



产品规格承认书

Product Specification for Approval

客户名: 立创商城
Customer: _____

产品品名: CBB21型金属化聚丙烯膜电容器 (粉包型)
Description: CBB21 Series metallized polypropylene film capacitor (powder dipped) (Class _____)

规格型号: CBB21- 473K630VDC
Specifications: _____

圣融达料号: MPP473K2J1005105LC
Sincerity P/N: _____

客户料号: _____
Customer P/N: _____

产品品牌: 圣融达 (SRD)
Product Brands: _____

制作日期: 2021-10-28
Production Date: _____



客户承认 Customer's Approval			圣融达承认 Sincerity Approval		
接收 Receive	审核 Checked	批准 Approved	制作 Producer	审核 Checked	批准 Approved
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修改记录

Change Record

序号 NO	修改日期 Change Date	修改内容 Change Content	修改原因 Change Reason

CBB21型金属化聚丙烯膜电容器（粉包型）

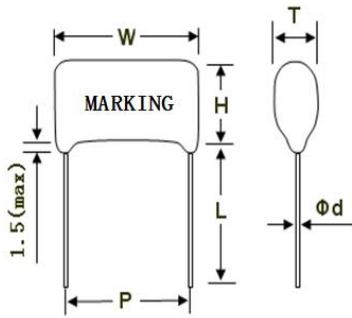
CBB21 series metallized polypropylene film capacitor (powder dipped)

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

采用环氧树脂真空浸封，阻燃粉末包封，适用于交流、直流和脉冲电路

Excellent flame retardant performance, flame retardant epoxy powder coating, Widely used in DC, AC and pulse circuit

2、外形图Outline Drawing



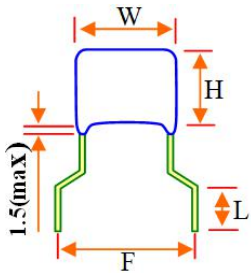
标志示例Marking Example

 MPP

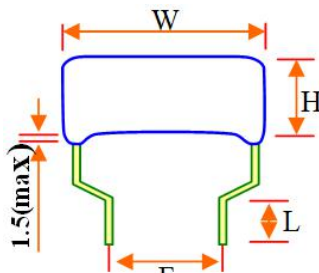
473K630V

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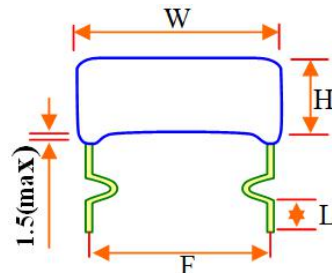
3、引线加工图形Lead forming shape (mm)



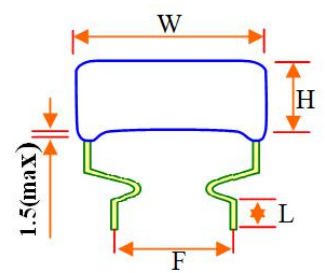
图号Drawing No.1



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°C~105°C ((85~105°C decrease factory 1.35% U_R per °C for U_R)	
额定电压 Rated Voltage	100Vdc、250Vdc、400Vdc、630Vdc、1000Vdc	
电容量范围 Capacitance Range	0.001 μ F~10 μ F	
电容量偏差Capacitance Tolerance	\pm 5%(J)、 \pm 10%(K)、 \pm 20%(M)(20°C, 1kHz)	
耐电压 Voltage Proof	引线之间Between Terminals	1.6 U_R (VDC) , 5s
绝缘电阻Insulation Resistance	$C_R \leq 0.33\mu$ F, $IR \geq 25000$ M Ω $C_R > 0.33\mu$ F, $\tau \geq 7500$ M $\Omega \cdot \mu$ F(20°C, 1min)	$U_R \leq 500$ V, test voltage:100V, $U_R > 500$ V, test voltage:500V
损耗角正切Dissipation Factor	$tg\delta \leq 0.0010$ (1kHz)	

5、产品代码及编写说明: Part number code rules

M	P	P	1	0	4	J	2	J	1	3	0	4	0	9	5	0	0
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

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
MPP=CBB21		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 8 to 9	额定电压代码 Rated voltage code
J=±5%, K=±10%, M=±20%		2G=400V, 2W=450V, 2J=630V, 3A=1000V	
第10~15位Digit 10 to 15	外形尺寸代码Dimension code	第16位Digit 16	线径代码 Line diameter code
第17~18位Digit 15 7to 18	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 Cap	容量偏差 Tolerance	外形尺寸(mm) Dimension(mm)					
					W max	T max	H max	P ±0.5	d ±0.05	L min
SRD P/N	Customer P/N	Rated Voltage								
MPP473K2J1005105LC		630VDC	0.047μF	K±10%	10	6	10	7.5	0.5	20
备注:	棕红色									

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	a. 无毛刺、气孔、气泡、露白。 b. 引线无长漆、无氧化、无弯曲。 c. 标识清晰端正居中、无断字等。 A.No burrs, stomata, bubbles, whiteness. B.The lead has no long lacquer, no oxidation, no bending, C.The logo is clearly centered, no broken words, etc.	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±5°C 浸渍时间 Immersion time: 2.0±0.5s
8.2	初始测量 Initial measurement	电容量 capacitance 损耗角正切 DF: $C_R \leq 1\mu F$, Test frequency: 10kHz $C_R > 1\mu F$, 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±5°C, 10s method 1A: 260±5°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: $C_R \leq 1\mu F \leq 0.004$ (10kHz) $C_R > 1\mu F \leq 0.004$ (1kHz) Capacitance: $\Delta C/C \leq \pm 3\%$ (relative to the initial value) Increase of $\text{tg}\delta$: $C_R \leq 1\mu F \Delta \text{tg}\delta \leq 0.004$ (10kHz) $C_R > 1\mu F \Delta \text{tg}\delta \leq 0.004$ (1kHz)	
8.3	初始测量 Initial measurement	电容量 capacitance 损耗角正切 DF: $C_R \leq 1\mu F$, Test frequency: 10kHz $C_R > 1\mu F$, 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	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: $C_R \leq 1\mu F \leq 0.004$ (10kHz) $C_R > 1\mu F \leq 0.004$ (1kHz) 绝缘电阻 IR: \geq 额定值的 50% Capacitance: $\Delta C/C \leq \pm 3\%$ (relative to the initial value) Increase of $\text{tg}\delta$: $C_R \leq 1\mu F \Delta \text{tg}\delta \leq 0.004$ (10kHz) $C_R > 1\mu F \Delta \text{tg}\delta \leq 0.004$ (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°C, 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°C, 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,
8.4	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 $tg\delta$: $C_R \leq 1\mu F \Delta tg\delta \leq 0.005$ (10kHz) $C_R > 1\mu F \Delta tg\delta \leq 0.005$ (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: $\Delta tg\delta \leq 0.002$ (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 $tg\delta$: $\Delta tg\delta \leq 0.002$ (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 $tg\delta$: $C_R \leq 1\mu F \Delta tg\delta \leq 0.004$ (10kHz) $C_R > 1\mu F \Delta tg\delta \leq 0.004$ (1kHz) no breakdown and flashover I.R.: $\geq 50\%$ of the rated value		+105°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: $IR \geq 2500M\Omega$ $C_R \leq 0.33\mu F$ $IR \geq 750s$ $C_R > 0.33\mu F$ 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): $IR \geq 2500M\Omega$ $C_R \leq 0.33\mu F$ $IR \geq 750s$ $C_R > 0.33\mu F$	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: $C_R \leq 1\mu F$ ≤ 0.005 (10kHz) $C_R > 1\mu F$ ≤ 0.005 (1kHz) $\Delta C / C \leq 10\%$ (relative to the initial value) Increase of $tg\delta$: $C_R \leq 1\mu F$ $\Delta tg\delta \leq 0.005$ (10kHz) $C_R > 1\mu F$ $\Delta tg\delta \leq 0.005$ (1kHz)	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