



产品技术规格承认书

Product Specification

客 户 名 : 立创商城

Customer:

品 名 : MMKP-82 型双面金属化聚丙烯膜电容器 (盒式)

Description: MMKP-82 Series Double sided metallized polypropylene film capacitor (Box)

圣融达料号 : C82473J3AD8R8LC

Srd P/N:

客 户 料 号 :

Customers P/N:

品 牌 : 圣融达 (SRD)

Brands:

作 成 日 期 : May.27.2021

Issue Date:

客户承认 Customer's Approval			圣融达承认 Sincerity Approval		
接收 receive	审核 check	批准 approve	制作 inspet	审核 check	批准 approve
			伽文暖		

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MMKP-82 型双面金属化聚丙烯膜电容器 (盒式)

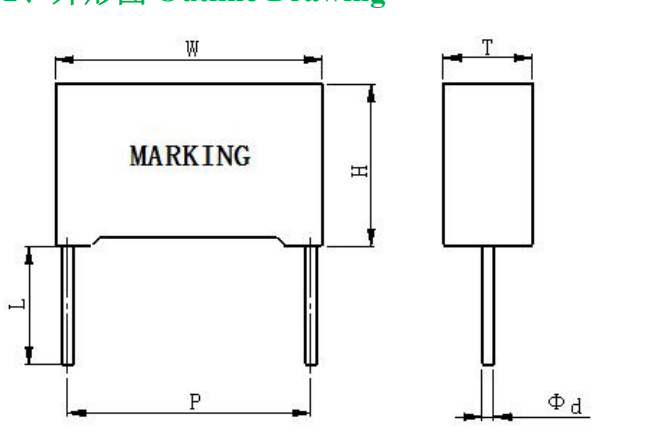
MMKP-82 Series metallized polypropylene film capacitor

1、产品特点及主要用途 Product characteristics and application

该系列电容器采用聚丙烯膜作介质，用真空蒸发方法将铝沉积在薄膜正反面上作电极卷绕而成；该系列电容器采用环氧树脂真空灌封，塑壳封装型号，高频损耗小，内部温升小、自愈性好、可靠性高，适用于高压高频脉冲电路中，变频器的谐振电路中，LED 驱动高效电路和开关电源高效电路中,吸收和 SCR 整流电路中。

This series capacitors use polypropylene film as medium, vacuum deposition method is used to deposit aluminum on the front and back of the film for electrode winding; the series of capacitors are vacuum potted epoxy resin, molded case type. low loss, small internal temperature rise, good self-healing, high reliability, suitable for high-voltage high-frequency pulse circuit, in the resonant circuit of the inverter, led drive high-efficiency circuit and switching power supply high-efficiency circuit, Absorption and SCR rectifier circuits.

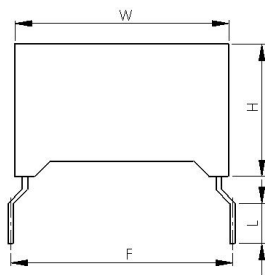
2、外形图 Outline Drawing



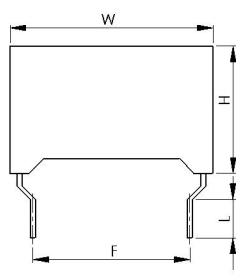
标志示例 Marking Example

 MMKP-82
 473J1000V
 www.srdkj.com

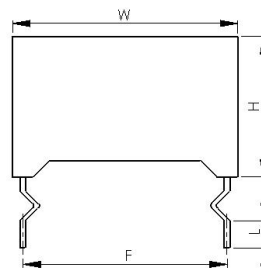
3、引线加工图形 Lead forming shape (mm)



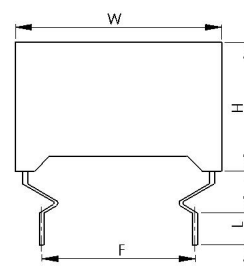
图号 Drawing No.1



图号 Drawing No.2



图号 Drawing No.3



图号 Drawing No.4

4、技术参数 Specification

参照标准 Reference Standard	GB/T 10190	
工作温度范围 Operation Temperature Range	-40℃~105℃ ((85~105℃ decrease factory 1.35%U _R per °C for U _R)	
额定电压 Rated Voltage	450V, 630V, 1000V, 1250V, 1600V, 2000V, 3000V	
电容量范围 Capacitance Range	0.001μF~1.0μF	
电容量偏差 Capacitance Tolerance	±5%(J)、±10%(K)、±20%(M)(20℃, 1kHz)	
耐电压 Voltage Proof	引线之间 Between Terminals	1.6U _R (VDC) , 5s
绝缘电阻 Insulation Resistance	C _R ≤0.33μF, IR≥30000 MΩ C _R >0.33μF, τ≥10000MΩ·μF(20℃, 1min)	U _R ≤500V, test voltage:100V, U _R >500V, test voltage:500V
损耗角正切 Dissipation Factor	tgδ≤0.0010(1kHz)	

5、产品代码及编写说明：Part number code rules

C	8	2	1	0	4	J	2	J	D	2	R	8	0	0
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

第 1~3 位 Digit 1 to 4	电容器型号代码 Series code	第 4~6 位 Digit 4 to 6	标称电容量代码 Rated capacitance code
C82=MMKP-82		ABC=AB×10 ^C pF Example103=10×10 ³ pF=0.01μF	
第 7 位 Digit 7	电容量偏差代码 Capacitance tolerance code	第 8~9 位 Digit 4 to 9	额定电压代码 Rated voltage code
J=±5%, K=±10%, M=±20%		2J=630Vdc, 3A=1000Vdc, 3C=1600Vdc, 3D=2000Vdc	
第 10~11 位 Digit 10 to 11	外形尺寸代码 Dimension code	第 12 位 Digit 12	商标颜色 Trademark color
第 13 位 Digit 13	线径代码 Line diameter code	第 14~15 位 Digit 14 to 15	特殊码 Special code

6、产品尺寸及性能参数：Product Dimension and Characteristic Data

圣融达料号	客户料号	额定电压	标称容量	容量偏差	外形尺寸(mm) Dimension(mm)					
SRD P/N	Customer P/N	Rated Voltage	Cap	Tolerance	W ±0.5	T ±0.5	H ±0.5	P ±0.5	d ±0.05	L ±0.5
C82473J3AD8R8A0		1000VDC	0.047uF	J(±5%)	18	11.2	19.2	15	0.8	3.5
备注:	切脚									

7、品质保证（产品出厂检查）试验：Quality ensuring test (before shipment):

检查项目（每批） Inspection item (each batch)	技术要求	检查水平IL	接收质量限AQL
		GB 2828一次正常抽样方案	
外观检查 Appearance inspection	标志正确，清晰可读，无明显损伤，针孔气泡，引出线无严重损伤。Marking is correct, clearly readable, No obvious damage, pinhole bubbles, There was no serious damage to the lead.	II	1.0
外形尺寸 Dimensions	按本文件第6条Refer to item 6		
电容量 Capacitance	按本文件第4条Refer to item 4	II	0.25*
损耗角正切 Dissipation Factor			
耐电压 Dielectric strength			
绝缘电阻 Insulation resistance			
可焊性 Solder ability	按本文件第8.1条Refer to item8.1	S-3	1.0
*: 耐电压不允许失效Voltage proof failure is not allowed			

8、试验方法及性能 Test Method And Performance

No.	项目 project	性能要求 Performance requirements	试验方法（GB/T 10190） experiment method
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8.1	可焊性 Solder ability	上锡面积 90% 以上 More than 90% of the tin area	方法 1 method 1 焊料温度 Solder temperature: $245 \pm 5^{\circ}\text{C}$ 浸渍时间 Immersion time: $2.0 \pm 0.5\text{s}$
8.2	初始测量 Initial measurement	电容量 capacitance 损耗角正切 DF: $C_R \leq 1\mu\text{F}$, Test frequency: 10kHz $C_R > 1\mu\text{F}$, Test frequency: 1kHz	
	引出端强度 Terminal strength	外观无可见损伤 There shall be no visible damage	拉力试验 Ual: 拉力: $0.5 < \phi d \leq 0.8\text{mm}$: 10N, $d > 0.8\text{mm}$: 20N 弯曲试验 Ub: 每个方向上进行二次弯曲 Tensile test Ual: Tension: $0.5 < \phi d \leq 0.8\text{mm}$; 10N, $d > 0.8\text{mm}$: 20N Bend: test Ub: secondary bending in each direction
	耐焊接热 Resistance to solder heat		方法 1A: $260 \pm 5^{\circ}\text{C}$, 10s method 1A: $260 \pm 5^{\circ}\text{C}$, 10s
	最后测量 Final measurement	外观无可见损伤 There shall be no visible damage 电容量变化: $\Delta C/C \leq \pm 3\%$ 损耗角正切增加: $C_R \leq 1\mu\text{F} \leq 0.004$ (10kHz) $C_R > 1\mu\text{F} \leq 0.004$ (1kHz) Capacitance: $\Delta C/C \leq \pm 3\%$ (relative to the initial value) Increase of $\text{tg}\delta$: $C_R \leq 1\mu\text{F} \Delta \text{tg}\delta \leq 0.004$ (10kHz) $C_R > 1\mu\text{F} \Delta \text{tg}\delta \leq 0.004$ (1kHz)	
8.3	初始测量 Initial measurement	电容量 capacitance 损耗角正切 DF: $C_R \leq 1\mu\text{F}$, Test frequency: 10kHz $C_R > 1\mu\text{F}$, Test frequency: 1kHz	
	温度快速变化 Rapid temperature change	外观无可见损伤 There shall be no visible damage	$T_A = -40^{\circ}\text{C}$, $T_B = +105^{\circ}\text{C}$ 5 次循环, 持续时间: $t = 30\text{min}$ 5 cycles, duration: $t = 30\text{min}$
	振动 vibration	外观无可见损伤 There shall be no visible damage	振幅 0.75mm 或加速度 98m/s^2 (取严酷度较小者), 频率 10~500Hz 三个方向, 每个方向 2h, 共 6h Amplitude 0.75mm or acceleration 98m/s^2 (slightly less severe), frequency 10~500Hz three sides Direction, 2h in each direction, total 6h
	碰撞 Bump		4000 次, 加速度 400m/s^2 , 脉冲持续时间: 6ms 4000 times, acceleration 400m/s^2 , Pulse duration: 6ms
	最后测量 Final measurement	观无可见损伤 There shall be no visible damage 电容量变化: $\Delta C/C \leq \pm 3\%$ 损耗角正切增加: $C_R \leq 1\mu\text{F} \leq 0.004$ (10kHz) $C_R > 1\mu\text{F} \leq 0.004$ (1kHz) 绝缘电阻 IR: $\geq$ 额定值的 50% Capacitance: $\Delta C/C \leq \pm 3\%$ (relative to the initial value) Increase of $\text{tg}\delta$: $C_R \leq 1\mu\text{F} \Delta \text{tg}\delta \leq 0.004$ (10kHz) $C_R > 1\mu\text{F} \Delta \text{tg}\delta \leq 0.004$ (1kHz) I.R.: $\geq 50\%$ of the rated value	

NO.	项目 project	性能要求 Performance requirements		试验方法（GB/T 10190） Test method
8.4	气候顺序 climate sequence	初始测量 Initial measurement	按 8.2 或 8.3 的最终测量 Refer to item 10.2 and 10.3 final measurement	
		干热 Dry heat		+105℃, 16h
		循环湿热 Damp heat, Cyclic		试验 Db, 严酷度 b, 第一次循环 Test Db, severity b, First cycle
		寒冷 cold		-40℃, 2h
		循环湿热 Damp heat, Cyclic		试验 Db, 严酷度 b, 剩余循环 Test Db, severity b, the other cycles,
	最后测量 Final measurement	外观无可见损伤, 标志清晰, 电容量变化: $\Delta C/C \leq 5\%$, 损耗角正切增加: $C_R \leq 1\mu F \leq 0.005$ (10kHz) $C_R > 1\mu F \leq 0.005$ (1kHz) 耐电压: U_R , 1min 无击穿或飞弧, 绝缘电阻 IR: $\geq$ 额定值的 50% There shall be no visible damage, legible marking $\Delta C/C \leq 5\%$ (relative to the initial value) Increase of $\tan \delta$: $C_R \leq 1\mu F \Delta \tan \delta \leq 0.005$ (10kHz) $C_R > 1\mu F \Delta \tan \delta \leq 0.005$ (1kHz) Voltage proof: Applying U_R , 1min no breakdown and flashover I.R.: $\geq 50\%$ of the rated value		
8.5	稳态湿热 Damp heat steady state	外观无可见损伤, 标志清晰, 电容量变化: $\Delta C/C \leq 5\%$, 损耗角正切增加: $\Delta \tan \delta \leq 0.002$ (1kHz), 耐电压: U_R , 1min 无击穿或飞弧, 绝缘电阻 IR: $\geq$ 额定值的 50% There shall be no visible damage, legible marking $\Delta C/C \leq 5\%$ (relative to the initial value) Increase of $\tan \delta$: $\Delta \tan \delta \leq 0.002$ (1kHz) Voltage proof: Applying U_R , 1min no breakdown and flashover I.R.: $\geq 50\%$ of the rated value		温度: $40 \pm 2^\circ C$ 湿度: $93 (+2/-3) \% RH$ 持续时间: 21 天 Temperature: $40 \pm 2^\circ C$ Humidity: $93 (+2/-3) \% rh$ Duration: 21 days
8.6	耐久性 Endurance	外观无可见损伤, 标志清晰, 电容量变化: $\Delta C/C \leq 5\%$, 损耗角正切增加: $C_R \leq 1\mu F \leq 0.004$ (10kHz) $C_R > 1\mu F \leq 0.004$ (1kHz) 绝缘电阻 IR: $\geq$ 额定值的 50% There shall be no visible damage, legible marking $\Delta C/C \leq 5\%$ (relative to the initial value) Increase of $\tan \delta$: $C_R \leq 1\mu F \Delta \tan \delta \leq 0.004$ (10kHz) $C_R > 1\mu F \Delta \tan \delta \leq 0.004$ (1kHz) no breakdown and flashover I.R.: $\geq 50\%$ of the rated value		$105^\circ C$, $1.25U_R$, 1000h

NO.	项目 project	性能要求 Performance requirements	试验方法 (GB/T 10190) Test method
8.7	随温度而定的特性 Temperature characteristic	在 b, d, f 点上进行电容量测量: 在下限类别温度 -40°C 时的特性: $0 \leq (C_b - C_d) / C_d \leq +3\%$ 在上限类别温度 105°C 时的特性: $-4.0\% \leq (C_f - C_d) / C_d \leq 0$ 在 f 点上测量绝缘电阻: $IR \geq 2500 M\Omega \quad C_R \leq 0.33 \mu F$ $IR \geq 750 s \quad C_R > 0.33 \mu F$ Measuring capacitance at test point b, d, f: Characteristic at lower category temperature -40°C: $0 \leq (C_b - C_d) / C_d \leq +3\%$ Characteristic at upper category temperature +105°C: $-4.0\% \leq (C_f - C_d) / C_d \leq 0$ I.R. (test at point f): $IR \geq 2500 M\Omega \quad C_R \leq 0.33 \mu F$ $IR \geq 750 s \quad C_R > 0.33 \mu F$	静态法, 电容器依次保持在下述 每个温度: a.(20 ± 2) °C , b.(-40 ± 3) °C , d.(20 ± 2) °C , f.(105±2) °C, g.(20±2) °C Static method: The Capacitors should be kept at the following temperature in turn: a(20±2) °C, b(-40±3) °C, d(20±2) °C, f(105±2) °C, g(20±2) °C
8.8	充电和放电 Charging and discharging	电容量变化: $\Delta C / C \leq 5\%$, 损耗角正切增加: $C_R \leq 1 \mu F \quad \leq 0.005 \quad (10 kHz)$ $C_R > 1 \mu F \quad \leq 0.005 \quad (1 kHz)$ $\Delta C / C \leq 10\%$ (relative to the initial value) Increase of $\tan \delta$: $C_R \leq 1 \mu F \quad \Delta \tan \delta \leq 0.005 \quad (10 kHz)$ $C_R > 1 \mu F \quad \Delta \tan \delta \leq 0.005 \quad (1 kHz)$	Number of times: 10,000 times Charging duration: 0.5s , discharge duration: 0.5s Charging voltage is U_R Discharging resistance: $220 / (C_R \times dV/dt)$ or 2.2Ω (which is greater) C_R is the rated capacitance (μF)

9、包装及运输要求 Packaging and transportation requirements

电容器以纸箱包装, 应避免雨雪的直接淋浇和机械损伤, 并保存在 -10°C ~ +40°C 温度下, 相对湿度 75% 以下, 应避免温度剧烈变化, 阳光直射和腐蚀性气体, 存放期不超出 12 个月。Capacitors are packaged in Corrugated box, should be stored at temperatures ranging from - 10 to + 40 C, with relative humidity below 75%, drastic temperature changes, direct sunlight and corrosive gases should be avoided. Storage period should not exceed 12 months