

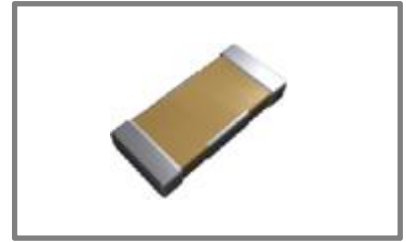
2. In the product specification, deliverable high-Voltage models with the same specifications, capacity, and temperature characteristics can fully cover the low-Voltage models. For products with the same specifications, capacity, and Voltage, X7R temperature characteristic products can cover X7S, X7T, X6S, and X5R (e.g., 5081B/103K500NT can cover 5081BS103K500NT, 5081BT103K500NT, 5081DS103K500NT, 5081X103K500NT). Therefore, detailed model specifications will not be listed separately in the specification.

序号 No	目 录 TABLE OF CONTENTS
1	特征 Feature
2	应用范围 Application
3	型号表示法 Ordering Code
4	温度系数/特性 Temperature Coefficient /Characteristics
5	产品结构及尺寸 Product Structure And Dimensions
6	容量范围及电压 Capacitance Range and Voltage
7	可靠性测试方法 Reliability Test Methods
8	包装 Package
9	储存方法 Storage Methods
10	使用前的注意事项 Precautions Before Use
11	推荐焊接温度曲线图 The temperature profile for soldering

■ 片式三端陶瓷滤波电容器 (EMI) Three Terminations Chip Ceramic Filter Capacitor (EMI)

◆ 特征 Feature

- * 叠层独石结构, 具有高可靠性能
There is high reliability on monolithic structure of laminated layers.
- * 具有优良的通流特性
Excellent performance in high current applications
- * 无极性, 适合高密度的表面安装
Non-polar, high-density surface mounting
- * 具有优良的滤波特性
Superior filtering characteristics
- * 具有良好的吸收噪音、抑制浪涌脉冲的作用。
Super to absorb noise and restrain surge pulse
- * 具有良好的可焊与耐焊性能
Offers good solder-ability and leach-ability
- * 执行标准: GB/T 21041-2007 GB/T 21042-2007
Executive Standard: GB/T 21041-2007 GB/T 21042-2007



◆ 应用范围 Application

- * 移动电话及基站
Cellular telephones and base stations
- * 通信设备
Telecommunication equipment
- * 自动化仪表和程序控制器
Industrial electronic interface of programmable controllers
- * 汽车电子
Electronic automotive equipment for car.
- * 计算机及外围设备
Computer and peripheral equipment

◆ 型号表示法
How To Order

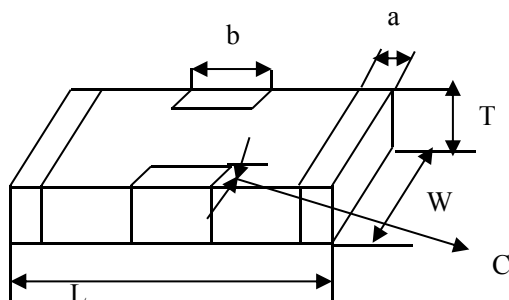
5081			B		103		M		500		J		T	
尺寸规格 Size Code			标称容量 Nominal Capacitance		额定电压 Rated Voltage 单位(unit): V		包装方式 Package Styles							
尺寸规格 Size Code	EIA	长×宽 (L×W) mm	表示方式 Express Method	实际值 Actual Value	表示方式 Express Method	实际值 Actual Value	表示方式 Express Method	包装方式 Package Styles						
3061	3061	1.60×0.80	0R5	0.5	6R3	6.3	T	编带 7 寸 盘包装 Braided 7 inch disc packing						
5081	5081	2.00×1.25												
5121	5121	3.20×1.25												
6121	6121	3.20×1.60	1R0	1.0	500	50×10 ⁰	D	编带 13 寸 盘包装 Braided 13 inch disc packing						
			102	10×10 ²	201	20×10 ¹								
			注：头两位数字为有效数字，第三位数字为 0 的个数；R 为小数点。 Note: the first two digits are significant; third digit denotes number of zeros; R=decimal point.											
			注：头两位数字为有效数字，第三位数字为 0 的个数；R 为小数点。 Note: the first two digits are significant; third digit denotes number of zeros; R=decimal point.											
介质种类 Dielectric Code			容量误差 Capacitance Tolerance		额定工作电流 Rated Current									
介质种类 Dielectric Code	介质材料 Dielectric	代码 Code	误差 Tolerance	代号 (Code)	额定工作电流 Rated Current									
B	X7R	M	±20%	D	0.3A									
CG	C0G	S	-20%~+50%	E	0.5A									
X	X5R			F	0.6A									
				G	0.7A									
				H	1A									
				I	2A									
				J	4A									
				K	6A									
				L	10A									

◆ 温度系数/特性 Temperature Coefficient /Characteristics

介质种类 Dielectric	参考温度点 Reference Temperature Point	标称温度系数 Temperature Coefficient	工作温度范围 Operation Temperature Range
C0G	25°C	0±30 ppm/°C	-55°C ~ 125°C
X5R	25°C	±15%	-55°C ~ 85°C
X7R	25°C	±15%	-55°C ~ 125°C

◆ 产品结构及尺寸

Product Structure And Dimensions



项目 item 规格 size	长 (L)	宽 (W)	厚 (T)	端头厚度 (a) Termination Thickness	第三端宽度 (b) Third Termination Width	第三端厚度 (c) Third Termination Thickness
3061	1.60±0.10	0.80±0.10	0.60±0.10	0.30±0.15	0.4±0.10	0.20±0.10
5081	2.00±0.20	1.25±0.20	0.80±0.20	0.30±0.15	0.6±0.10	0.20±0.10
5121	3.20±0.20	1.25±0.20	0.80±0.20	0.30±0.15	1.10±0.10	0.25±0.15
6121	3.20±0.20	1.60±0.20	1.00±0.20	0.30±0.15	1.10±0.10	0.25±0.15

◆ 容量范围及电压

Capacitance Range And Voltage

材料 Material	产品规格 Product Specifications	容量范围 Capacity range	额定电压 Rated Voltage	误差级别 Error level	额定电流 Rated Current	直流电阻 DC resistance
X7R (B)	3061 (0603)	101~821	16V	±20% (M)	0.5A(E)	≤300mΩ
		102~822	16V	±20% (M)	0.7A(G)	≤300mΩ
		103~823	16V	±20% (M)	1.0A(H)	≤50mΩ
		104	16V	±20% (M)	2.0A(I)	≤30mΩ
		154~824	6.3V	±20% (M)	2.0A(I)	≤30mΩ
		105~225	6.3V	±20% (M)	4.0A(J)	≤10mΩ
	5081 (0805)	221~821	50V	±20% (M)	1.0A(H)	≤50mΩ
		102~822	50V	±20% (M)	1.0A(H)	≤50mΩ
		103~823	50V	±20% (M)	2A(I)	≤30mΩ
		104~824	16V	±20% (M)	2A(I)	≤30mΩ
		105	16V	±20% (M)	2A(I)	≤30mΩ
		105~225	6.3V	±20% (M)	4A(J)	≤10mΩ
X7R (B)	5121 (1205)	221~821	50V	±20% (M)	0.7(G)	≤300mΩ
		221~821	50V	+50% -20% (S)	0.7(G)	≤300mΩ
		102~822	50V	±20% (M)	2A(I)	≤30mΩ
		102~822	50V	+50% -20% (S)	2A(I)	≤30mΩ
		103~823	50V	±20% (M)	2A(I)	≤30mΩ
		103~823	50V	+50% -20% (S)	2A(I)	≤30mΩ
		104	50V	±20% (M)	2A(I)	≤30mΩ
		104	50V	±20% (M)	2A(I)	≤30mΩ

备注：可根据客户的特殊要求设计符合客户需求的产

Note: We can design according to the customer requirements.

材料 Material	产品规格 Product Specifications	容量范围 Capacity range	额定电压 Rated Voltage	误差级别 Error level	额定电流 Rated Current	直流电阻 DC resistance
X7R (B)	6121 (1206)	102~822	50V	±20% (M)	6A(K)	≤5mΩ
		102~822	50V	+50% -20% (S)	6A(K)	≤5mΩ
		104	50V	±20% (M)	10A(L)	≤2mΩ
		154~564	25V	±20% (M)	10A(L)	≤2mΩ
X5R (X)	3061 (0603)	474~225	6.3V	±20% (M)	4.0A(J)	≤10mΩ
	5081 (0805)	225	6.3V	±20% (M)	4.0A(J)	≤10mΩ
	6121 (1206)	152	25V	+50% -20% (S)	6A(K)	≤5mΩ
C0G (CG)	3061 (0603)	100~470	16V	±20% (M)	0.5A(E)	≤300mΩ
	5081 (0805)	220~101	50V	±20% (M)	0.7A(G)	≤300mΩ
	5121 (1205)	100~102	50V	±20% (M)	0.3(D)	≤300mΩ
		100~102	50V	+50% -20% (S)	0.3(D)	≤300mΩ
	6121 (1206)	100~102	50V	±20% (M)	0.3(D)	≤300mΩ
		100~102	50V	+50% -20% (S)	0.3(D)	≤300mΩ

备注：可根据客户的特殊要求设计符合客户需求的产品 Note: We can design according to the customer requirements.

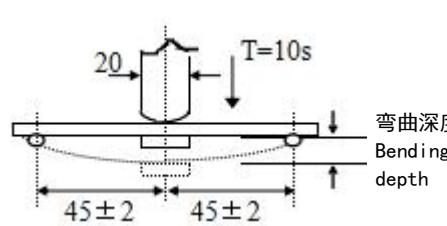
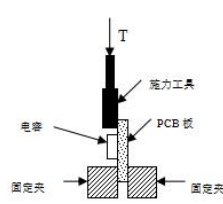
◆ 可靠性测试方法

Reliability Test Methods

二类介质规格测容量前需去老化处理：测试温度：25℃±3℃，测试湿度：<70%RH. 电容器在150℃热处理1小时，放置48h后进行测量。

.The second type of medium specification needs to be aged before measuring the capacity: test temperature: 25℃±3℃, test humidity: <70%RH. The capacitors were heat treated at 150℃ for 1 hour and measured after 48 hours of placement.

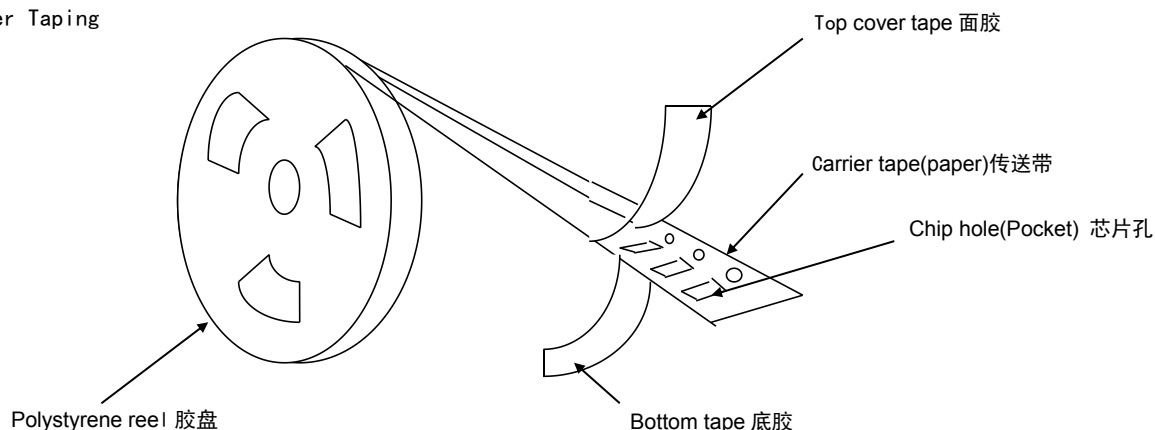
项目 Item	技术规格 Technical Specification						测试方法 Test Method and Remarks																		
容量 Capacitance	I 类 Class I	应符合指定的误差级别 Should be within the specified tolerance.						测试频率 Measuring Frequency		测试电压 Measuring Voltage															
								C>1000pf: 1KHz±10%		1.0±0.2Vrms															
	C≤1000pf: 1MHz±10%																								
	II 类 Class II							测试温度: 25℃±3℃ Test Temperature: 25℃±3℃ 测试频率: 1KHz±10% Test Frequency: 1KHz±10% 测试电压: 1.0±0.2Vrms Test Voltage: 1.0±0.2Vrms																	
绝缘电阻(IR) Insulation Resistance	I 类 Class I	Ri≥5000MΩ						测试电压: 额定电压 测试时间: 60±5 秒 测试湿度: ≤75% 测试温度: 25℃±3℃ 测试充放电电流: ≤50mA Measuring Voltage: Rated Voltage Duration: 60±5s Test Humidity: ≤75% Test Temperature: 25℃±3℃ Test Current: ≤50mA																	
	II 类 Class II	C≤25 nF, Ri≥10000MΩ C>25 nF, Ri•CR>100S																							
损耗角正切 (DF, tanδ) Dissipation Factor	I 类 Class I	DF						标称容量 Capacitance		测试频率 Measuring frequency		测试电压 Measuring Voltage													
		≤1/（400+20C）						C<30 pF		1MHz±10%		1.0±0.2Vrms													
		≤0.1%						C≥30pF																	
	II 类 Class II	<table><tr><td>≥50V</td><td>25V</td><td>16V</td><td>10V</td><td colspan="2">6.3V</td></tr><tr><td>≤250×10⁻⁴</td><td>≤750×10⁻⁴</td><td>≤750×10⁻⁴</td><td>≤750×10⁻⁴</td><td colspan="2">≥750×10⁻⁴（C<1.0μF） ≤1000×10⁻⁴（C≥1.0μF）</td></tr></table>						≥50V	25V	16V	10V	6.3V		≤250×10 ⁻⁴	≤750×10 ⁻⁴	≤750×10 ⁻⁴	≤750×10 ⁻⁴	≥750×10 ⁻⁴ （C<1.0μF） ≤1000×10 ⁻⁴ （C≥1.0μF）		测试频率: 1KHz±10% 测试电压: 1.0±0.2Vrms Test Frequency: 1KHz±10% Test Voltage: 1.0±0.2Vrms					
		≥50V	25V	16V	10V	6.3V																			
≤250×10 ⁻⁴	≤750×10 ⁻⁴	≤750×10 ⁻⁴	≤750×10 ⁻⁴	≥750×10 ⁻⁴ （C<1.0μF） ≤1000×10 ⁻⁴ （C≥1.0μF）																					

项目 Item	技术规格 Technical Specification			测试方法 Test Method and Remarks						
介质耐电强度 (DWV) Dielectric Withstanding Voltage	不应有介质被击穿或损伤 No breakdown or damage.			测量电压: Ur<100V: I类:300%Ur II类:250%Ur 100V≤Ur<500V: 200%Ur 时间: 1~5 秒 充/放电电流: 不应超过 50mA Measuring Voltage: Ur<100V: Class I :300% Ur Class II :250% Ur 100V≤Ur<500V: 200%Ur Duration:1~5s Charge/ Discharge Current: 50mA max.						
可焊性 Solderability	上锡率应大于 95% 外观: 无可见损伤. At least 95% of the terminal electrode is covered by new solder. Visual Appearance: No visible damage.			将电容在 80~120℃的温度下预热 10~30 秒. Preheating conditions:80 to 120℃; 10~30s. 无铅焊料: 浸锡温度: 245±5℃ 浸锡时间: 2±0.5s Lead-free soldering Solder Temperature: 245±5℃ Duration: 2±0.5s						
耐焊接热 Resistance to Soldering Heat	项目 Item	I类 Class I	II类 Class II	将电容在 100~200℃的温度下预热 60~120 秒. 浸锡温度: 265±5℃ 浸锡时间: 10±1s 然后取出溶剂清洗干净, 在 10 倍以上的显微镜底下观察. 放置时间: 24±2h 放置条件: 室温 Preheating conditions: 100 to 200℃; 60~120s. Solder Temperature: 265±5℃ Duration: 10±1s Clean the capacitor with solvent and examine it with a 10X(min.) microscope. Recovery Time: 24±2h Recovery condition: Room temperature						
	ΔC/C	≤±2.5%或±0.25pF, 取较大值 ≤±2.5% or ±0.25pF , whichever is larger	±15%							
	DF	同初始标准 Same to initial value.								
	IR	同初始标准 Same to initial value.								
	外观: 无可见损伤 上锡率: ≥95% Appearance : No visible damage.At least 95% of the terminal electrode is covered by new solder.									
抗弯曲强度 Resistance to Flexure of Substrate (Bending Strength)	外观: 无可见损伤. Appearance: No visible damage. ΔC/C: I 类: ≤±5%或±0. 5pF , 取两者中最大者 II 类: ≤±10% Class I : ≤±5% or ±0.5pF,whichever is larger. Class II : ≤±10%			试验基板: PCB 弯曲深度: 1mm 施压速度: 1mm/sec. 应在弯曲状态下进行测量。 Test board: PCB Warp: 1mm Speed: 1mm/sec. Unit: mm The measurement should be made with the board in the bending position 						
端头结合强度 Termination Adhesion	外观无可见损伤 No visible damage.			如图所示: 慢慢施加一个 T 的力到电容侧面瓷体上, 并保持 60+1 秒。 As shown in the picture : Slowly apply a T force to the porcelain body on the side of the capacitor and hold for 60+1 seconds. <table><tr><th>规格 Specif ication</th><th>施加力 T Apply Force T</th></tr><tr><td>≤0402</td><td>2N</td></tr><tr><td>≥0603</td><td>5N</td></tr></table> 	规格 Specif ication	施加力 T Apply Force T	≤0402	2N	≥0603	5N
规格 Specif ication	施加力 T Apply Force T									
≤0402	2N									
≥0603	5N									

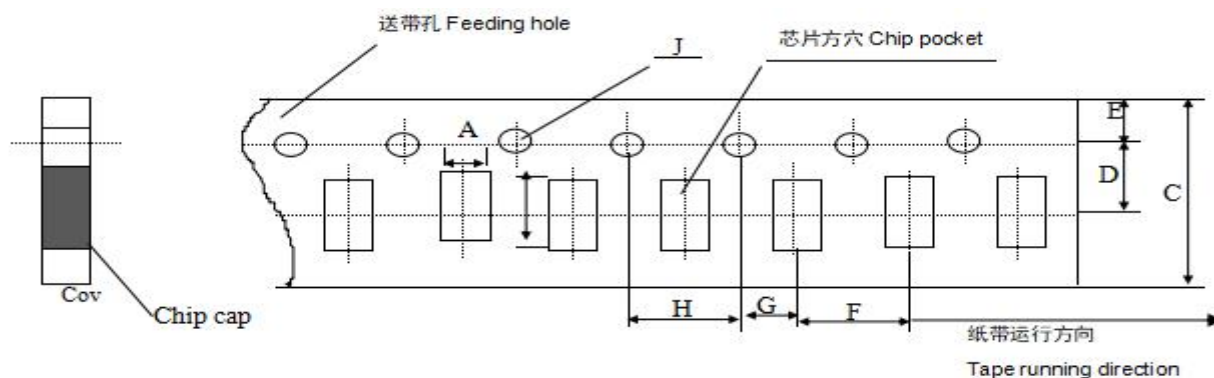
项目 Item	技术规格 Technical Specification		测试方法 Test Method and Remarks
寿命试验 Life Test	ΔC /C	I 类 Class I $\leq \pm 3\%$ 或 $\pm 0.3pF$, 取两者之中较大者 $\leq \pm 3\%$ or $\pm 0.3pF$, whichever is larger.	电压: $U_r < 100V$: 2 倍额定工作电压 $100V \leq U_r$: 1.5 倍额定工作电压 时间: 1000 小时 温度: $85^\circ C$ (X5R) $125^\circ C$ (C0G、X7R) 充电电流: 不应超过 50mA 放置条件: 室温 放置时间: 24 ± 2 小时, 当产品额定电流 $\geq 6A$ 时, 在试验增加额定电流 Applied Voltage: $U_r < 100V$: $2 \times$ Rated Voltage $100V \leq U_r$: $1.5 \times$ Rated Voltage Duration: 1000h Temperature: $85^\circ C$ (X5R) $125^\circ C$ (C0G、X7R) Charge/ Discharge Current: 50mA max. Recovery Conditions: Room Temperature Recovery Time: $24 \pm 2h$
		II 类 Class II $-20\% \sim +20\%$	
	DF	≤ 2 倍初始标准 Not more than twice of initial value.	
	IR	I 类 Class I $R_i \geq 4000M\Omega$ 或 $R_i \cdot C_R \geq 40S$ 取两者之中较小者 $R_i \geq 4000M\Omega$ or $R_i \cdot C_R \geq 40S$ whichever is smaller.	
		II 类 Class II $R_i \geq 2000M\Omega$ 或 $R_i \cdot C_R \geq 50S$ 取两者之中较小者. $R_i \geq 2000M\Omega$ or $R_i \cdot C_R \geq 50S$ whichever is smaller.	
	外观: 无损伤 Appearance: No visible damage.		

◆ 包装 Package

* 纸带卷盘结构 Paper Taping



* 适合 '3061, 5081, 5121、6121' 常规尺寸产品的纸带尺寸
Dimensions of paper taping for 3061, 5081, 5121、6121 types.



Unit: mm

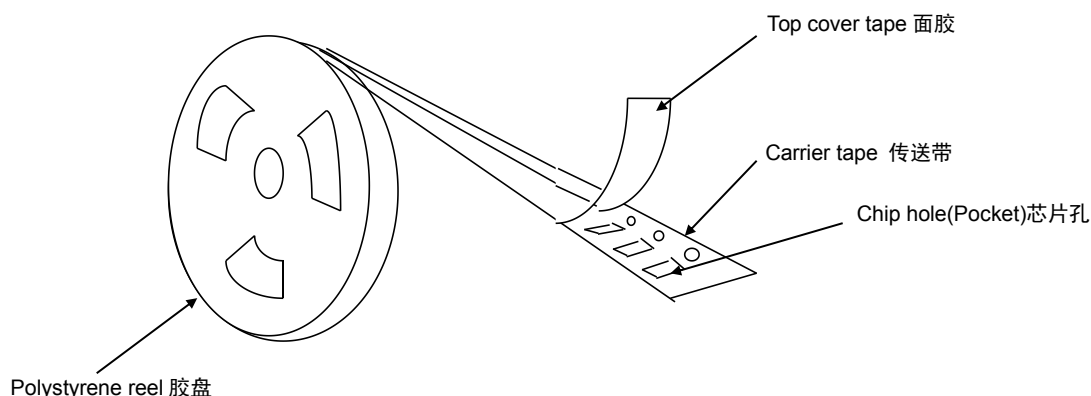
代号Code 纸带规格 paper size	A	B	C	D*	E	F	G*	H	J	T
3061	1.10 ±0.10	1.90 ±0.10	8.00 ±0.10	3.50 ±0.05	1.75 ±0.10	4.00 ±0.10	2.00 ±0.10	4.00 ±0.10	1.55 -0+0.05	1.10 Max
5081	1.45 ±0.15	2.30 ±0.15	8.0 ±0.15	3.50 ±0.05	1.75 ±0.10	4.00 ±0.10	2.00 ±0.10	4.00 ±0.10	1.55 -0+0.05	1.10 Max
5121/6121	1.80 ±0.20	3.40 ±0.20	8.00 ±0.20	3.50 ±0.05	1.75 ±0.10	4.00 ±0.10	2.00 ±0.10	4.00 ±0.10	1.55 -0+0.05	1.10 Max

注意：*表示此处对尺寸的要求非常精确。

Note: The place with “*” means where needs exactly dimensions.

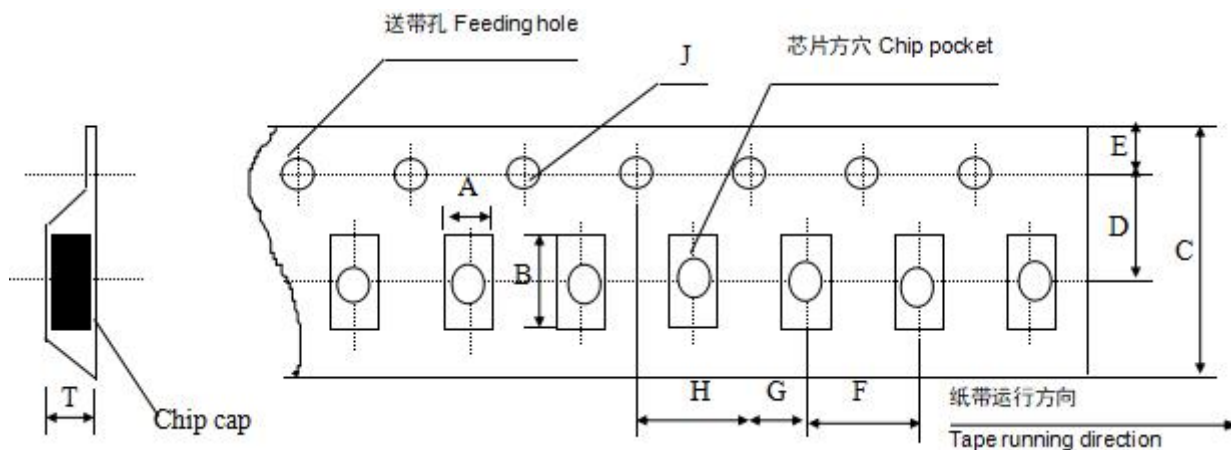
* 塑胶卷盘结构

Embossed taping



* 塑胶带尺寸结构(适合‘5081、5121、6121’型产品)

Dimensions of embossed taping for 5081、5121、6121 type



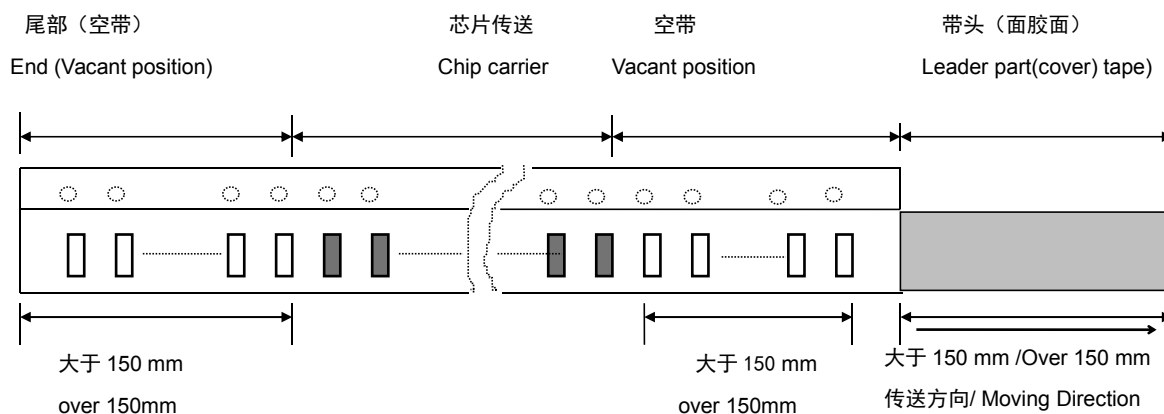
代号Code 规格 Tape size	A	B	C	D*	E	F	G*	H	J	T
5081	1.55 ±0.20	2.35 ±0.20	8.00 ±0.20	3.50 ±0.05	1.75 ±0.10	4.00 ±0.10	2.00 ±0.10	4.00 ±0.10	1.55 -0+0.05	1.50 Max
5121/6121	1.95 ±0.20	3.60 ±0.20	8.00 ±0.20	3.50 ±0.05	1.75 ±0.10	4.00 ±0.10	2.00 ±0.10	4.00 ±0.1	1.55 -0+0.05	1.85 Max

备注：*表示此处对尺寸的要求非常精确。

Note: The place with “*” means where needs exactly dimensions.

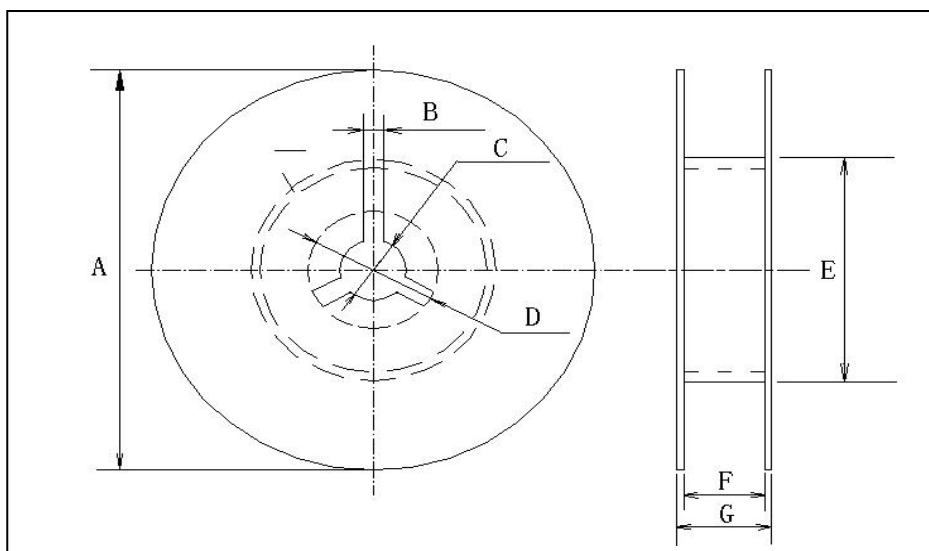
* 传送带的前后结构

Structure of leader part and end part of the carrier paper



* 卷盘尺寸

Reel dimensions (unit: mm)

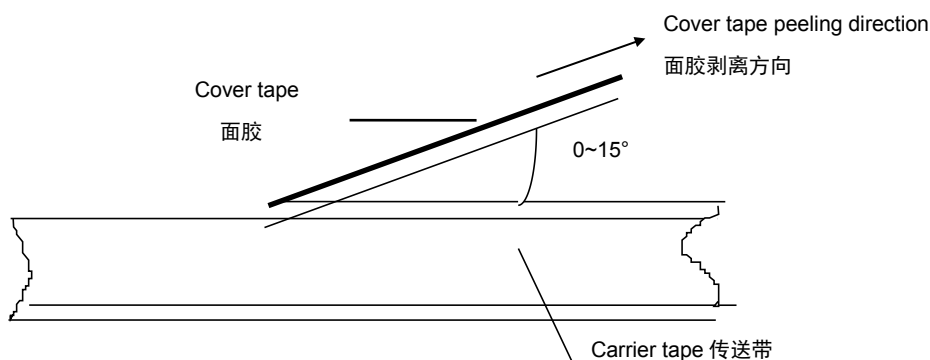


卷盘型号 Reel Code	A	B	C	D	E	F	G
7'REEL	$\phi 178 \pm 2.0$	3.0	$\phi 13 \pm 0.5$	$\phi 21 \pm 0.8$	$\phi 50$ 或更大 $\phi 50$ or more	10.0 ± 1.5	12max

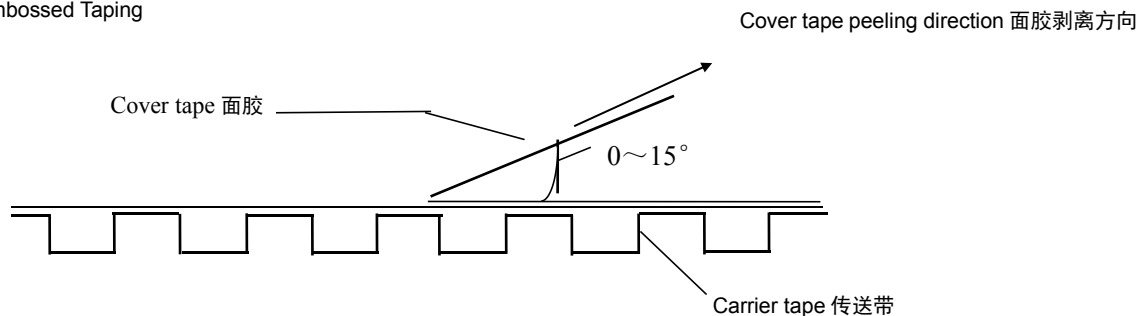
* 关于卷带的说明：面胶剥离强度

Taping specification: top tape peeling strength

* 纸带 Paper Taping



塑料胶盘 Embossed Taping



标准: 0.1N<剥离强度<0.7N。在剥离时, 纸带不能有纸碎, 也不能粘在底、面胶上。

Standard: 0.1N < peeling strength < 0.7N .No paper dirty remains on the scotch when peeling, and sticks to top and bottom tape.

* 包装数量

Packing Quantity

尺寸代码 SizeCode	厚度 Thickness	7 寸纸带卷盘 (PT)	7 寸胶带卷盘 (ET)	13 寸纸带卷盘 (PT)	13 寸胶带卷盘 (ET)
3061	0.60±0.10	4000	-	15000	-
5081	0.80±0.20	4000	3000	15000	10000
5121	0.80±0.20	4000	3000	15000	10000
6121	1.00±0.20	4000	3000	15000	10000

注意: 包装的形式和数量可根据客户的要求来定。

Note: We can choose packing style and quantity can be according to the customer's requirement.

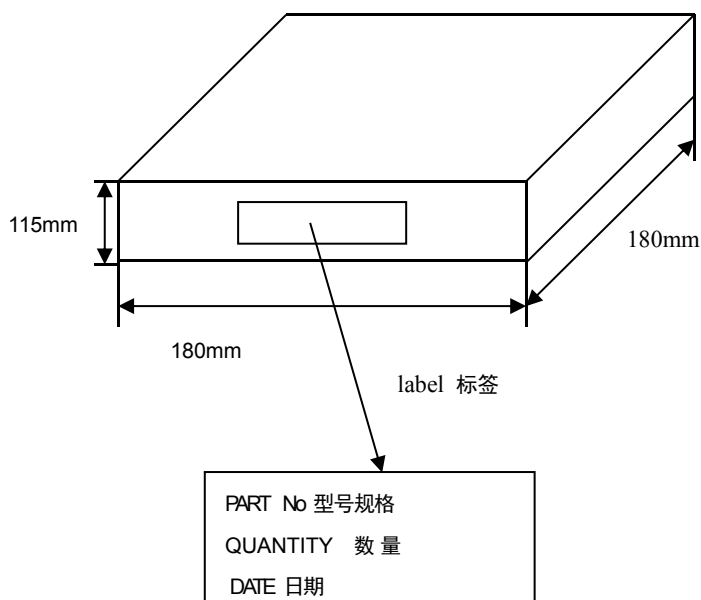
* 外包装

Outer packing

小包装 The first package

Quantity: 10 reels

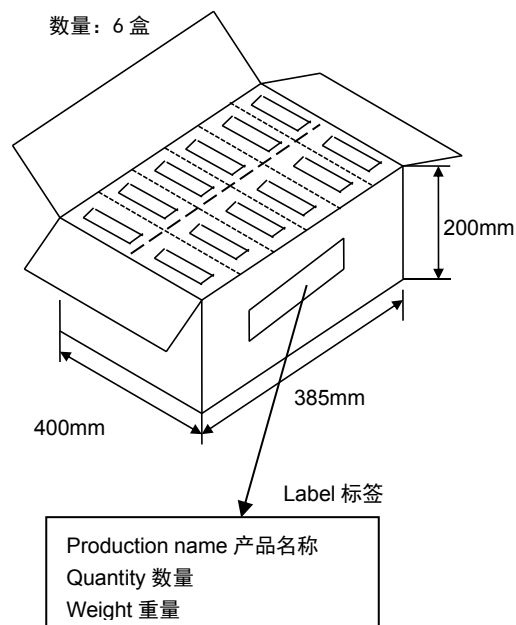
数量: 10 卷



大包装 The second package

Quantity: 6 cases

数量: 6 盒



◆储存注意事项

*MLCC 的储存条件: 相对湿度为 20~70%, 储存温度为 5~40℃, 建议温度低于 30℃。

*MLCC 的性能可能会受到储存条件的影响, 交货后请立即使用。高温高湿条件、长期储存可能会导致包装材料变质、产品端头电极氧化。如自交付后已超过六个月, 使用前检查包装、外观等。如果交付后超过一年, 在使用前要检查可焊性。

* 不要将电容器存放在含有腐蚀性气体 (例如硫化氢、二氧化硫、氯气、氨气等) 的环境中。

* 不要在阳光直射下或高湿度条件下储存电容器。

◆ Storage Precautions

* Storage Conditions for MLCC: Relative humidity: 20~70%, storage temperature: 5~40°C, recommended temperature is below 30°C.

* The performance of MLCCs may be affected by storage conditions. Please use immediately after delivery. High temperature and high humidity conditions, or long-term storage, may lead to packaging material deterioration and oxidation of the product's end electrodes. If it has been over six months since delivery, check the packaging and appearance before use. If it has been over a year, check the solderability before use.

* Do not store capacitors in environments containing corrosive gases (e.g., hydrogen sulfide, sulfur dioxide, chlorine, ammonia, etc.).

* Do not store capacitors under direct sunlight or in high humidity conditions.

◆ 使用前注意事项

* 安装前的信息

- 1、不要重复使用从设备上拆下的电容器。
- 2、确认额定容量、额定电压等电气特性。
- 3、确认施加电压下的电容特性。
- 4、确认使用下的机械应力。
- 5、确认长期存放的电容器的可焊性。
- 6、在测量电容之前，对长期存放的电容器进行热处理。

◆ Precautions Before Use

Pre-installation Information

- 1、Do not reuse capacitors removed from equipment.
- 2、Confirm electrical characteristics such as rated capacitance and rated Voltage.
- 3、Confirm the capacitor characteristics under applied Voltage.
- 4、Confirm the mechanical stress under use conditions.
- 5、Confirm the solderability of capacitors stored for long periods.
- 6、Perform heat treatment on capacitors that have been stored for a long time before measuring capacitance.

◆ 应用限制 Application Restrictions

1、我们的产品旨在用于一般消费电子设备(例如家用电器、办公设备、信息和通信设备, AV 设备、OA 设备、包括但不限于手机和 PC 等), 产品的设计基于正常操作和使用条件下的通用应用和标准用途。

2、不推荐用于下列高可靠性应用场景, 包括但不限于: 航天设备、医疗设备、航空设备、原子能设备、灾难预防设备、犯罪预防设备、电加热设备、燃烧设备、公共信息网络设备、数据处理设备、军事设备、发电控制设备、安全设备、车载设备、交通信号设备、运输设备和海底设备。

3、除非您事先获得风华的书面同意, 否则风华不对您或第三方因将我们的产品用于第 2 点设备而产生的任何损害承担任何责任。

1、Our products are intended for use in general consumer electronic devices (such as household appliances, office equipment, information and communication devices, AV equipment, OA equipment, including but not limited to mobile phones and PCs), based on general applications and standard uses under normal operating and usage conditions.

2、Our products are not recommended for the following high-reliability application scenarios, including but not limited to: aerospace equipment, medical devices, aviation equipment, atomic energy equipment, disaster prevention equipment, crime prevention equipment, electric heating equipment, combustion equipment, public information network devices, data processing equipment, military equipment, power generation control equipment, safety equipment, vehicle-mounted devices, traffic signal equipment, transportation equipment, and underwater equipment.

3、Unless you have prior written consent from Fenghua, Fenghua is not liable for any damages caused to you or third parties by using our products in the devices mentioned in point 2.

* 焊接的条件与相关图表

Soldering Condition and Profile

为避免因温度的突然变化而引起的芯片开裂或局部爆炸的现象发生, 请按有关温度曲线图表来进行。(请参考附页中的图表)

To avoid the crack problem by sudden temperature change, follow the temperature profile in the adjacent graph (refer to the graph in the enclosure page).

* 手工焊接

Manual Soldering

手工焊接很容易因为芯片局部受热不均而引起瓷体微裂或局部爆炸的现象, 在焊接时, 如果操作者不小心, 会使烙铁头直接同电容芯片的瓷体部分接触, 这样很容易使电容芯片因热冲击而受损或出现其他意外. 因此, 使用电烙铁手工焊接时应仔细操作, 并对电烙铁的尖端的选择和尖端温度控制应多加小心.

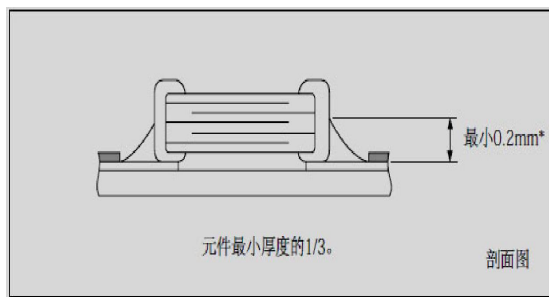
Manual soldering can pose a great risk of creating thermal cracks in capacitors. The hot soldering iron tip comes into direct contact with the end terminations, and operator's careless may cause the tip of the soldering iron to come into direct contact with the ceramic body of the capacitor. Therefore the soldering iron must be handled carefully, and pay much attention to the selection of the soldering iron tip and temperature contact of the tip.

* 推荐焊料用量

Recommended Soldering amounts

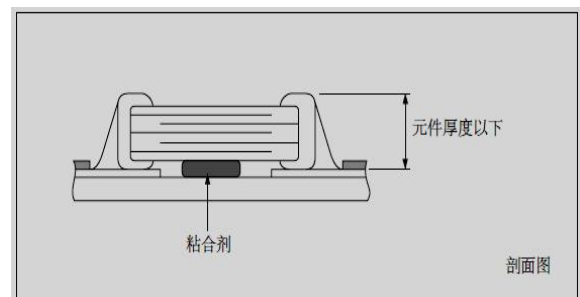
回流焊接的最佳焊料用量

The optimal solder fillet amounts for re-flow soldering



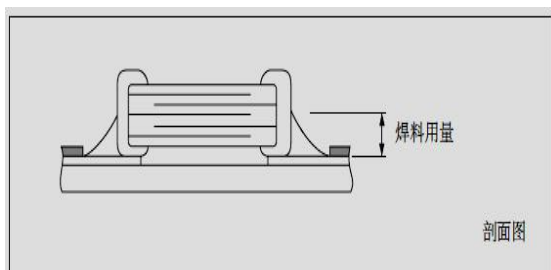
波峰焊接的最佳焊料用量

The optimal solder fillet amounts for wave soldering



使用烙铁返修时的最佳焊料量

The optimal solder fillet amounts for reworking by using soldering iron



* 推荐焊接方式

Recommended Soldering Method

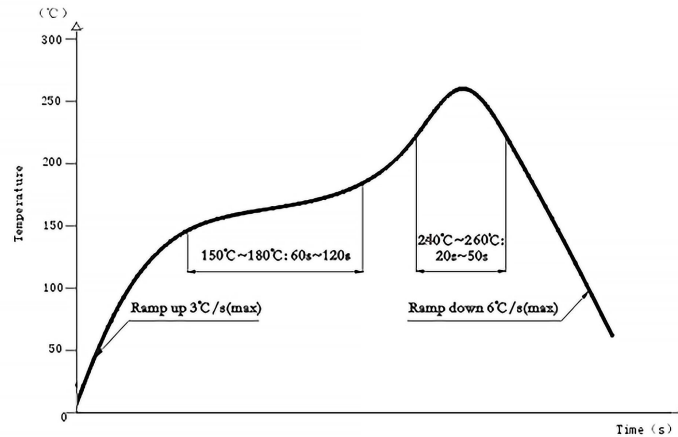
规格尺寸 Size	温度特性 Temperature Characteristics	容量范围 Capacitance	焊接方式 Soldering Method
3061	COG、X7R、X5R	/	R
5081	COG、X7R、X5R	/	R
5121	COG、X7R、X5R	/	R
6121	COG、X7R、X5R	/	R

焊接方式 Soldering method: R—回流焊 Reflow soldering W—波峰焊 Wave Soldering

◆ 推荐焊接温度曲线图

The temperature profile for soldering

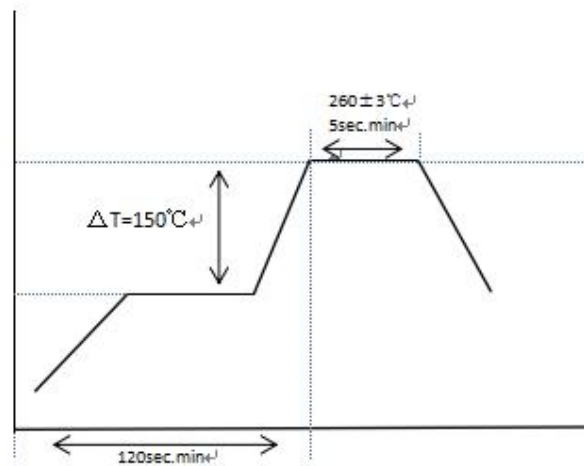
* 回流焊接 (Re-flow soldering)



在预热时, 请将焊接温度与芯片表面温度之间的温差维持在 $T \leq 150^{\circ}\text{C}$ 。

While in preheating, please keep the temperature difference between soldering temperature and surface temperature of chips as: $T \leq 150^{\circ}\text{C}$.

* 波峰焊接 (Wave soldering)



在预热时, 请将焊接温度与芯片表面温度之间的温差维持在 $T \leq 150^{\circ}\text{C}$ 。

While in preheating, please keep the temperature difference between soldering temperature and surface temperature of chips as: $T \leq 150^{\circ}\text{C}$.

* 备注: 产品规格书仅供设计选型参考用, 不作为交货依据。

Note: The product specification is for design and selection reference only and shall not serve as a basis for delivery.