



产品规格承认书

Product Specification for Approval

客户名: 深圳市油柑科技有限公司
Customer: _____

产品品名: CBB81型金属化聚丙烯膜/箔式电容器
Description: CBB81 Series metallized polypropylene film - foil capacitor

规格型号: CBB81
Specifications: _____

圣融达料号: 详见《产品尺寸及性能参数-圣融达料号》
Sincerity P/N: _____

客户料号: 详见《产品尺寸及性能参数-客户料号》
Customer P/N: _____

产品品牌: 圣融达 (SRD)
Product Brands: _____

制作日期: 2022-9-19
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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CBB81 型金属化聚丙烯膜/箔式电容器

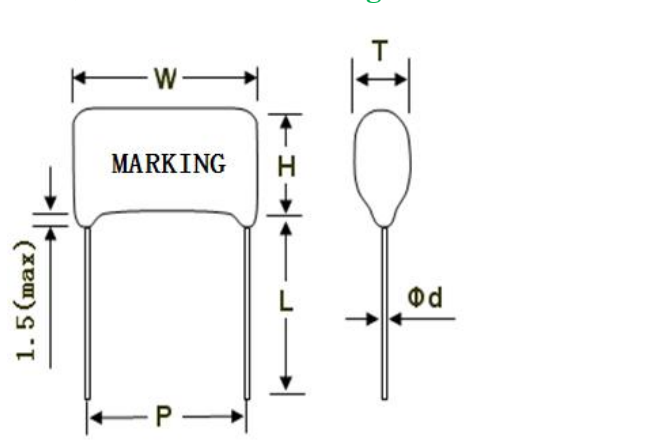
CBB81 Series metalized polypropylene film – foil capacitor

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

金属化聚丙烯膜/箔式结构，高频损耗小，内部温升小、适用于高压脉冲和大电流电路中。

Metallized polypropylene film – foil construction, low loss, low inherent temperature rise, suitable for high voltage pulse and high current circuit.

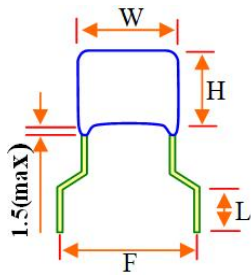
2、外形图Outline Drawing



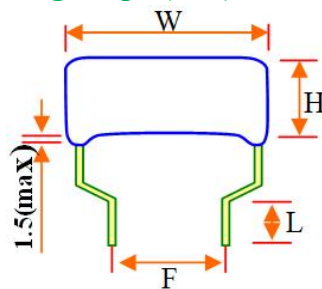
标志示例Marking Example

 PPS
 473J1000V
www.srdkj.com

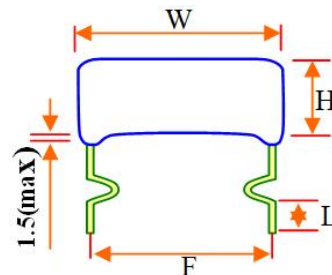
3、引线加工图形Lead forming shape (mm)



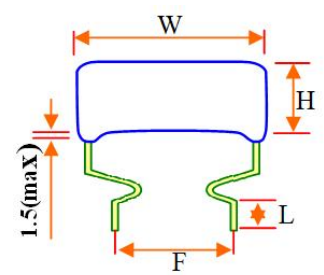
图号Drawing No.1



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°C~105°C (85~105°C decrease factory 1.25%U _R per °C for U _R)	
额定电压 Rated Voltage	630V, 1000V, 1250V, 1600V, 2000V, 3000V	
电容量范围 Capacitance Range	0.001μF~0.47μF	
电容量偏差Capacitance Tolerance	±5%(J)、±10%(K)、±20%(M)(20°C, 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°C, 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

P	P	S	2	2	3	J	3	A	1	9	1	0	1	7	8	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 3	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
PPS=CBB81		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 SRD P/N	客户料号 Customer P/N	额定电压 Rated Voltage	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
PPS103J3C241016800	PPS103J3C2410168YG	1600VDC	0.01μF	J(±5%)	23	9	15.5	20	0.8	20
PPS103J3F241221800	PPS103J3F2412218YG	3000VDC	0.01μF	J(±5%)	23	13	21.5	20	0.8	20
PPS104J3A260815800	PPS104J3A2608158YG	1000VDC	0.1μF	J(±5%)	25	8	15	22.5	0.8	20
PPS104J3B291421800	PPS104J3B2914218YG	1250VDC	0.1μF	J(±5%)	28	12	19	25.0	0.8	20
PPS104J3C291421800	PPS104J3C2914218YG	1600VDC	0.1μF	J(±5%)	28	12.5	19.5	25	0.8	20
PPS154J3B241217800	PPS154J3B2412178YG	1250VDC	0.15μF	J(±5%)	24	11.5	17	20.0	0.8	20
PPS154J3B291420800	PPS154J3B2914208YG	1250VDC	0.15μF	J(±5%)	28	12.5	18	25	0.8	20
PPS204J2K291722800	PPS204J2K2917228YG	800VDC	0.2μF	J(±5%)	28	14.5	20.5	25	0.8	20
PPS223J3F241726800	PPS223J3F2417268YG	3000VDC	0.022μF	J(±5%)	23	15.5	24.5	20	0.8	20
PPS223K3E291826800	PPS223K3E2918268YG	2500VDC	0.022μF	K(±10%)	28	17	25.5	25	0.8	20
PPS333J3F291219800	PPS333J3F2912198YG	3000VDC	0.033μF	J(±5%)	28	11.5	18	25	0.8	20
PPS682K3C240815800	PPS682K3C2408158YG	1600VDC	0.0068μF	K(±10%)	23	7.5	14	20	0.8	20
PPS823J3A241724800	PPS823J3A2417248YG	1000VDC	0.082μF	J(±5%)	23	17	24	20	0.8	20
PPS102J3B190914800	PPS102J3B1909148YG	1250VDC	0.001μF	J(±5%)	18	9.5	14.5	15	0.8	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
8.1	可焊性 Solder ability	上锡面积90%以上 More than 90% of the tin area	方法1method 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< ϕd <0.8mm: 10N, $d > 0.8$ mm: 20N 弯曲试验Ub: 每个方向上进行二次弯曲 Tensile test Ual: Tension: 0.5< ϕd <0.8mm; 10N, $d > 0.8$ mm:20N Bend: test Ub: secondary bending in each direction
	耐焊接热 Resistance to solder heat		方法1A: 260±5°C, 5s method 1A : 260±5°C, 5
	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 $tg\delta$: $C_R \leq 1\mu F \Delta tg\delta \leq 0.004$ (10kHz) $C_R > 1\mu F \Delta tg\delta \leq 0.004$ (1kHz)	

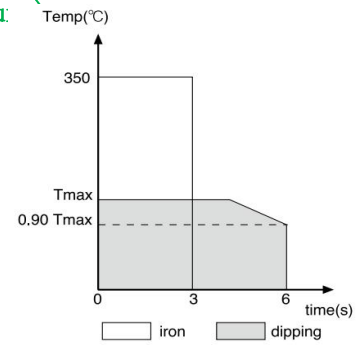
No.	项目 project	性能要求 Performance requirements	试验方法 (GB/T 10190) experiment method
8.3	初始测量 Initial measurement	电容量capacitance 损耗角正切DF: $C_R \leq 1\mu\text{F}$, Test frequency: 10kHz $C_R > 1\mu\text{F}$, Test frequency: 1kHz	
	温度快速变化 Rapid temperature change	外观无可见损伤 There shall be no visible damage	$T_A = -40^\circ\text{C}$, $T_B = +105^\circ\text{C}$ 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 400 m/s^2 , 脉冲持续时间: 6ms 4000 times, acceleration 400 m/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	
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	$+105^\circ\text{C}$, 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,
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: $C_R \leq 1\mu\text{F} \leq 0.005$ (10kHz) $C_R > 1\mu\text{F} \leq 0.005$ (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 $\text{tg}\delta$: $C_R \leq 1\mu\text{F} \Delta\text{tg}\delta \leq 0.005$ (10kHz) $C_R > 1\mu\text{F} \Delta\text{tg}\delta \leq 0.005$ (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: $\Delta \text{tg}\delta \leq 0.002$ (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 $\text{tg}\delta$: $\Delta \text{tg}\delta \leq 0.002$ (1kHz) Voltage proof: Applying U_R , 1min no breakdown and flashover I.R.: $\geq 50\%$ of the rated value	温度: $40 \pm 2^\circ\text{C}$ 湿度: $93 (+2/-3) \% \text{RH}$ 持续时间: 21天 Temperature: $40 \pm 2^\circ\text{C}$ Humidity: $93 (+2/-3) \% \text{rh}$ 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: $C_R \leq 1\mu\text{F} \leq 0.004$ (10kHz) $C_R > 1\mu\text{F} \leq 0.004$ (1kHz) 绝缘电阻 IR: \geq 额定值的50% There shall be no visible damage, legible marking $\Delta C/C \leq 5\%$ (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) no breakdown and flashover I.R.: $\geq 50\%$ of the rated value	$+105^\circ\text{C}$, $1.25U_R$, 1000h
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: $IR \geq 2500\text{M}\Omega$ $C_R \leq 0.33\mu\text{F}$ $IR \geq 750\text{s}$ $C_R > 0.33\mu\text{F}$ 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 $+105^\circ\text{C}$: $-4.0\% \leq (C_f - C_d) / C_d \leq 0$ I.R. (test at point f): $IR \geq 2500\text{M}\Omega$ $C_R \leq 0.33\mu\text{F}$ $IR \geq 750\text{s}$ $C_R > 0.33\mu\text{F}$	静态法, 电容器依次保持在下述 每个温度: a. $(20 \pm 2)^\circ\text{C}$, b. $(-40 \pm 3)^\circ\text{C}$, d. $(20 \pm 2)^\circ\text{C}$, f. $(105 \pm 2)^\circ\text{C}$, g. $(20 \pm 2)^\circ\text{C}$ Static method: The Capacitors should be kept at the following temperature in turn: a. $(20 \pm 2)^\circ\text{C}$, b. $(-40 \pm 3)^\circ\text{C}$, d. $(20 \pm 2)^\circ\text{C}$, f. $(105 \pm 2)^\circ\text{C}$, g. $(20 \pm 2)^\circ\text{C}$
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: $C_R \leq 1\mu\text{F} \leq 0.005$ (10kHz) $C_R > 1\mu\text{F} \leq 0.005$ (1kHz) $\Delta C/C \leq 10\%$ (relative to the initial value) Increase of $\text{tg}\delta$: $C_R \leq 1\mu\text{F} \Delta \text{tg}\delta \leq 0.005$ (10kHz) $C_R > 1\mu\text{F} \Delta \text{tg}\delta \leq 0.005$ (1kHz)	Ref.item4.13 次数: 10000次 充电持续时间: 0.5S 放电持续时间: 0.5S 充电电压为额定电压 充电电阻: $220/C_R (\Omega)$ 或 20Ω (取较大者) C_R 为标称电容量 (μF) Number of times: 10,000 times Charging duration: 0.5s Discharge duration: 0.5s Charging voltage is rated voltage Charging resistance: $220/cr(\Omega)$ or 20Ω (whichever is greater)Cr is the nominal capacitance (μF)

9、波峰焊接（最大焊接温度） Peak Welding (Maximum Welding Temperature)

9.1 焊接条件请按照右侧的焊接图表：Welding conditions should follow the welding chart on the right side:

	最高温度Tmax	时间Time
预热	最高温度 $\leq 130^{\circ}\text{C}$	$\leq 1\text{min}$
焊接锡炉温度	$260 \pm 5^{\circ}\text{C}$	$5 \pm 1\text{s}$



9.2 如需焊接两次，第二次焊接必须等到电容器恢复到常温。

If twice welding is required, the second welding must wait until the capacitor is restored to normal temperature.

9.3 插件产品仅适合使用波峰焊接 Plug-in products are only suitable for wave soldering

10、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 $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$ 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 month

