



规格承认书

SPECIFICATION FOR APPROVAL



产品型号: (Product Type)	抑制电源电磁干扰用金属化聚丙烯薄膜电容器 MKP-X2 Metallizeed polypropylene film capacitor MKP-X2 for interference suppression capacitors
产品品号: (Ordering Code)	2010200124 (1X2H422K275-24)
客户代号: (Customer Code)	1GDSZGJ2
客户料号: (Customer's P/N)	C2846732
日期: (Issue Date)	2024-1-18



拟制 Prepared	审核 Checked	批准 Approved	客户承认签回 Approved by Customer
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变更记录

Change History list

[illegible]

1. 范围

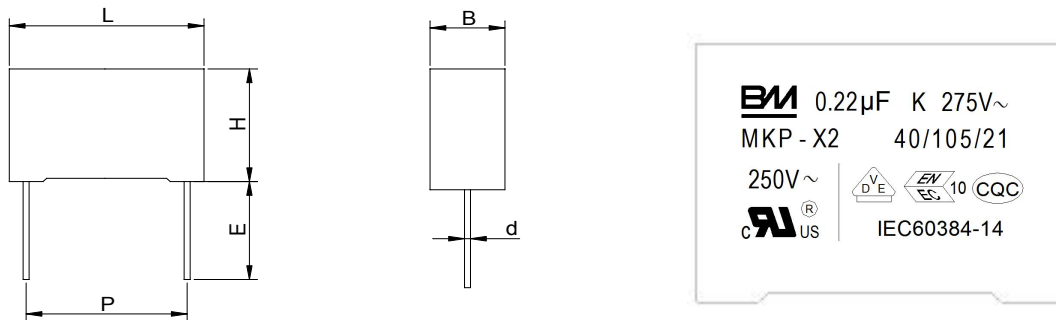
Scope

此规范应用于抑制电源电磁干扰的金属化聚丙烯膜电容器，型号 MKP-X2。

This specification applies to metallized polypropylene film capacitors type name MKP-X2 ,used in electromagnetic interference suppression or across-the-line capacitor.

2. 规格尺寸

Dimensional drawing



Customer's P/N	BM P/N	CAP (μF)	R.V VAC	DIMENSIONS 尺寸 (mm)					
				L±1	B±1	H±1	P±0.5	E±3	d±0.05
C2846732	2010200124 (1X2H422K275-24)	0.22	275	18	7.5	13.5	15	15	0.8

3. 产品介绍及用途

Type introduction And Applications

■ 依连接方式，对抑制电源电磁干扰用固定电容器定义了两大类，分别为 X 类和 Y 类。

Depending on the way they are connected,two principal classes of capacitors have been defined for fixed capacitors for electromagnetic interference suppression.

X 类电容器：一种适用于在电容器失效时不会导致电击危险的场合的电容器。

X capacitors: A type is suitable for use in situations where failure of the capacitor would not lead to danger of electrical shock.

X 类电容被划分为两个子类 X1、X2。

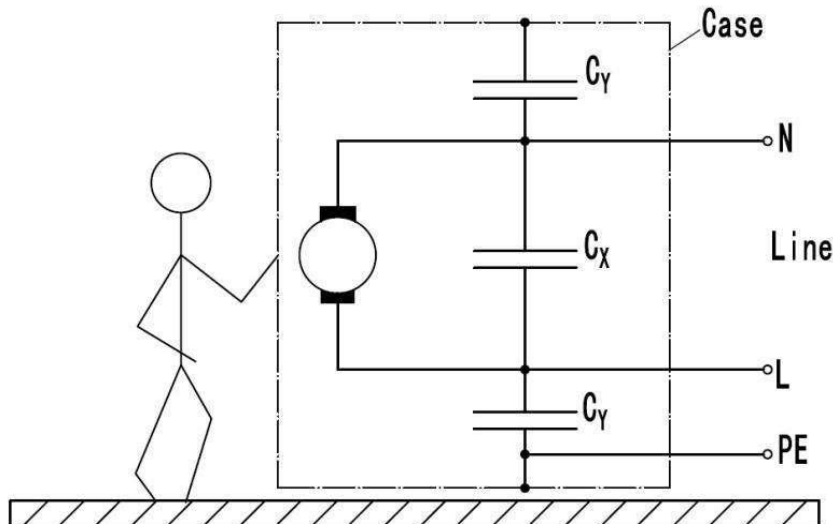
Class X capacitor are divided into two subclasses X1、X2.

Y 类电容器：一种适用于在电容器失效时会导致电击危险的场合的电容器。

Y capacitors: A type is suitable for use in situations where failure of the capacitor could lead to danger of electrical shock.

Y 类电容被划分为三个子类 Y1、Y2、Y4。

Class Y capacitor are divided into three subclasses Y1、Y2、Y4.



Cx: 抑制电容器功能（类别）X

Cx: Suppression capacitors-Function (or class) X

Cy: 抑制电容器功能（类别）Y

Cy: Suppression capacitors-Function (or class) Y

以上说明显示了使用 X 和 Y 电容器对电动机的保护和抑制作用。

The examples above show protection and suppression of a motor by using X and Y capacitors.

产品工艺

Product process technology

MKP-X2 电容通过聚丙烯薄膜真空蒸镀的方式、锌铝加厚的工艺、无感结构卷绕而成；

芯子两端喷涂环保喷金线（喷金工艺）；电极用镀锡铜包钢线引出；

使用符合 UL94V-0 阻燃等级的 PBT 塑料外壳封装；使用符合 UL94V-0 的阻燃环氧树脂灌封。

MKP-X2 capacitor is formed by vacuum evaporation of polypropylene film, thickening of zinc and aluminum, and winding of non-inductive structure. Two ends of the core are sprayed with environmental protection gold thread (gold spraying process); The electrode is led out by tinned copper-clad steel wire; Packaging with PBT plastic shell meeting UL94V-0 flame retardant rating; Encapsulate with flame retardant epoxy resin conforming to UL94V-0.

产品应用范围

Typical applications

MKP-X2 抑制电源电磁干扰电容器：

MKP-X2 Type for electromagnetic interference suppression :

适用于电源跨线路等抗干扰场合（工频交流电源跨线 EMI 滤波）；

Type for electromagnetic interference suppression, (cross-line EMI filtering of power frequency AC power supply) ;

适用于使用的电容器失效后不会导致触电的危险场合。

Used in across-the-line, interference suppression circuit (indoor applications), Suitable for used in situations where failure of the capacitor will not lead to danger or electric shock, not for use in series with the mains.

■ 注 Note:

推荐用于电网额定电压不超过 250VAC 的场合

Recommended for occasions where the rated voltage of the power grid does not exceed 250VAC;

推荐用于非长期通电场合

Recommended for non-long-term power-on occasions;

不适用于阻容降压电路

Can't be used in resistance-capacitance step-down circuit;

如果需要用到承载一定纹波电流的场合，请与我司技术工程师联系

Please contact our technical engineer if you need to use it to carry a certain ripple current;

若用于户外、长期通电、长期湿度较大的场合，建议选用 THB 防潮系列产品

THB series products are recommended for outdoor, long-term electrifying and long-term humidity occasions.

4. 产品特点

Features

■ 无感结构

Non-induction construction

■ 金属化聚丙烯，良好的自愈性

Metallized polypropylene structure, self-healing property

■ 低损耗，稳定的频率及温度特性

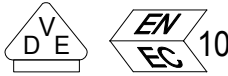
Low DF, stable frequency and temperature performance

■ 优异的阻燃性能（符合 UL94V-0）

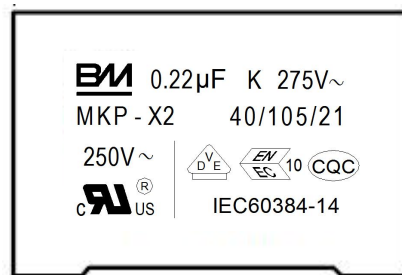
Flame retardant type (compliance with UL94V-0)

5. 安全认证

Safety Approvals

	CQC (中国)	GB/T 6346.14-2015, MKP-X2, 275VAC/305VAC/310VAC, 0.01~10μF, 40/105/21, 40/110/56, 证书号 (Certificate No.): CQC04001010677
	VDE-ENEC (欧盟)	EN60384-14:2013, MKP-X2, 275VAC/305VAC/310VAC, 0.01~10μF, 40/105/21, 40/110/56, 证书号 (Certificate No.): 40025702
	UL/CUL (美国/加拿大)	UL60384-14:2009, MKP-X2, 275vac/310vac, 0.01~10μF, 40/105/21, 40/110/56, 证书号 (Certificate No.): E345487
	KC (韩国)	K60384-14(2006-12), MKP-X2, 275VAC 0.01~10μF, 40/105/21, 证书号 (Certificate No.): SU03048-10004B/10003B/10002B/10001B/13001A/13002A

6. 标识说明 Marking Introduction



NO.	ITEM	EXPLAIN
1		丰明公司 LOGO: BM LOGO
2	0.22 μ F K	容值与偏差 Capacitance and tolerance: 0.22 μ F, K=±10%
3	275V~ 250V~	额定电压 Rated voltage: 275VAC/250VAC
4	40/105/21	气候类别 Climatic category: 40/105/21
5	IEC60384-14	执行标准 Executive standard
6	MKP-X2	产品型号 Product type: MKP-X2
7		安规认证 Safety approval: VDE/ENEC/CQC/UL/CUL

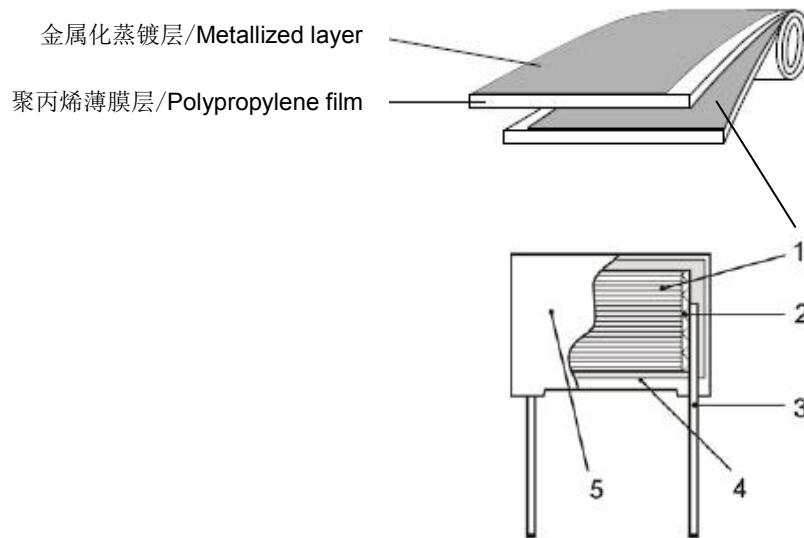
7. 技术要求 Specifications

参照标准 Reference Standard	GB/T 6346.14-2015、IEC 60384-14:2013					
气候类别 Climatic category	40/105/21					
阻燃等级 Passive Flammability Category	C					
工作温度范围 Operating Temperature Range	-40℃ ~ +105℃					
额定电压 Rated Voltage (U _R)	275VAC (50/60Hz)					
最大连续直流电压 Maximum Continuous Voltage	630VDC					
容量范围 Capacitance Range	0.01 μ F ~3.3 μ F (其他容量可咨询沟通)					
容量偏差 Capacitance Tolerance	±10%(K)、±20%(M)、(20℃, 1kHz)					
耐电压 Voltage Proof	引线之间 Between Terminals			4.3U _R (DC) / 2s		
	极壳之间 Between Terminals to case			2100VAC, 50/60Hz , 60sec		
绝缘电阻 Insulation Resistance	C _R ≤0.33μF : R≥15000MΩ					
	C _R >0.33μF : R* CR≥5000s 测试条件: (20℃, 100V, 60sec)					
损耗角正切 Dissipation Factor	0.01μF≤C _R ≤0.47μF		≤0.0010 (1kHz, 20℃)		≤0.0020 (10kHz, 20℃)	
	0.47μF<C _R ≤1.0μF		≤0.0020 (1kHz, 20℃)		≤0.0040 (10kHz, 20℃)	
	C _R >1μF		≤0.0030 (1kHz, 20℃)		/	
脉冲斜率 dV/dt (V/μs) Pulse Slope dV/dt (V/μs)	Pitch V _R	7.5mm	10mm	15mm	22.5mm	27.5mm
	630VDC	500	400	300	180	120

8. 产品结构及主材

Construction and Component

■ 产品结构图 Construction



■ 材料构成清单 Component List

项次 Item	构成部位 Component	材料名称/材质 Material
1	素子 Element	金属化聚丙烯薄膜 Metallized PP film
2	喷金层 Metal spray layer	锌线和锌锡合金线 Zn and Zn-Tin alloy wire
3	导 针 Leads	镀锡铜包钢线 Tin plated copper covered steel wire
4	灌密封胶 Potting compound	UL94V-0 级阻燃环氧树脂 Flame retardant epoxy resin(UL94V-0)
5	塑胶外壳 Enclosure	UL94V-0 级阻燃 PBT 材质 Flame retardant PBT plastic(UL94V-0)
5.1	本体标志 Marking	激光刻印 Laser

9. 环保要求

Compliance with environment requirement

- 符合 RoHS 要求 Compliance with the requirement of RoHS.
- 符合 REACH 要求 Compliance with the requirement of REACH.

10. 包装说明

Packing

■ 包装方式:

包装袋与纸箱, 根据客户订单数量, 确定使用大或小的外包装箱。

Package bag and Carton, Packing with small or big carton depends on customer's purchase quantity.

■ 内外包装标签(卡)(Label on plastic bag and Carton)

内包装袋标签示意图(qualified label)

BM ® RoHS 安规类电容器合格证 MKP-X2 FZQR-7.5.3-11 11Ae			
客户料号			
品 号			
额定容量	$\mu\text{F} \square \text{J} \pm 5\% \square \text{K} \pm 10\% \square \text{M} \pm 20\%$		
额定电压	275VAC/250VAC		
数 量	☐ 整数	PCS ☐ 尾数	PCS
生产批号			
包装工号			
检 验 员			
包装日期			

OQC
10.07.30
PASS



11. 储存条件

Storage Conditions

■ 长期储存必须遵守下列条件:

Long-term storage must comply with the following conditions:

产品应避免存放在含有湿气、尘埃、腐蚀性气体(氯化氢、硫化氢、二氧化硫、氨等)、酸、碱、盐等的场所, 避免引针可焊性变差(造成虚焊、假焊、不上锡等)。

Products should be kept away from places containing moisture, dust, corrosive gases (hydrogen chloride, hydrogen sulfide, sulfur dioxide, ammonia, etc.), acid, alkali, salt, etc., to avoid poor solderability of lead pins (causing false welding, no tin, etc.).

产品应避免存放在高温高湿的场所, 必须保存在以下环境中(在不拆开原包装的基础上):

Products should be kept away from high-temperature and high-humidity places, and must be kept in the following environments (without unpacking the original packaging):

温度: -40°C 到 $+40^{\circ}\text{C}$ 。

Temperature: -40°C to $+40^{\circ}\text{C}$.

湿度: 相对湿度小于80%RH, 电容表面无结露。

Humidity: the relative humidity is less than 80%RH, and there is no condensation on the capacitor surface.

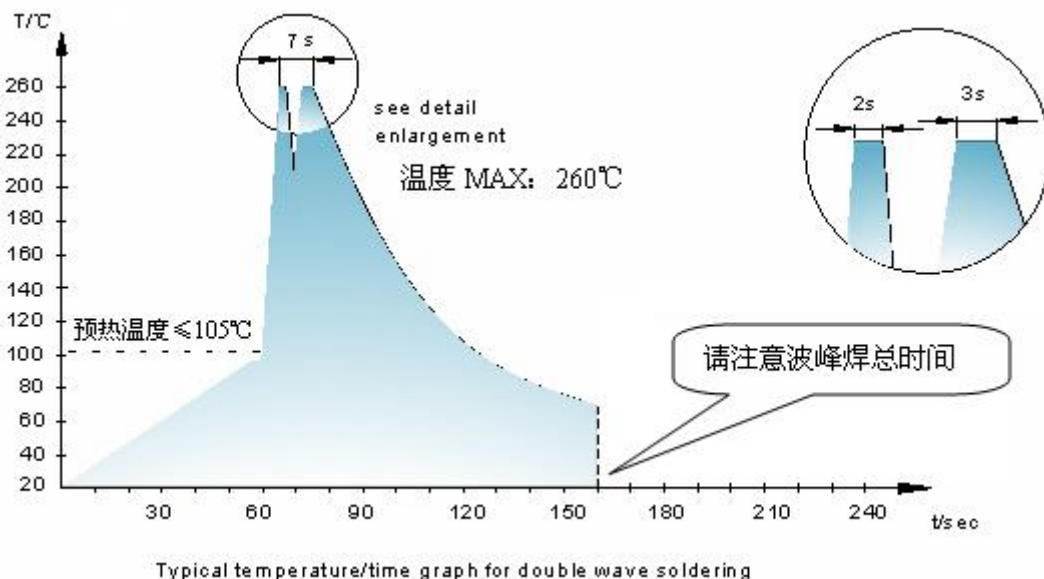
储存时间: 不超过12个月(从产品包装日期算起)。

Storage time: no more than 12 months (from the date of product packaging).

12. 安装要求

Installation requirements

■ 无铅波峰焊 When used with flow soldering(no lead):



预热总时间≤60s; 链条速度: 1.2m/60s或者更快

Total preheating time≤60s; Chain speed: 1.2m/60s or even more

■ 焊接的一般注意事项

general precautions for welding

■ 薄膜电容器允许的热暴露负载主要通过上限类别温度 T_{max} 表征。长时间暴露在高于相关温度限值的温度下可能导致塑料电介质发生变化, 从而造成电容器电气特性的不可逆变化。对于短时间暴露 (例如实际上的焊接过程) 热负载(可能会影响电容器)还将取决于其他因素, 如:

The allowable thermal exposure load of the capacitor is mainly characterized by the upper limit category temperature T_{max} . Prolonged exposure to temperature higher than the relevant temperature limits may lead to plastic material changes, resulting in irreversible changes in electrical characteristics of capacitors. For short-term exposure (for example, the actual welding process), the thermal load (which may affect the capacitor) will also depend on other factors, such as:

■ 预热温度和时间

Preheating temperature and time

■ 焊接后立即强制冷却

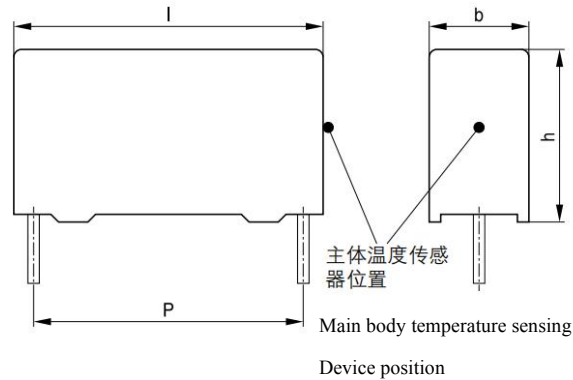
Forced cooling immediately after welding

■ 相邻元件散热导致的额外加热

Additional heating caused by heat dissipation of adjacent components

■ 通常可以采取适当对策来降低与上述部分因素相关的过热。例如, 如果无法避免预热步骤, 则可能必须采取辅助冷却或强制冷却工艺。

Usually, appropriate measures can be taken to reduce the overheating related to some of the above factors. For example, Or forced cooling process.



■ 主体温度应当符合以下说明

The temperature of the main body shall meet the following specifications:

■ MKP (聚丙烯) 电容器

MKP(polypropylene) capacitor

■ 预热过程中 During preheating: $T_p \leq 105^\circ \text{C}$

■ 焊接过程中 During welding: $T_s \leq 120^\circ \text{C}$, $t_s \leq 45\text{s}$

■ 当表面贴装(SMD) 元件与薄膜电容器一同使用时, 薄膜电容器不应进入 SMD 胶层固化炉。引线式元件应当在表面贴装(SMD)固化后装配。

When surface mount (SMD) components are used together with thin film capacitor, thin film capacitors should not enter SMD adhesive curing furnace. The lead components should be assembled after surface mount (SMD) curing.

■ 引线式薄膜电容器不适用于回流焊。

Lead film capacitor is not suitable for reflow soldering.

■ PCB 板组装: 红胶固化 PCB Assembly: Adhesive curing oven

因为过高的温度有可能会损伤电容器, 我们建议产品的插件动作在红胶固化工序后进行。当必须提前时, 请评估所使用的红胶固化温度曲线是否符合插件产品。

Because excessive temperature may damage the capacitor, so we suggest that leaded parts must be fixed after the adhesive curing process. When must be ahead, please estimate if the curing curve is suitable for capacitors.

■ 为了确保手动或选择性焊接的适当条件, 电容器的主体温度(T_s)必须 $\leq 120^\circ \text{C}$ 。

To ensure proper conditions for manual or selective welding, the bulk temperature (T_s) of the capacitor must be $\leq 120^\circ \text{C}$.

■ 手动焊接的一个推荐条件是烙铁头温度应当 $< 360^\circ \text{C}$, 并且焊接接触时间不应超过 3s。

A recommended condition for manual welding is that the welding head temperature should be $< 360^\circ \text{C}$ and the welding contact time should not exceed 3 seconds.

■ 注: 聚丙烯基膜能承受的极限温度在 120°C 左右。超过此温度, 聚丙烯的过度热收缩会造成产品损伤, 最终导致电容性能失效(塑料外壳开裂、芯子鼓起、电容量衰减等)。

Note: The ultimate temperature of polypropylene base film is about 120°C . Over this temperature, the excessive thermal shrinkage of polypropylene will cause damage to the product, and eventually lead to the failure of the electrical properties of the capacitor (plastic shell cracking, core bulging, capacitance attenuation, etc.).

13. 技术规范

Technical specification

项次 No.	检测项目 Test item	性 能 Performance	检测方法 Test method									
1	容量范围 Capacitance Range	0.01μF~3.3μF	Measure at 1kHz(20℃~25℃) IEC60384-14 4.2.2									
2	容量偏差 Capacitance Tolerance	规定范围内偏差 Within specified tolerance K: ±10%; M: ±20%	Measure at 1kHz(20℃~25℃) IEC60384-14 4.2.2									
3	损耗角正切 Dissipation factor	<table><tr><td>0.01μF≤C_R≤0.47μF</td><td>≤0.0010 (1kHz, 20℃)</td><td>≤0.0020 (10kHz, 20℃)</td></tr><tr><td>0.47μF<C_R≤1.0μF</td><td>≤0.0020 (1kHz, 20℃)</td><td>≤0.0040 (10kHz, 20℃)</td></tr><tr><td>C_R>1μF</td><td>≤0.0030 (1kHz, 20℃)</td><td>/</td></tr></table>	0.01μF≤C _R ≤0.47μF	≤0.0010 (1kHz, 20℃)	≤0.0020 (10kHz, 20℃)	0.47μF<C _R ≤1.0μF	≤0.0020 (1kHz, 20℃)	≤0.0040 (10kHz, 20℃)	C _R >1μF	≤0.0030 (1kHz, 20℃)	/	Measure at 1kHz(20℃~25℃) IEC60384-14 4.2.3
0.01μF≤C _R ≤0.47μF	≤0.0010 (1kHz, 20℃)	≤0.0020 (10kHz, 20℃)										
0.47μF<C _R ≤1.0μF	≤0.0020 (1kHz, 20℃)	≤0.0040 (10kHz, 20℃)										
C _R >1μF	≤0.0030 (1kHz, 20℃)	/										
4	额定电压 Rated Voltage	275VAC 50/60Hz	IEC60384-14									
5	耐压测试 Withstand Voltage	应无永久性击穿及飞弧 No permanent breakdown or flash-over	IEC60384-14 4.2.1									
	端子与端子间(T-T) Terminal-Terminal		4.3U _R (DC) / 2s 电压爬升时间: 5~10sec, 漏电流 10mA, ARC=OFF Voltage increasing time5~10sec,cut off current 10mA,ARC=OFF									
	端子与外壳间 Terminal-Case		2100VAC, 50/60Hz , 60sec									
6	绝 缘 电 阻 Insulation Resistance	C _R ≤0.33μF: IR≥15000MΩ	IEC60384-14 4.2.5 充电电压 charge voltage: 100V 充电时间 charge time: 60sec 温度 Test temp: 20℃~25℃									
		C _R >0.33μF: IR* CR≥5000s										
7	端子强度测试 Terminal strength	端子脚无可见的破损 There shall be no visible damage	IEC60384-14 4.3									
	拉伸强度 Pull Strength		拉力 Tense: 0.5<d≤0.8 ,10N 时间 Time: 10sec									
	弯曲强度 Bending Strength		弯力 Bend: 0.5<d≤0.8 5N 端子相对方向进行两次弯曲 Bent 2 times each direction									
8	耐焊接热 Resistance to Solder heat	外观无可见的损伤,标志清晰, 容量变化率 ΔC/C≤±5% There should be no visible damage, ΔC/C ≤±5%	IEC60384-14 4.4 焊锡温度 Solder temp:260±5℃; 浸入时间 Immersion time: 10±1sec 恢复时间 2 小时 Then recovery at ordinary Condition 2 hours									

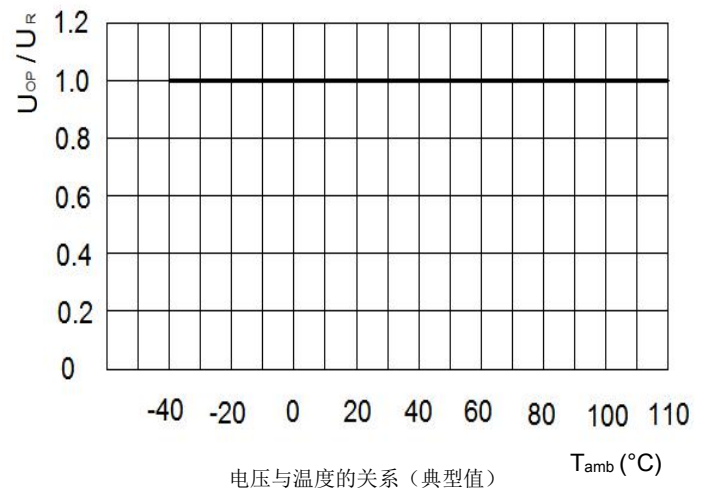
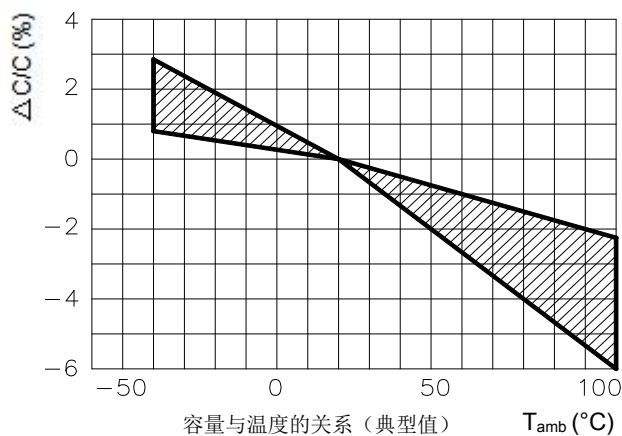
项次 No.	检测项目 Test item	性能 Performance	检测方法 Test method
9	可焊性 Solderability	焊锡覆盖面积达浸沾表面积 90%以上 At least 90% of the Circumference of the lead wire, Around lead Surface dipped into with new solder	IEC60384-14 4.5 焊锡温度 Solder temp: 235±5℃ 浸入时间 Immersion time: 2.5±0.5sec
10	温度快速变化 Rapid change of temperature	外观无可见的损伤 There should be no visible damage	IEC60384-14 4.6 $\theta_A = -40^\circ\text{C}$, $\theta_B = +105^\circ\text{C}$ 循环周期: 5 次, 5 cycles 周期时间: 30 分钟 Duration=30min
11	耐寒性 Cold Resistance	应无可见损坏, 印章清晰 There should be no visible damage, legible marking. 容量变化率 $\Delta C/C \leq \pm 5\%$ Capacitance change $\Delta C/C \leq \pm 5\%$ 损耗角增加: Increase of Tan δ	IEC60384-14 4.11.4 温度 Temp: -40℃ 时间 Duration: 2H 恢复时间 2 小时 Then recovery at ordinary Condition 2 hours
12	干热性 Dry heat	$C_R \leq 1\mu\text{F}$: ≤ 0.008 (10kHz) $C_R > 1\mu\text{F}$: ≤ 0.005 (1kHz) 耐压: 应无永久性的击穿或飞弧 Dielectric strength: there shall be no permanent breakdown or flash-over. 绝缘电阻(IR): $> 50\%$ 的额定值 IR $> 50\%$ *Rate value	IEC60384-14 4.11.2 温度 Temp: 105℃ 时间 Duration: 16H 恢复时间 2 小时 Then recovery at ordinary Condition 2 hours
13	稳态湿热 Damp heat steady state	应无可见损坏, 印章清晰 容量变化率 $\Delta C/C \leq \pm 5\%$ There should be no visible damage, legible marking. Capacitance change $\Delta C/C \leq \pm 5\%$ 损耗角增加: Increase of Tan δ : $C_R \leq 1\mu\text{F}$: ≤ 0.008 (10kHz) $C_R > 1\mu\text{F}$: ≤ 0.005 (1kHz) 耐压: 应无永久性的击穿或飞弧 Dielectric strength: there shall be no permanent breakdown or flashover. 绝缘电阻(IR): $> 50\%$ 的额定值 IR $> 50\%$ *Rate value	IEC60384-14 4.12 相对湿度 Humidity: 93%RH 温度 Temp: 40℃ 持续时间 Duration: 21 day 恢复时间 2 小时 Then recovery at ordinary Condition 2 hours
14	振动 Vibration	外观无可见的损伤 There should be no visible damage,	IEC60384-14 4.7 位移 0.75mm 或加速度 98m/s ² Amplitude 0.75mm or acceleration 98m/s ² (两者取较小者), (whichever is the smaller values) 振动频率: 10~500Hz, 三个方向, 每 2 小时/方向, 共 6 个小时 2h each direction, total 6h
15	碰撞 Bump	外观无可见的损伤, 容量变化率 $\Delta C/C < \pm 5\%$ There should be no visible damage $\Delta C/C < \pm 5\%$	IEC60384-14 4.8 4000 次, 加速度 400m/s ² , 4000 times, acceleration 400m/s ² , 脉冲持续时间: 6ms. Pulse duration 6ms.

项次 No.	检测项目 Test item	性能 Performance	检测方法 Test method
16	脉冲电压 Impulse voltage	如果显示器显示有三次或更多次没有自愈性击穿,则表明电容器合格.	IEC60384-14 4.13 每个电容器施加相同极性的脉冲 24 次,每次脉冲间隔应不少于 10 秒(如果显示器显示有连续三次脉冲波形无自愈发生,则可停止施加脉冲,认定电容器合格),脉冲电压峰值如下: $C_R \leq 1\mu F$: $U_p = 2.5kV$ $C_R > 1\mu F$: $U_p = 2.5/\sqrt{C_R}$ kV
17	耐久性 Endurance test	应无可见损坏,印章清晰 容量变化率 $\Delta C/C \leq \pm 10\%$ There should be no visible damage, legible marking. Capacitance change $\Delta C/C \leq \pm 10\%$ 损耗角增加: Increase of $\tan \delta$: $C_R \leq 1\mu F$: ≤ 0.008 (10kHz) $C_R > 1\mu F$: ≤ 0.005 (1kHz) 耐压: 应无永久性的击穿或飞弧 Dielectric strength: there shall be no permanent breakdown or flash-over. 绝缘电阻(IR): $> 50\%$ 的额定值 $IR > 50\%$ *Rate value	IEC60384-14 4.14 温度 Temp: $105^\circ C$ 施加电压 Applied Voltage: $1.25U_R$ 持续时间 Duration: 1000H 恢复时间 2 小时 Then recovery at ordinary Condition 2 hours (每隔一小时将电压升高至 1000VAC, 持续 0.1 秒的测试条件 The voltage should be subjected to 1000rms for 0.1s every one hour during test.)
18	充电和放电 Charge and Discharge	容量变化率 $\Delta C/C \leq \pm 10\%$ Capacitance change $\Delta C/C \leq \pm 10\%$ 损耗角增加: Increase of $\tan \delta$: $C_R \leq 1\mu F$: ≤ 0.008 (10kHz) $C_R > 1\mu F$: ≤ 0.005 (1kHz) 耐压: 应无永久性的击穿或飞弧 Dielectric strength: there shall be no permanent breakdown or flash-over 绝缘电阻(IR): $> 50\%$ 的额定值 $IR > 50\%$ *Rate value	IEC60384-14 4.15 试验次数: 10,000 次 充电时间: 0.5 秒, 放电时间: 0.5 秒 充电电压: $\sqrt{2}U_R$ VDC, 充电电阻: $R = \frac{220 \times 10^{-6}}{C_R} (\Omega)$ 或将充电电流限制在 1A 以下(取其大者) 放电电阻: $R = \frac{\sqrt{2}U_R}{C_R * (du/dt)} (\Omega)$, C_R 单位: μF . dv/dt : 最大 100V/us, Times: 10,000 Duration of charge: 0.5sec Duration of discharge: 0.5sec Charging voltage: $\sqrt{2}U_R$ VDC, Charge resistor: $R = \frac{220 \times 10^{-6}}{C_R} (\Omega)$ or the limited current should be no more than 1A, (whichever the resistance value is the greater) Discharge resistance $R = \frac{\sqrt{2}U_R}{C_R * (du/dt)} (\Omega)$, C_R unit: μF . dv/dt : Max 100V/us,

项次 No.	检测项目 Test item	性能 Performance	检测方法 Test method
19	阻燃性试验 Passive flammability	任一试验电容器在离开火源后持续燃烧的时间不能超过 30 秒,其燃烧下落物不能将下面的纱棉引燃 The flaming time of each sampling capacitor shall not go beyond 30sec after it is taken apart from the flame. Drop of each capacitor caused by the flame shall not fire the tissue below.	参照 4.17 节 Ref 4.17 clause 采用针焰测试法,阻燃等级 C 级 Needle flame test The category of flammability :C 暴露次数:1 次 Expose time:1time 产品体积 暴露时间 Capacitor volume Exposing time 250<V(mm ³)≤500 s=10 秒 500<V(mm ³)≤1750 s=20 秒 V(mm ³)>1750 s=30 秒

14. 特性曲线图

Characteristic curve



注: 使用频率不可超过 100 Hz

15. 处置

Disposal

薄膜电容器都可以处理、回收或再利用。但是, 处置时必须遵守各自国家的相关法律规定。

All film capacitors can be disposed of, reused or recycled. However as disposal is regulated by national law, the respective national provisions have to be observed.