESR小, 温升低, 寿命长等特点;
- 承受高谐波电流, 高DV/DT承受能力。
- Plastic package, flame retardant epoxy resin injection molding;
- Small size, lead to easy installation;
- Non inductive structure, ESL low, ESR small, low temperature rise, long life and so on;
- High frequency harmonic current, high DV/DT bearing capacity.

典型应用电路 / Typical Circuit



AC Filter Capacitance(C)

外形图 / Outline Drawing



W(mm)	P1(mm)	P2(mm)	
		4wire	6wire
42.5	37.5	20.3	10.2
57.5	52.5	20.3	10.2

技术参数 / Technical Data

执行标准 Implemented standard	GB/T 17702、IEC61071
工作温度范围 Operating temperature range	-40°C~85°C
额定电压 (Un) Rated Voltage	200V.AC~450V.AC
容量范围 (Cn) Capacitance range	1 μF~50 μF
容量偏差 Capacitance tolerance	±5%(J)、±10% (K)
耐电压 Withstand voltage	
极间 between terminals	2.15Un(VAC)/10S
极壳 between terminals and case	2*Ui+1000V.AC @50HZ
绝缘电阻 Insulation resistance	RixCn ≥ 5000S (100VDC,60S@20°C)



AC FILLER CAPACITOR

MKPA-PS

交流滤波电容

常用规格 / Dimension

Undc330V.DC,Urms200V.AC;Us660V											
Cn (μ F)	W (mm)	T (mm)	H (mm)	ϕ d (mm)	P1 (mm)	P2 (mm)	ESR @10KHz (m Ω)	dv/dt (V/ μ S)	Ip(A)	Irms(A)	Part number
20	42.5	30	45	1.2	37.5		2.3	30	600	12	APS0206J00330*****
20	42.5	30	45	1.2	37.5	20.3	1.8	30	600	22	APS0206J00330*****
25	57.5	30	45	1.2	52.5		3.8	17	425	12	APS0256J00330*****
25	57.5	30	45	1.2	52.5	20.3	3.2	17	425	22	APS0256J00330*****
30	57.5	30	45	1.2	52.5		3.5	17	510	12	APS0306J00330*****
30	57.5	30	45	1.2	52.5	20.3	2.9	17	510	22	APS0306J00330*****
30	57.5	30	45	1.2	52.5	10.2	2.8	17	510	25	APS0306J00330*****
33	57.5	35	50	1.2	52.5		3.3	17	561	12	APS0336J00330*****
33	57.5	35	50	1.2	52.5	20.3	2.7	17	561	22	APS0336J00330*****
33	57.5	35	50	1.2	52.5	10.2	2.6	17	561	28	APS0336J00330*****
35	57.5	35	50	1.2	52.5		3.2	17	595	12	APS0356J00330*****
35	57.5	35	50	1.2	52.5	20.3	2.6	17	595	22	APS0356J00330*****
35	57.5	35	50	1.2	52.5	10.2	2.5	17	595	30	APS0356J00330*****
40	57.5	35	50	1.2	52.5		3	17	680	12	APS0406J00330*****
40	57.5	35	50	1.2	52.5	20.3	2.4	17	680	22	APS0406J00330*****
40	57.5	35	50	1.2	52.5	10.2	2.3	17	680	30	APS0406J00330*****
45	57.5	38	54	1.0	52.5		2.8	17	765	12	APS0456J00330*****
45	57.5	38	54	1.0	52.5	20.3	2.3	17	765	22	APS0456J00330*****
45	57.5	38	54	1.0	52.5	10.2	2.2	17	765	32	APS0456J00330*****
50	57.5	42.5	56	1.2	52.5		2.7	17	850	12	APS0506J00330*****
50	57.5	42.5	56	1.2	52.5	20.3	2.2	17	850	22	APS0506J00330*****
50	57.5	42.5	56	1.2	52.5	10.2	2.1	17	850	32	APS0506J00330*****
Undc 400V.DC,Urms250V.AC;Us800V											
Cn (μ F)	W (mm)	T (mm)	H (mm)	ϕ d (mm)	P1 (mm)	P2 (mm)	ESR @10KHz (m Ω)	dv/dt (V/ μ S)	Ip(A)	Irms(A)	Part number
10	42.5	33.5	35.5	1.2	37.5		2.6	40	400	12	APS0106J00400*****
10	42.5	33.5	35.5	1.2	37.5	20.3	2	40	400	23	APS0106J00400*****
15	42.5	30	45	1.2	37.5		2.3	40	600	28	APS0156J00400*****
15	42.5	30	45	1.2	37.5	20.3	1.8	40	600	28	APS0156J00400*****
15	42.5	30	45	1.2	37.5	10.2	1.7	40	600	28	APS0156J00400*****
18	42.5	33	45	1.2	37.5		2.2	40	720	15	APS0186J00400*****
18	42.5	33	45	1.2	37.5	20.3	1.7	40	720	15	APS0186J00400*****
18	42.5	33	45	1.2	37.5	10.2	1.6	40	720	15	APS0186J00400*****
20	57.5	30	45	1.2	52.5		3.5	20	400	25	APS0206J00400*****
20	57.5	30	45	1.2	52.5	20.3	2.9	20	400	25	APS0206J00400*****
20	57.5	30	45	1.2	52.5	10.2	2.8	20	400	25	APS0206J00400*****
25	57.5	35	50	1.2	52.5		3.4	20	500	28	APS0256J00400*****
25	57.5	35	50	1.2	52.5	20.3	2.8	20	500	28	APS0256J00400*****
25	57.5	35	50	1.2	52.5	10.2	2.7	20	500	28	APS0256J00400*****
30	57.5	38	54	1.2	52.5		3.2	20	600	25	APS0306J00400*****
30	57.5	38	54	1.2	52.5	20.3	2.7	20	600	25	APS0306J00400*****
30	57.5	38	54	1.2	52.5	10.2	2.6	20	600	25	APS0306J00400*****
Undc 600V.DC,Urms330V.AC;Us1200V											
Cn (μ F)	W (mm)	T (mm)	H (mm)	ϕ d (mm)	P1 (mm)	P2 (mm)	ESR @10KHz (m Ω)	dv/dt (V/ μ S)	Ip(A)	Irms(A)	Part number
5	42.5	33.5	35.5	1.2	37.5		3.1	55	275	12	APS0505J00600*****
5	42.5	33.5	35.5	1.2	37.5	20.3	2.5	55	275	20	APS0505J00600*****
6.8	42.5	30	45	1.2	37.5		2.8	55	374	12	APS0685J00600*****
6.8	42.5	30	45	1.2	37.5	20.3	2.2	55	374	22	APS0685J00600*****



AC FILLER CAPACITOR

MKPA-S

交流滤波电容



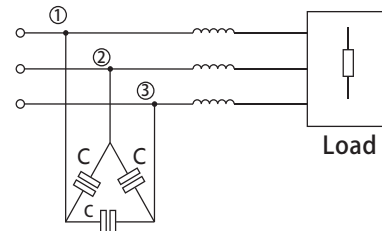
应用 / Application

- 广泛应用于电力电子设备中作交流滤波用；
- 在大功率UPS，开关电源，变频器等设备中作交流滤波，治理谐波及提高功率因数。
- Widely used in power electronic equipment used for the AC filler;
- In the high-power UPS, switching power supply, inverter and other equipment for the AC filler, harmonics and improve power factor control.

产品特点 / Introduction

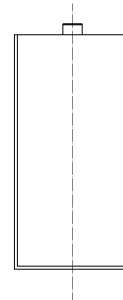
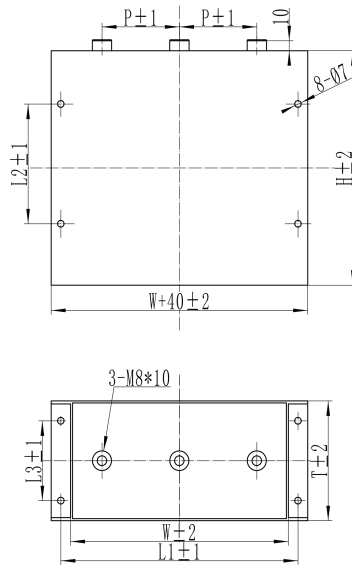
- 金属外壳封装，高温高导填充料注塑；
- 引出形式多样选择，安装简单方便；
- 容值高，体积小，耐压高，自愈性强；
- 承受高谐波电流，DV/DT承受力。
- Metal enclosure package, high temperature and high conductive filler injection molding;
- Leads to various forms of selection, installation is simple and convenient;
- High capacitance, small size, high pressure level, self healing;
- High frequency harmonic current, DV/DT bearing capacity.

典型应用电路 / Typical Circuit



AC Filter Capacitance(C)

外形图 / Outline Drawing



安装方式，可根据客户实际使用尺寸，及其它相关参数进行定制。
Installation specifications:
-according to the actual size of customers, and other related parameters to customize.

订制品 / Customized Products

引出方式及材质 Extraction methods and materials

螺母型 Nut type	M6*Φ15	方块电极 Block electrode	M6、M8 螺孔 /Screw
	M8*Φ20	外壳材质 Shell material	
螺杆型 Screw type	M8	不锈钢、铝 Stainless steel, aluminum	
	M10	引出材质 Lead material	
	M12	紫铜 Copper	



AC FILLER CAPACITOR

MKPA-S

交流滤波电容

技术参数 / Technical Data

执行标准 Implemented standard	GB/T 17702、IEC61071
气候等级 Climatic category	40/85/21
额定电压 (Un) Rated Voltage	400V.AC~1500V.AC
容量范围 (Cn) Capacitance range	3*20 μF~3*500 μF
容量偏差 Capacitance tolerance	±5%(J)、±10% (K)
耐电压 Withstand voltage	
极间 between terminals	2.15Un(VAC)/10S
极壳 between terminals and case	2Ui+1000V.AC/60S
绝缘电阻 Insulation resistance	RixCn ≥ 10000S (100VDC,@50HZ 60s)

常用规格 / Dimension

Un 400V.AC 50Hz										
Cn (μF)	W (mm)	T (mm)	H (mm)	dv/dt (V/μS)	Ip(KA)	Irms(A)	ESR (mΩ) @1KHz	Rth (K/W)	weight (Kg)	Part number
3×200	225	120	170	50	10.0	3×70	3×0.95	1.1	7	PAS0207K00400*****
3×300	225	120	235	40	12.0	3×90	3×0.85	0.8	9	PAS0307K00400*****
3×400	295	120	235	35	14.0	3×120	3×0.80	0.7	12	PAS0407K00400*****
3×500	365	120	235	30	15.0	3×160	3×0.78	0.6	15	PAS0507K00400*****
Un 500V.AC 50Hz										
Cn (μF)	W (mm)	T (mm)	H (mm)	dv/dt (V/μS)	Ip(KA)	Irms(A)	ESR (mΩ) @1KHz	Rth (K/W)	weight (Kg)	Part number
3×120	225	120	170	60	7.2	3×50	3×1.2	1.1	7	PAS0127K00500*****
3×180	225	120	235	50	9.0	3×70	3×1.05	0.8	9	PAS0187K00500*****
3×240	295	120	235	45	10.8	3×100	3×1.0	0.7	12	PAS0247K00500*****
3×300	365	120	235	40	12.0	3×120	3×0.9	0.6	15	PAS0307K00500*****
Un 690V.AC 50Hz										
Cn (μF)	W (mm)	T (mm)	H (mm)	dv/dt (V/μS)	Ip(KA)	Irms(A)	ESR (mΩ) @1KHz	Rth (K/W)	weight (Kg)	Part number
3×50	225	120	170	100	5.0	3×50	3×2.3	1.1	7	PAS0506K00690*****
3×75	225	120	235	90	6.8	3×70	3×2.1	0.8	9	PAS0756K00690*****
3×100	295	120	235	80	8.0	3×100	3×1.6	0.7	12	PAS0107K00690*****
3×125	365	120	235	80	10.0	3×120	3×1.3	0.6	15	PAS1257K00690*****
Un 1140V.AC 50Hz										
Cn (μF)	W (mm)	T (mm)	H (mm)	dv/dt (V/μS)	Ip(KA)	Irms(A)	ESR (mΩ) @1KHz	Rth (K/W)	weight (Kg)	Part number
3×42	340	175	200	120	5.0	3×80	3×3.3	0.6	17.3	PAS0426K01140*****
3×60	420	175	250	100	6.0	3×100	3×2.8	0.5	26	PAS0606K01140*****
Un 1500V.AC 50Hz										
Cn (μF)	W (mm)	T (mm)	H (mm)	dv/dt (V/μS)	Ip(KA)	Irms(A)	ESR (mΩ) @1KHz	Rth (K/W)	weight (Kg)	Part number
3×20	420	130	170	150	10.0	3x80	3x2.6	1.0	16	PAS0206K01500*****
3×40	420	130	300	120	12.0	3x100	3x2.3	0.8	20	PAS0406K01500*****
3×60	420	200	170	100	15.0	3x120	3x2.0	0.6	24	PAS0606K01500*****



MKPA-MO

交流滤波电容



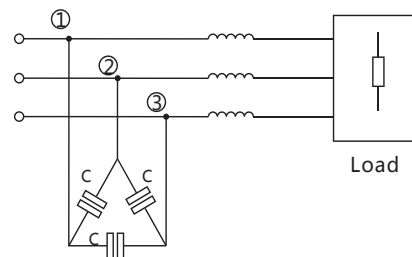
应用 / Application

- 广泛应用于电力电子设备中作交流滤波用；
- 在大功率UPS，开关电源，变频器等设备中作交流滤波，治理谐波及提高功率因数。
- Widely used in power electronic equipment used for the AC filler;
- In the high-power UPS, switching power supply, inverter and other equipment for the AC filler, harmonics and improve power factor control.

产品特点 / Introduction

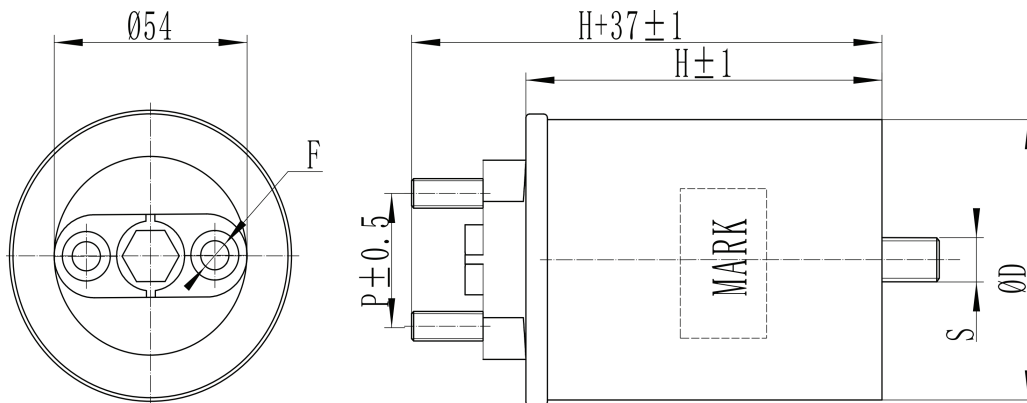
- 圆柱形铝外壳封装，空间占地小；
- 引出形式多样选择，连接可靠，接触电阻小；
- 美式机械防爆，安全可靠；
- 容值高，耐压高，自愈性强；
- 长寿命元件设计，承受高谐波电流，温升低。
- Cylindrical aluminum shell package, space covers a small area;
- The way of ext raction canbe varied, reliable connection, small contact res istance;
- American mechanical explosion-proof, safe and reliable;
- High capacitance, high pressure level, self healing;
- Long life component design, High frequency harmonic current, Low Temperat ure Rise.

典型应用电路 / Typical Circuit

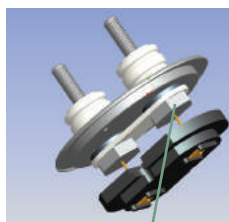


AC Filter Capacitance(C)

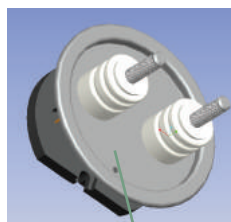
外形图 / Outline Drawing



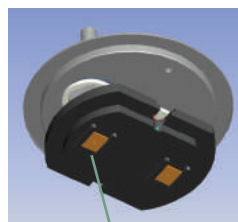
Explosion-proof structure description 防爆结构描述



防爆保险丝
Explosion-proof fuse



注油口
Oil port



端盖绝缘
End cover insulation



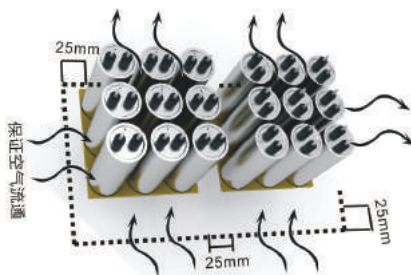
AC FILLER CAPACITOR

MKPA-MO

交流滤波电容

Installation requirements 安装要求

电容器必须安装在通风良好的空间里或者确保不能超过规定的温度范畴。
 不论采用何种安装方式,柜内电容器组与组之间至少需要25mm的间距, 安装板与金属构件之间的距离至少15mm.



Capacitors must be installed in a well ventilated space or to ensure that no more than Specified temperature range. No matter what installation method is used, the capacitor group and the group need at least 25mm between the capacitor group and the mounting plate and the metal component is at least 15mm.

技术参数 / Technical Data

执行标准 Implemented standard	GB/T 17702、IEC61071
气候等级 Climatic category	40/85/21
额定电压 (Un) Rated Voltage	250V.AC~1500V.AC
容量范围 (Cn) Capacitance range	10 μF~150 μF
容量偏差 Capacitance tolerance	±5%(J)、±10% (K)
耐电压 Withstand voltage	
极间 between terminals	2.15Un(VDC)/60S
极壳 between terminals and case	2 × Ui+1000V.AC60S
绝缘电阻 Insulation resistance	RixCn ≥ 10000S(100VDC, 10S at 50Hz)
放电电阻 Discharge resistance	200kΩ/2W

部分常用规格 / Dimension

Un 500V.AC@50-60HZ (引出方式为直插引出)											
Cn (μF)	Kvar	ΦD	Dimension(mm)			ESR (mΩ)	ESL (nH)	Ip(KA)	Irms(A)	Part number	
			H	P							
50	3.9	55	125	18		12	50	1	7.85	AMO0506K00500****	
60	4.5	55	125	18		10	55	1.2	9	AMO0606K00500****	
75	5.9	60	125	18		9	60	1.5	11.8	AMO0756K00500****	
100	7.85	65	125	20		8	80	2	15.7	AMO0107K00500****	
150	11.7	65	150	20		6	85	3	23.5	AMO0157K00500****	
Un 900V.AC @50~60Hz											
Cn (μF)	Kvar	ΦD	Dimension(mm)			ESR (mΩ)	ESL (nH)	Ip(A)	Irms(A)	Part number	
			H	F	P	S					
26	6.61	76	150	M8*15	30	M12*16	12	54	910	15	AMO0266K00900****
40	10.17	86	190	M8*15	30	M12*16	8	68	1200	20	AMO0406K00900****
50	12.71	86	190	M8*15	30	M12*16	4	63	1250	25	AMO0506K00900****
62	15.76	96	190	M8*15	30	M12*16	3	63	1240	30	AMO0626K00900****
Un 1500V.AC @50~60Hz											
Cn (μF)	Kvar	ΦD	Dimension(mm)			ESR (mΩ)	ESL (nH)	Ip(A)	Irms(A)	Part number	
			H	F	P	S					
23	16.24	96	230	M8*15	30	M12*16	14	81	805	20	AMO0236K00900****



FILLER CAPACITOR

HQX-X2

盒式电容



single sided metallized
polypropylene film
單面金屬化聚丙烯薄膜

应用 / Application

- X2类电容器 (IEC60384-14), 金属化聚丙烯薄膜具有较高自愈性, 适用于抑制电磁干扰 (跨接电源) 和因电容器失效不会导致电击危险的场合
- X2 Class (IEC 60384-14), metallized polypropylene film Self-Healing property Interference suppression and (across the line) application, suitable for use in situations where failure of the capacitor would not lead to danger of electric shock

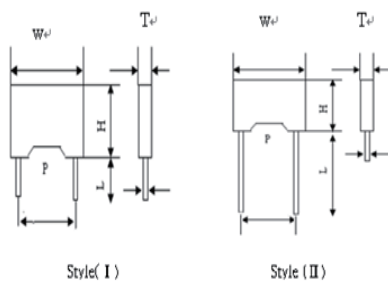
产品特点 / Introduction

- 金属化聚丙烯薄膜,
 - 能承受过压冲击,
 - 阻燃符合UL 94 V-0等级,
 - 广泛用于要求条件高的电源跨线路等抗干扰场合
- Metallized polypropylene structure,
 - Withstanding overvoltage stressing,
 - With UL94 V-0 level, Flame resistant,
 - Widely used in across-the-line, interference suppression circuit, etc. .

认证标准 / Safety Approvals

●	CQC	中國	0.001UF~10UF	IEC 60384-14:2005 GB/T6346.14-2015 HQX:0.001μF X2 310V~ 40/110/56/B 證書號(Certificate No.) CQC11001057654
	ENEC-VDE	欧盟 德国	0.001UF~10UF	IEC 60384-14:2013/AMD1:2016 EN60384-14:2013/A1:2016; VDE0565-1-1:2014-04+VDE0565-1-1/A1:2017-04 證書號(Certificate No.)40024534
	UL	美洲	0.001UF~10UF	IEC 60384-14:2013/UL60384-14/CSA E60384-14 證書號(Certificate No.E183780)

外形图 / Outline Drawing



技术要求 / Specifications

引用标准 Reference Standard	IEC 60384-14	
氣候類別 Climatic category	-40/110/56	
工作溫度範圍 Operating Temperature Range	-40~+110°C	
電介質 Dielectric:	Polypropylene film 聚丙烯膜	
額定電壓 Rated voltage	310VAC 50~60Hz	
電容量範圍 Capacitance Tolerance	0.001~10.0 μF	
電容量偏差 Capacitance Range	J (±5%) K, (±10%), M (±20%)	
耐電壓 Voltage Proof	4.3Ur/60s C > 0.33 μF 漏電流: >10mA 20mA MAX C ≤ 0.33 μF 漏電流: >5mA 10mA MAX	
絕緣電阻 Insulation Resistance	Test conditions 測試條件: 20°C, 100±15VDC, 60S, A · ≤ 0.33 μF, ≥ 30000 MΩ; B · > 0.33 μF ≥ 10000 MΩ*UF	
損耗角正切 Dissipation Factor	測試頻率 Frequency 1KHZ 20°C	0.001 ≤ Cr ≤ 0.47 μF DF ≤ 10*10 ⁻⁴ 0.47 μF ≤ Cr ≤ 1.0 μF DF ≤ 20*10 ⁻⁴ Cr ≥ 1.0 μF DF ≤ 30*10 ⁻⁴
耐久性試驗 Endurance (ΔC ±10%)1000hr	1.25UR	

Style I	The short type	W ± 1.0	H ± 1.0	T ± 1.0	P ± 0.5	L ± 0.5	
	短腳型						
style II	Long leg type	W ± 1.0	H ± 1.0	T ± 1.0	P ± 0.5	L ≤ 15	L ± 1.0
	長腳型					L > 15	L ± 3.0



FILLER CAPACITOR

HQX-X2

盒式电容

常用规格 / Dimension

容量 (uf)	P=7.5			P=10			P=15			P=22.5			P=27.5			P=32.5			P=37.5		
	W	H	T	W	H	T	W	H	T	W	H	T	W	H	T	W	H	T	W	H	T
0.001	10	9	4																		
0.0012	10	9	4																		
0.0018	10	9	4																		
0.0022	10	9	4																		
0.0027	10	9	4																		
0.0033	10	9	4																		
0.0039	10	9	4																		
0.0047	10	9	4	12	11	5															
0.0056	10	9	4	12	11	5															
0.0068	10	9	4	12	11	5															
0.0082	10	9	4	12	11	5															
0.01	10	9	4	12	11	5	17	11	5												
0.012	10	11	5	12	11	5	17	11	5												
0.015	10	11	5	12	11	5	17	11	5												
0.018	10	11	5	12	11	5	17	11	5												
0.022	10	11	5	12	11	5	17	11	5												
0.027	10	11	5	12	11	5	17	11	5												
0.033	10	11	5	12	11	5	17	11	5												
0.039	10	12	6	12	11	5	17	11	5												
0.047	10	12	6	12	11	5	17	11	5												
0.056	10	12	6	12	12	6	17	11	5												
0.068	10	14	9.5	12	12	6	17	11	5												
0.082	10	14	9.5	12	12	6	17	11	5												
0.1	10	14	9.5	13	14	8	18	12	6												
0.12				13	14	8	18	13	6.3	25	14.5	6									
0.15				13	14	8	18	13	6.3	25	14.5	6									
0.18				12	16	8.5	17	14	6	25	14.5	6									
0.22							17	15.5	7.5	25	14.5	6									
0.27							17	16.5	8.5	25	14.5	6	30	16.5	7.5						
0.33							17	16.5	8.5	25	16.5	7	30	16.5	7.5						
0.39							17	16	10.3	25	16.5	7	30	16.5	7.5						
0.47							17	18	10	25	17	8.5	30	16.5	7.5						
0.56							17	19	11	25	17	8.5	30	16.5	7.5						
0.68							18	21	12	25	19	10	30	18	10.5						
0.82										25	19	10	30	18	10.5	36	22	12			
1										26	20	11	30	18	10.5	36	22	12			
1.2										26	20	11	32	22	13	36	22	12			
1.5										26.5	23	13	32	22	13	36	22	12			
1.8										26	25	15	32	22	13	36	22	12			
2										26	25	15	31	23.5	14	36	24	13.5			
2.2													31	23.5	14	37	25	14	41	28.5	16
2.5													32	28	14	37	26	15	41	28.5	16
2.7													32	30	15	38	28	18	41	28.5	16
3													31	32	17.5	38	28	18	41	28.5	16
3.3													31	32	17.5	38	28	18	41	28.5	16
3.9													31	33	18	38	30	19	42	31.5	18
4.7													31	31	22	38.5	35.2	20.7	42	31.5	18
5.6																38.5	35.2	20.7	42	31.5	18
6.8																			41	37	22
8.2																			41	41	26
10																			41	43	28