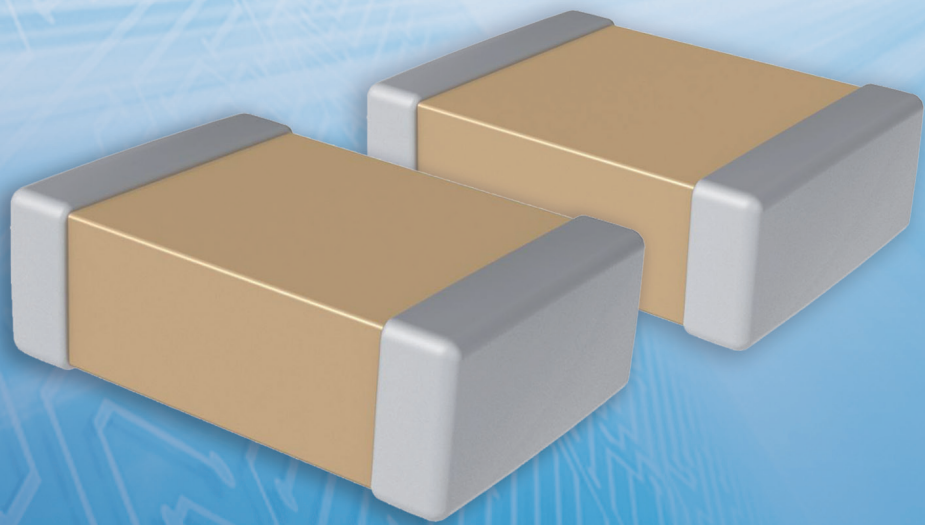




HUNAN IDEA

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概述

多层片式陶瓷电容器是通过采用性能优良的材料及先进积层技术而制成的一种陶瓷电容器，与传统的陶瓷电容器相比，它具有体积小，容量大，容量精度等特点。

由于采用积层技术与工艺制造，多层片式陶瓷电容器现在的容量范围已可达数十微法（101~102 μ F）的范围，因此可以取代部分钽电解电容的应用。同时它具有比钽电解电容器更低的等效串联电感（ESL）等效串联电阻（ESR）以及更好的电压承受能力。

通过特殊的内部结构设计，现在可以使MLCC的工作达到5KV DC级，极大地扩大了MLCC的应用范围。

多层片式陶瓷电容器是一种表面贴装元件，体积小，无极性，便于表面贴装及满足回流焊工艺。

本制品是绿色化产品，符合ROHS指令要求。

OUTLINE

Multi-layer Ceramic chip Capacitor (MLCC) is made by excellent ceramic powder, and the advanced lamination technology is used to produce the capacitors. Compared with the traditional Through-Hole type ceramic capacitors, MLCC has the features such as small size and wide capacitance ranges and high precision of capacitance.

Due to the use of lamination technology, the capacitance of MLCC has achieved the range of 102 μ F it can be used to replace some applicable aluminum capacitors. Compared with tantalum capacitors MLCC has lower Equivalent Series Resistance (ESR) and lower Equivalent Series Inductors (ESL) and over-voltage capability.

Through a special internal structure design, the rated voltage of the MLCC is up to 5KV DC and it greatly expands the scope of application of the MLCC.

MLCC is the SMD type device which is small size and no polarity.

It is suitable for SMT and re-flow process.

MLCC is green product and accords with RoHS directives.



品名构成说明 (Part Name)									
[e. g]	HV	1206	X7R	102	K	202	P	T	A
	①	②	③	④	⑤	⑥	⑦	⑧	设计代码

1. 多层片式陶瓷电容器代码 (Product code of MLCC)

HV:中高压型 (100V-5000V,DC)

HQ:高Q值型 (Q值 > 5000, 1MHz)

HC:大容量型 (1.0~100 μ F)

HG: 一般通用品

High Voltage(100V~5KV.DC)

For General Application

Large Capacitance(1.0~100 μ F)

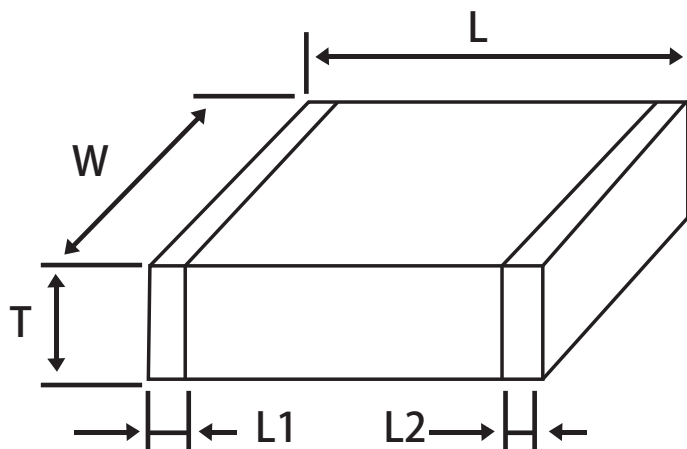
HV: High Voltage (100V-5000V,DC)

HQ: High Q (Q>5000,1MHz)

HC: Large Capacitance (1.0~100 μ F)

HG: For General Application

2. SIZE 代码(Size Code)



EIA 代码 EIA CODE	公制 METRIC SYS	L (mm)	W (mm)	T (mm)	L1/L2 (mm)
0402	1005	1.00 ± 0.1	0.50 ± 0.1	0.50 ± 0.1	0.30 ± 0.10
0603	1608	1.60 ± 0.2	0.80 ± 0.1	0.80 ± 0.1	0.30 ± 0.10
0805	2012	2.00 ± 0.2	1.20 ± 0.2	0.60 ± 0.1	0.50 ± 0.20
				0.85 ± 0.2	
				1.25 ± 0.2	
1206	3216	3.20 ± 0.2	1.60 ± 0.2	0.85 ± 0.2	0.50 ± 0.25
				1.25 ± 0.2	
				1.60 ± 0.2	
1210	3225	3.20 ± 0.2	2.50 ± 0.2	1.25 ± 0.2	0.75 ± 0.25
				1.60 ± 0.2	
				2.00 ± 0.3	
1808	4520	4.50 ± 0.4	2.00 ± 0.3	1.25 ± 0.2	0.75 ± 0.25
				1.60 ± 0.2	
1812	4532	3.20 ± 0.2	1.60 ± 0.2	1.25 ± 0.2	0.75 ± 0.25
				1.60 ± 0.2	
				2.00 ± 0.3	
2220	5750	3.20 ± 0.2	2.50 ± 0.2	1.60 ± 0.2	1.00 ± 0.25
				2.00 ± 0.3	
				2.30 ± 0.3	

3. 温度特性代码(Code of temperature characteristics)

代码 CODE	温度特性 Temp. Charat	温度范围 Temperature Range	容量变化率 Capacitance Change	工作温度范围 Range of Working Temperature
C0G	C0G	-55~125 °C	-0 ± 30PPM/ °C	-55~125 °C
X5R	X5R	-55~85 °C	± 15%	-55~85 °C
X7R	X7R	-55~125 °C	± 15%	-55~125 °C
Y5U	Y5U	-30~85 °C	+22, -56%	-30~85 °C
Y5V	Y5V	-30~85 °C	+22, -82%	-30~85 °C

4. 静电容量(Nominal Capacitance Unit:pF)

三数学法：前二位数字表示有效值，第三位字表示” 0” 的个数，小数用” R” 表示。

Expressde by three figures.The first amd secind figures are significant digits,and the thid figure dentes the number of zeros,” R” is used to denote the decimal point.

[e.g] 1R5:15pF 0R5:0.5pF 102:1,000pF

5. 静电容量许允差(Code of Capacitance Tolerance)

代码 Code	许容差 Tolerance	对应标称容量范围 Capacitance range	温度特性 Temp. Charat
C	±0.25pF	10 pF 或以下	COG
D	±0.5 pF	10 pF or less	
J	±5%	10 pF 以上 Over 10 pF	X5R, X7R
K	±10%		Y5U
M	±20%		Y5V
Z	-20%~+80%		

6. 额定工作电压(Working Voltage,Vdc)

三数学法：前二位数字表示有效值，第三位字表示” 0” 的个数。小数用” R” 表示。

Expressde by three figures .The first and secind figures are significant digits,and the thid figure dentes the number of zeros,” R” is used to denote the decimal point.

[e.g] 500:50V 102:1000V 6R3:6.3V

7. 端电极(Termination)

P:三层电镀端电极

S:Ag端电极

P:plating terminations

S:Fired Ag terminations

8. 包装形式(Package)

B:袋装散装品(Bulk) C:盒装散装品(Bulk)

T:卷盘编带品(Reel Taping)

9. 设计代码

空白：标准品 A-QE:设计代码



HV-中高压系列 High Voltage Series

特点:

小型化的外形尺寸(0603-2225)

额定工作电压: DC:100V-5KV

低等效串联电感(ESL)和低等效串联电阻(ESR), 具有良好的效率响应特性

高容量精度

小型化、无极性、高精度尺寸适合表面贴装工艺

端电极Ni+Sn 电镀镀层, 耐焊接性能优异

符合RoHS指令及REACH法规之高关注物质(SVHC)要求

工作温度范围: $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$

FEATURES:

Small size (0603-225)

Working Voltage:100v, 250V630V, 1KV, 2KV, 3KV

Lower ESR and ESL assure superior frequency characteristics

No polarity and high size accuracy suitable for SMT process

Ni/Sn plating terminations provide extreme solderability

Comply with RoHS and REACH directives.

Working temperature range: $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$

应用:

用于高压电子线路中作耦合, 滤波, 谐振等. 如开关、电源、AC-DC 电源转换器、DC-DC电源转换器、网络/通讯接口、LCD模组背光电源供应器、节能灯镇流器等。

APPLICATIONS:

Use as Coupling, filtering, resonating in high voltage circuit such as switching power supply DC-AC inverter, DC-DC converter, LAN, back-lighting power supply of LCD-module, blaster.

品名规格 SPECIFICATIONS

特性 Characteristic	尺寸代码 Size	额定电压 (DC) Rated Voltage							
		100V	200V	250V	500V	1KV	2KV	3KV	5KV
		容量范围 (三数字法, 单位 pF) Capacitance Range							
COG	0603 (1608)	0R5-561	0R5-471	0R5-471	-----	-----	-----	-----	-----
	0805 (2012)	1R0-152	1R0-102	1R0-102	1R0-561	1R0-101	-----	-----	-----
	1206 (3216)	1R0-332	1R0-222	6	1R0-152	1R0-102	1R0-221	-----	-----
	1210 (3225)	1R0-472	1R0-332	1R0-332	1R0-222	1R0-821	2R0-331	-----	-----
	1808 (4520)	2R0-682	2R0-472	2R0-472	2R0-332	2R0-102	2R0-471	2R0-221	2R0-330
	1812 (4532)	3R0-103	3R0-682	3R0-682	3R0-472	3R0-152	3R0-681	3R0-331	3R0-470
	2220 (5750)	5R0-153	5R0-103	5R0-103	5R0-682	5R0-222	5R0-821	5R0-471	5R0-680
	2225 (5763)	5R0-223	5R0-123	5R0-123	5R0-103	5R0-472	5R0-102	5R0-681	5R0-101
X7R	0603 (1608)	680-223	680-103	680-103	-----	-----	-----	-----	-----
	0805 (2012)	101-104	101-473	101-476	101-103	-----	-----	-----	-----
	1206 (3216)	101-105	101-104	101-104	101-683	101-103	101-472	-----	-----
	1210 (3225)	121-225	121-224	121-224	121-683	121-223	121-682	-----	-----
	1808 (4520)	151-225	151-334	151-334	151-823	151-333	151-103	151-472	151-102
	1812 (4532)	151-225	151-684	151-664	151-474	151-683	151-223	151-682	151-102
	2220 (5750)	221-335	221-105	221-102	221-684	221-104	221-473	221-103	221-152
	2225 (5763)	221-475	221-225	221-25	221-105	221-224	221-683	221-153	221-472

C0G系列规格0603-1206

规格Size		0603		0805				1206				
额定电压(V) Rated Voltage		100	250	100	250	500	100	250	500	1000	2000	100
容量(pF)	数标法											
0.5pF	0R5											
1pF	1R0											
2pF	2R0											
3pF	3R0											
4pF	4R0											
5pF	5R0											
6pF	6R0											
7pF	7R0											
8pF	8R0											
9pF	9R0											
10pF	100											
12pF	120											
15pF	150											
18pF	180											
22pF	220											
27pF	270											
33pF	330											
39pF	390											
47pF	470											
56pF	560											
68pF	680											
82pF	820											
100pF	101											
120pF	121											
150pF	151											
180pF	181											
220pF	221											
270 pF	271											
330 pF	331											
390 pF	391											
430 pF	431											
470 pF	471											
560 pF	561											
680 pF	681											
1000pF	102											
1200pF	122											
1500pF	152											
1800pF	182											
2200pF	222											
3300pF	332											

C0G系列规格1210-1808

规格Size		1210					1808						
额定电压V Rated Voltage		100	250	500	1000	2000	100	250	500	1000	2000	3000	5000
容量(pF)	数标法												
1pF	1R0												
2pF	2R0												
3pF	3R0												
4pF	4R0												
5pF	5R0												
6pF	6R0												
7pF	7R0												
8pF	8R0												
9pF	9R0												
10pF	100												
12pF	120												
15pF	150												
18pF	180												
22pF	220												
27pF	270												
33pF	330												
39pF	390												
47pF	470												
56pF	560												
68pF	680												
82pF	820												
100pF	101												
120pF	121												
150pF	151												
180pF	181												
220pF	221												
330 pF	331												
430 pF	431												
470 pF	471												
560 pF	561												
680 pF	681												
820pF	821												
1000pF	102												
1200pF	122												
1500pF	152												
1800pF	182												
2200pF	222												
3300pF	332												
4700pF	472												
5600pF	562												
6800pF	682												

C0G系列规格1812-2220

规格 Size		1812						2220							
额定电压(V) Rated Voltage		100	250	500	1000	2000	3000	5000	100	250	500	1000	2000	3000	5000
容量(pF)	数标法														
5pF	5R0														
10pF	100														
12pF	120														
15pF	150														
18pF	180														
22pF	220														
27pF	270														
33pF	330														
39pF	390														
47pF	470														
56pF	560														
68pF	680														
82pF	820														
100pF	101														
120pF	121														
150pF	151														
180pF	181														
220pF	221														
330 pF	331														
470 pF	471														
560 pF	561														
680 pF	681														
820pF	821														
1000pF	102														
1200pF	122														
1500pF	152														
1800pF	182														
2200pF	222														
3300pF	332														
4700pF	472														
5600pF	562														
6800pF	682														
8200pF	822														
10nF	103														
12nF	123														
15nF	153														
18nF	183														
22nF	223														

X7R系列规格0603-1206

规格 Size		0603		0805			1206					
额定电压(V) Rated Voltage		100	250	100	250	500	100	250	500	1000	2000	2800
容量	数标法											
68pF	680											
82pF	820											
100pF	101											
220pF	221											
330pF	331											
470pF	471											
560pF	561											
680pF	681											
820pF	821											
1000pF	102											
1500pF	152											
2200pF	222											
2700pF	272											
3300pF	332											
4700pF	472											
5600pF	562											
6800pF	682											
10nF	103											
12nF	123											
15nF	153											
22nF	223											
27nF	273											
33nF	333											
39nF	393											
47nF	473											
56nF	563											
68nF	683											
82nF	823											
100nF	104											
180nF	184											
220nF	224											
270nF	274											
330nF	334											
390nF	394											
470nF	474											
680nF	684											
1.0 μF	105											

X7R系列规格1210-1808

规格 Size		1210					1808						
额定电压 (V) Rated Voltage		100	250	500	1000	2000	100	250	500	1000	2000	3000	5000
容量	数标法												
100pF	101												
120pF	121												
150pF	151												
180pF	181												
220pF	221												
330pF	331												
470pF	471												
560pF	561												
680pF	681												
820pF	821												
1000pF	102												
1500pF	152												
2200pF	222												
2700pF	272												
3300pF	332												
4700pF	472												
5600pF	562												
6800pF	682												
10nF	103												
12nF	123												
15nF	153												
22nF	223												
27nF	273												
33nF	333												
39nF	393												
47nF	473												
56nF	563												
68nF	683												
82nF	823												
100nF	104												
180nF	184												
220nF	224												
270nF	274												
330nF	334												
390nF	394												
470nF	474												
680nF	684												
1.0 μF	105												
2.2 μF	225												

X7R系列规格1812-2225

规格 Size		1812							2225						
额定电压 (V) Rated Voltage		100	250	500	1000	2000	3000	5000	100	250	500	1000	2000	3000	5000
容量	数标 法														
150pF	151														
180pF	181														
220pF	221														
330pF	331														
470pF	471														
560pF	561														
680pF	681														
820pF	821														
1000pF	102														
1500pF	152														
2200pF	222														
2700pF	272														
3300pF	332														
4700pF	472														
5600pF	562														
6800pF	682														
10nF	103														
12nF	123														
15nF	153														
22nF	223														
27nF	273														
33nF	333														
39nF	393														
47nF	473														
56nF	563														
68nF	683														
82nF	823														
100nF	104														
180nF	184														
220nF	224														
270nF	274														
330nF	334														
390nF	394														
470nF	474														
680nF	684														
1.0 μF	105														
2.2 μF	225														
3.3 μF	335														
4.7 μF	475														

高Q值COG多层片状陶瓷电容器

Hi-Q COG MLCC

特点:

高容量精度;
低等效串联电阻、低等效串联电感;
高谐振频率;
高可靠性;
High accuracy of capacitance
Lower ESR and ESL
High resonance frequency
High reliability

应用:

适合于射频RF电路及要求Hi-Q、低ESR、高频率响应的微波电路中。

Application:

Hi-Q COG capacitors are ideally suited for RF and microwave application requiring high Q, low ESR, and high resonant frequency.

HQ电容器说明:

※下述Q值标准是相对通用客户而制定的,对要求更高Q值产品的客户,可专门设计和生产。

※使用频率在1MHz~4GHz之间,对要求更高频率产品的客户,可根据客户的要求另外专门设计。

Note for HQ:

※The following Q value is just confirmed by general customer. If there is a higher requirement for Q value requirements, we can design and produce according to the special requirements.

※For the customer whose requirements for frequency is between 1MHz and 4GHz or higher frequency, we can design it according to their requirements.

品名规格 SPECIFICATIONS

规格	0603	0805	0505	1111
额定电压 (V)	150	250	150	250
容量				
0.2pF				
0.3pF				
0.4pF				
0.5pF				
1.0 pF				
2pF				
3pF				
4pF				
5pF				
6pF				
7pF				
8pF				
9pF				
10pF				
12pF				
15pF				
18pF				
22pF				
33pF				
47pF				
56pF				
68pF				
82pF				
100pF				
120pF				
150pF				
180pF				
220pF				
240pF				
270 pF				
300 pF				
330 pF				
360 pF				
390 pF				
430 pF				
470 pF				

HC-大容量

HC-大容量(C0g/X7R/X5R/Y5V特性)

特点:

- 大容量, 可达100uF
- 额定工作电压: 6.3V,16V,25V,50V
- 低等效串联电感(ESL)和低等效串联电阻(ESR)良好的频率响应特性小
- 小型化、无极性, 高精度尺寸适合表面贴装工艺
- 端电极 Ni+Sn 电镀镀层, 耐焊接性能优异
- 符合RoHS及 REACH指令要求
- 工作温度范围: X7R:-55℃~+125℃
X5R:-55℃~+85℃
X5V:-30℃~+85℃

应用:

用于电源供应器、适配器或电源模块中作波形平滑、滤波等用途。

Large Capacitance Series(C0G/X7R/X5R/Y5V)

FEATURES:

- High capacitance to 100uF
- Working Voltage: 6.3V, 16V, 25V, 50V
- Lower ESR and ESL assure superior frequency characteristics.
- No polarity and high size accuracy suitable for SMT process.
- Ni/Sn Plating terminations provide extreme solderability.
- Comply with RoHS and REACH directives.
- Working temperature range: X7R-55℃~+125℃
X5R-55℃~+85℃
X5V-30℃~+85℃

APPLICATIONS:

Smoothing the waveform of power supply, adaptor and power module

■ X7R ■ X5R 系列规格 0402-0603-0805

规格 Size		0402			0603				0805				
额定电压 (V) Rated Voltage		6.3	10	16	6.3	10	16	25	6.3	10	16	25	50
容量 (uF)	数标法												
0.1uF	104	■	■	■									
0.22uF	224	■	■	■	■	■	■						
0.47uF	474	■	■	■	■	■	■	■	■	■	■	■	■
1.0uF	105	■	■	■	■	■	■	■	■	■	■	■	■
1.5uF	155	■			■	■	■	■	■	■	■	■	■
2.2uF	225				■	■	■		■	■	■	■	■
4.7uF	475				■				■	■			
10uF	106				■								
22uF	226												
47uF	476												
100uF	107												

■ X7R ■ X5R 系列规格 1206-1210-1808

规格 Size		1206					1210					1808				
额定电压(V) Rated Voltage		6.3	10	16	25	50	6.3	10	16	25	50	6.3	10	16	25	50
容量(uF)	数标法															
0.1uF	104															
0.22uF	224															
0.47uF	474															
1.0uF	105	■	■	■	■	■						■	■	■	■	
1.5uF	155	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
2.2uF	225	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
4.7uF	475	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
10uF	106	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
22uF	226	■	■				■	■	■	■	■	■	■	■		
47uF	476	■					■	■				■				
100uF	107						■									

■ X7R ■ X5R 系列规格 1812-2220-2225

规格 Size		1812					2220					2225				
额定电压(V) Rated Voltage		6.3	10	16	25	50	6.3	10	16	25	50	6.3	10	16	25	50
容量(uF)	数标法															
0.1uF	104															
0.22uF	224															
0.47uF	474															
1.0uF	105															
1.5uF	155	■	■	■	■	■										
2.2uF	225	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
4.7uF	475	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
10uF	106	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
22uF	226	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
47uF	476	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
100uF	107	■	■	■	■	■	■	■	■	■	■	■	■	■	■	

HG：一般通用品（CG特性）

Hg-一般通用品(C0G特性) HCP Series(CoG)

特点：

- 小型化的外形尺寸(0402-1206)
- 额定工作电压：16V.25V.50V
- 低等效串联电感(ESL)和低等效串联电阻(ESR)极好的频率响应特性
- 高容量精度
- 小型化、无极性，高精度尺寸适合表面贴装工艺
- 端电极Ni+Sn电镀镀层，耐焊接性能优异
- 符合RoHS指令要求
工作温度范围：-55℃~+125℃

FEATURES:

- Small size(0402-1206)
- Working Voltage:16V.25V.50V
- Lower ESR and ESL assure superior frequency characteristics.
- High accuracy of capacitance.
- No polarity and high size accuracy suitable for SMT process
- Ni/Sn Plating terminations provide extreme solderability Comply with RoHS directives.
Working temperature range:-55℃~+125℃

应用：

用于一般电子线路中作耦合，滤波，谐振等,如手机，无绳电话，CD/DVD,MP3/MP4液晶电视，机顶盒，PC主 板等。

APPLICATIONS:

General purpose function such as coupling filteringresonating, Applications in mobile phones, cordless telephone, CD/DVD player, MP3/MP4player, LCD TV, PC.

品名规格 SPECIFICATIONS

尺寸 Size	额定电压 (DC) Rated Voltage	容量范围 (uF) Capacitance Range			
0402 (1005)	50V,DC	0.50	0.75	1.00	1.50
		2.0	3.0	4.0	5.0
		6.0	7.0	8.0	9.0
		10.0			
		12	15	18	22
		27	33	39	47
		56	68	82	100
		120	150	180	220
		270	330		
0603 (1608)	50V,DC	1.0	1.5	2.0	3.0
		4.0	5.0	6.0	7.0
		8.0	9.0	10	
		12	15	18	22
		27	33	39	47
		56	68	82	100
		120	150	180	220
		270	330	470	560
		680	820	1000	1200
0805 (2012)	50V,DC	1200	1500	1800	2700
		3300	3900	4700	5600
		6800	8200	10000	
1206 (3216)	50V,DC	3900	4700	5600	6800
		8200	10000	12000	15000
		18000	22000	27000	

HG：一般通用品（X7R特性）

HG—一般通用品(X7R特性) HCP Series(X7R)

特点：

- 小型化的外形尺寸(0402-1206)
- 额定工作电压：16V.25V.50V
- 低等效串联电感(ESL)和低等效串联电阻(ESR)极好的频率响应特性
- 较高的容量及容量精度
- 小型化无极性，高精度尺寸适合表面贴装工艺
- 端电极Ni+Sn电镀镀层，耐焊接性能优异
- 符合RoHS指令要求
- 工作温度范围：-55℃~+125℃

FEATURES:

- Small size(0402-1206)
- Working Voltage: 16V.25V.50V
- Lower ESR and ESL assure superior frequency characteristics.
- Large capacitance and accuracy.
- No polarity and high size accuracy suitable for SMT process.
- Ni/Sn Plating terminations provide extreme solderability.
- Comply with RoHS directives.
- Working temperature range:-55℃~+125℃

应用：

用于一般电子线路中作耦合，滤波，谐振等,无绳电话，CD/DVD,MP3/MP4,液晶电视，机顶盒，PC主板等。

APPLICATIONS:

General purpose function such as coupling filtering, resonating, Applications in mobile phones, cordless telephone, CD/DVD player, MP3/MP4player, LCD TV,PC.

品名规格 SPECIFICATIONS

尺寸 Size	额定电压 (DC) Rated Voltage	容量范围 (uF) Capacitance Range			
		220	330	470	680
0402 (1005)	50V,DC	1000	1500	2200	3300
	25V,DC	4700	6800	10000	22000
	16V,DC	10000	15000	22000	33000
0603 (1608)	50V,DC	220	330	470	680
		1000	1500	2200	3300
		4700	6800	10000	22000
	47000				
25V,DC	100000	150000	220000		
0805 (2012)	50V,DC	1000	1500	2200	3300
		4700	6800	10000	15000
		22000	33000	47000	
		68000	100000		
	25V,DC	150000	220000	330000	
16V,DC	470000	680000	1000000		
1206 (3216)	50V,DC	220000	330000	470000	
		680000	1000000		
	25V,DC	470000	680000	1000000	
		1500000	2200000		
	16V,DC	2200000	3300000	4700000	

HG:一般通用品(Y5V特性)

Hg-一般通用品(Y5V特性) HCP Series(Y5V)

特点:

- 小型化的外形尺寸(0402-1206)
- 额定工作电压: 10V.16V.25V.50V
- 低等效串联电感(ESL)和低等效串联电阻(ESR)极好的频率响应特性
- 高容量精度
- 小型化、无极性, 高精度尺寸适合表面贴装工艺
- 端电极Ni+Sn电镀镀层, 耐焊接性能优异
- 符合RoHS指令要求
- 工作温度范围: -30℃~+85℃

FEATURES:

- Small size(0402-1206)
- Working Voltage:16V.25v.50v
- Lower ESR and ESL assure superior frequency characteristics.
- No polarity and high size accuracy suitable for SMT process
- Ni/Sn Plating terminations provide extreme solderability.
- Comply with RoHS directives.
- Working temperature range:-30℃~+85℃

应用:

用于一般电子线路中作耦合, 滤波等, 如手机、无绳电话, CD/DVD,液晶电视, 机顶盒, PC主板, 家用电器控制板等。

APPLICATIONS:

General purpose function such as coupling filtering, Applications in mobile phone, cordless telephone, CD/DVD player, MP3/MP4player LCD TV, PC. controllers of house-hold applications.

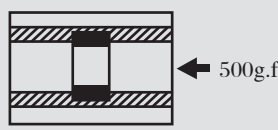
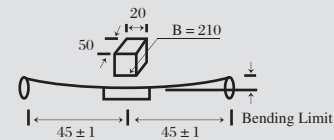
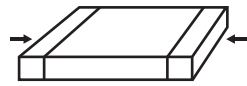
品名规格 SPECIFICATIONS

尺寸 Size	额定电压 (DC) Rated Voltage	容量范围 (uF) Capacitance Range
0402 (1005)	16V,DC	0.10
	10V,DC	0.22
		0.47
0603 (1608)	50V,DC	0.10
		0.22
	25V,DC	0.47
	16V,DC	1.00
0805 (2012)	50V,DC	0.47
		1.00
1206 (3216)	25V,DC	2.20
	16V,DC	4.70
	50V,DC	2.20
	25V,DC	4.70
	16V,DC	10.00

可靠性测试条件 Reliability Test Condition

NO	Item	Perfomance	Test Condition				
1	Appearance	No abnomal extenor appearance	Visual inspection through Microscope(× 10)				
2	Insulation Resistance	10,000MΩ min.or 500MΩ.uF min. (or*100MΩ.up) product whichever is smaller(Rated volatge16:V10,000MΩ min. or 100MΩ.uF min.product whichever is smaller)	"Apply the rated voltage for 60~120sec Rated voltage>500V: Insulation Resistance shall be measured with 500 ± 500Vdc"				
3	Withstanging Voltage	No dielectric breakdown or mechanical breakdown	" Apply the rated voltage for 60~120sec Rated voltage>500V: Insulation Resistance shall be measured with500 ± 500Vdc" "Apply the specified voltage"for 1~5sec. Charge/Discharge current limit50mA max. *CLASS I(Rated Voltage<100V): 300of the rated voltageCLASS II(Rated Voltage<100v):250of the rated voltagein the case of Vr ≥ 100V products, following condition should be applied. 100V ≤ Rated voltage<500V: 200of the rated Voltage500V ≤ Rated voltage<1000V: 150of the rated VoltageRated voltage ≥ 1000V: 120of the rated Voltage"				
4	Capacitance Value	CLASS I	Capacitance	Frequency	Voltage		
			≤1,000pF	1MHz ± 10%	0.5~5Vrms		
		CLASS II	>1,000pF	1KHz ± 10%		Capacitance	Frequency	Voltage
			≤10uF	1KHz ± 10%	1.0 ± 0.2Vrms		
>10uF	120Hz ± 20%	0.5 ± 0.1Vrms					
*	1KHz ± 10%	0.5 ± 0.1Vrms					
5	(DF,tanδ) Dissipation Factor	CLASS I	Capacitance	Frequency	Voltage		
			≤1,000pF	1MHz ± 10%	0.5~5Vrms		
		>1,000pF	1KHz ± 10%	Capacitance		Frequency	Voltage
		≤10uF	1KHz ± 10%	1.0 ± 0.2Vrms			
		>10uF	120Hz ± 20%	0.5 ± 0.1Vrms			
		*	1KHz ± 10%	0.5 ± 0.1Vrms			
		1. Characteristic: X5R			Capacitance	Frequency	Voltage
		Rated Voltage	Spec	≤10uF	1KHz ± 10%	1.0 ± 0.2Vrms	
		50V/30V	0.025max/0.05max*	>10uF	120Hz ± 20%	0.5 ± 0.1Vrms	
		25V	0.025max/0.05max*/0.10max*	*	1KHz ± 10%	0.5 ± 0.1Vrms	
		16V	0.035max/0.05max*.10max*	You can check the specification at the web site or contact sales people for each product with mark*.			
		≤10V	0.05max/0.10max*				
1. Characteristic: X7R							
Rated Voltage	Spec						
50V ≥ 35V/25V	0.025max/0.05max*/0.10max*						
16V	0.035max/0.10max*						
≤10V	0.05max/0.10max*						
1. Characteristic: Y5V							
Rated Voltage	Spec						
50V/35V/25V	0.05max/0.07max*/0.09max*						
16V	0.07max/0.09max*/0.125max*						
10V	0.125max、0.16max*						
≤6.3V	0.16max						

可靠性测试条件 Reliability Test Condition

NO	Item	Performance	Test Condition																	
6	Temperature Characteristics of Capacitance	CLASS I	<table border="1" style="margin: auto;"> <tr> <th style="width: 50%;">Characteristics</th> <th style="width: 50%;">Temp Coefficient (PPM/°C)</th> </tr> <tr> <td style="text-align: center;">C0G</td> <td style="text-align: center;">0 ± 30</td> </tr> </table>	Characteristics	Temp Coefficient (PPM/°C)	C0G	0 ± 30	Capacitance shall be measured by the steps shown in the following table <table border="1" style="margin: auto;"> <tr> <th style="width: 15%;">Step</th> <th style="width: 85%;">Temperature(°C)</th> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">25 ± 2</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">Min.Operating Temp. ± 2</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">25 ± 2</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">Max.Operating Temp. ± 2</td> </tr> <tr> <td style="text-align: center;">5</td> <td style="text-align: center;">25 ± 2</td> </tr> </table> <p>(1)CLASS I Temperature Coefficient shall becalculated from the formula as below $\frac{C2-C1}{C1-\Delta T} \times 106[\text{ppm}/^{\circ}\text{C}]$ Temp. Coefficient= $\frac{C2-C1}{C1-\Delta T} \times 106[\text{ppm}/^{\circ}\text{C}]$ C1: Capacitance at step3 C2: Capacitance at 125°C $\Delta T: 100^{\circ}\text{C}(=125^{\circ}\text{C}-25^{\circ}\text{C})$</p> <p>(1) CLASS II Capacitance Change shall be calculated from the formula as below: $\Delta C = \frac{C2-C1}{C1} \times 100(\%)$ C1: Capacitance at step3 C2: Capacitance at step2 or step4.</p>	Step	Temperature(°C)	1	25 ± 2	2	Min.Operating Temp. ± 2	3	25 ± 2	4	Max.Operating Temp. ± 2	5	25 ± 2
		Characteristics	Temp Coefficient (PPM/°C)																	
C0G	0 ± 30																			
Step	Temperature(°C)																			
1	25 ± 2																			
2	Min.Operating Temp. ± 2																			
3	25 ± 2																			
4	Max.Operating Temp. ± 2																			
5	25 ± 2																			
CLASS II	<table border="1" style="margin: auto;"> <tr> <th style="width: 50%;">Characteristics</th> <th style="width: 50%;">Capacitance Change (%) with No bias</th> </tr> <tr> <td style="text-align: center;">X5R/X7R</td> <td style="text-align: center;">± 15%</td> </tr> <tr> <td style="text-align: center;">Y5V</td> <td style="text-align: center;">+22%~-82%</td> </tr> </table>	Characteristics	Capacitance Change (%) with No bias	X5R/X7R	± 15%	Y5V	+22%~-82%													
Characteristics	Capacitance Change (%) with No bias																			
X5R/X7R	± 15%																			
Y5V	+22%~-82%																			
7	Adhesive Stenght of Termination	No indication of peeling shall occur on the terminal electrode	Apply500g.*pressure for 10 ± 1sec. *200g. ffor 0201 *100g. ffor01005 																	
8	Appearance	NO indication of peeling shall occur	Bending Limit: 1mm Test Speed: 1.0mm/sec Keep the test board at the limit point in 5 sec Then Measure Capacitance 																	
	Capacitance	CLASS I		<table border="1" style="margin: auto;"> <tr> <th style="width: 50%;">Characteristics</th> <th style="width: 50%;">Capacitance Change</th> </tr> <tr> <td style="text-align: center;">X5R. X7R</td> <td style="text-align: center;">± 0.5% or ± 0.5pF whichever is larger</td> </tr> </table>	Characteristics	Capacitance Change	X5R. X7R	± 0.5% or ± 0.5pF whichever is larger												
		Characteristics		Capacitance Change																
X5R. X7R	± 0.5% or ± 0.5pF whichever is larger																			
CLASS II	<table border="1" style="margin: auto;"> <tr> <td style="text-align: center;">X5R. X7R</td> <td style="text-align: center;">± 12.5%</td> </tr> <tr> <td style="text-align: center;">Y5V</td> <td style="text-align: center;">± 30%</td> </tr> </table>	X5R. X7R	± 12.5%	Y5V	± 30%															
X5R. X7R	± 12.5%																			
Y5V	± 30%																			
9	Solderability	More than 75% of the terminal surface is to be soldered newly. so metal part does not come out or dissolve 	<table border="1" style="margin: auto;"> <tr> <td style="width: 20%;">Solder</td> <td style="width: 80%;">Sn-3Ag-0.5Cu</td> </tr> <tr> <td>Solder temp</td> <td>245 ± 5°C</td> </tr> <tr> <td>Flux</td> <td>RMA Type</td> </tr> <tr> <td>Dip time</td> <td>3 ± 0.3sec</td> </tr> <tr> <td>Pre-heating</td> <td>at 80~120°C for 10~30sec</td> </tr> </table>	Solder	Sn-3Ag-0.5Cu	Solder temp	245 ± 5°C	Flux	RMA Type	Dip time	3 ± 0.3sec	Pre-heating	at 80~120°C for 10~30sec							
Solder	Sn-3Ag-0.5Cu																			
Solder temp	245 ± 5°C																			
Flux	RMA Type																			
Dip time	3 ± 0.3sec																			
Pre-heating	at 80~120°C for 10~30sec																			
10	Appearance	Mno mechanical damage shall occur	Solder Temperature:270 ± 5°C DIP TIME:10 ± 1sec. Each termination shall be fully immersed and preheated as below. <table border="1" style="margin: auto;"> <tr> <th style="width: 15%;">Step</th> <th style="width: 45%;">Temperature(°C)</th> <th style="width: 40%;">Time(sec)</th> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">80~100</td> <td style="text-align: center;">60</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">150~180</td> <td style="text-align: center;">60</td> </tr> </table> <p>Leave the capcitor in ambient condition for specified time*before measurement *24 ± 2hours(CLASS I)24 ± 2 hours(CLASS II)</p>	Step	Temperature(°C)	Time(sec)	1	80~100	60	2	150~180	60								
	Step	Temperature(°C)		Time(sec)																
	1	80~100		60																
	2	150~180		60																
	Capacitance	CLASS I		Capacitance Change																
		CLASS II		± 2.5% or ± 0.25pF whichever is larger																
		CLASS II		X5R. X7R	± 7.5%															
		Y5V	± 20%																	
DF/CLASS I	Within the specified initial value																			
Tanδ/CLASS II	Within the specified initial value																			
Insulation resistance	Within the specified initial value																			
Withstanding Voltage	Within the specified initial value																			

可靠性测试条件 Reliability Test Condition

NO	Item	Performance	Test Condition			
11	Vibration Test	Appearance	No mechanical damage shall occur	The capacitor shall be subjected to a harmonic motion having a total amplitude of 1.5mm changing frequency from 10Hz to 55Hz and back to 10Hz in about 1min. "Repeat this for 2 hours each in 3 mutually perpendicular directions.		
		Capacitance	Characteristic		Capactiance Change	
			CLASS I		$\pm 2.5\%$ or $\pm 0.25\text{pF}$ whichever is larger	
			CLASS II		X5R,X7R	$\pm 5\%$
		Y5V			$\pm 20\%$	
		DF(CLASS I)	Within the specified initial value			
Tan6/CLASS II	Within the specified initial value					
Insulation resistance	Within the specified initial value					
12	Maisture Resistance	Appearance	No mechanical damage shall occur	"Applied Voltage: rated voltage Temperature: 40 ± 2 , CHumidity: 90–95%RHDuration Time: 500+12/-0Hr. Charge/Discharge Current: 50mA max "This test is only applied to $V_r \leq 500\text{V}$ product, You can check the specification at the web site or contact sales people for each product with mark*."		
		Capacitance	Characteristic		Capactiance Change	
			CLASS I		$\pm 7.5\%$ or $\pm 0.75\text{pF}$ whichever is larger	
			CLASS II		X5R, X7R	$\pm 12.5\%$
		Y5V			$\pm 30\%$	
		DF(CLASS I)	Not more than twice of initial vallue.			
Tan6 CLASS II	"1.Capacitance: X5R 0.05max/0.075max*(35V/50V) 0.05max/0.075max*/0.125max*(16V/25V)0.075max*/0.125max*($\leq 10\text{V}$)" "2.Capacitance: X7R 0.05max/0.125max*(16V/25V /35V/50V \geq)0.075max*/0.125max*($\leq 10\text{V}$)" "3.Capacitance: Y5V 0.09max(50V) 0.09max/0.125max*(25V/35V) 0.09max/0.125max*/0.16max*(16V) 0.16max/0.195max*(10V) 0.195max(4V/6.3V)"					
Insulation resistance	500M Ω min or 25M Ω .uF min. product whichever is smaller/12.5M Ω . uF or over*					
13	"High Temperature Resistance"	Appearance	No mechanical damage shall occur	"Temperature: max. operating temperature Duration Time: 1000+48/-0Hr. Charge/Discharge Current: 50 mA max $V_r \leq 200\text{V}$: 200% of the rated Voltage $250\text{V} \leq V_r \leq 500\text{V}$:150% of the rated Voltage $V_r=630\text{V}$: 120% of the rated Voltage $1000\text{V} \leq V_r \leq 3000\text{V}$: 100% of the rated Voltage*:150% or 100% of the rated Voltahe" "Perform the initial measurement according to Note for CLASS II . Perform the finial measure ment according to Note2." You can chect the specification at the web site or contact sales people for each product with mark*		
		Capacitance	Characteristic		Capactiance Change	
			CLASS I		$\pm 3\%$ or $\pm 0.3\text{pF}$ whichever is larger	
			CLASS II		X5R, X7R	$\pm 12.5\%$
		Y5V			$\pm 30\%$	
		DF(CLASS I)	Not more than twice of initial vallue.			
Tan6 CLASS II	"1.Capacitance: X5R 0.05max/0.075max*(35V/50V) 0.05max/0.075max*/0.125max*(16V/25V)0.075max*/0.125max*($\leq 10\text{V}$) " "2.Capacitance: X7R 0.05max/0.125max*(16V/25V /35/50V \geq)0.075max*/0.125max*($\leq 10\text{V}$) " "3.Capacitance: Y5V 0.09max(50V) 09max/0.125max*(25V/35) 0.09max/0.125max*/0.16max*(16V) 0.16max/0.195max*(10V) 0.195max(4V/6.3V)"					
Insulation resistance	1000M Ω min or 50M Ω .uF min. product whichever is smaller/25M Ω . uF or over*					



可靠性测试条件 Reliability Test Condition

NO	Item	Performance	Test Condition																		
14	Temperature Cycle	Appearance	No mechanical damage shall occur		Capactiance shall be subjected to 5 cycies. Condition for 1cycle:																
		Capactiance	Characteristic	Capactiance Change		<table border="1"> <thead> <tr> <th>Step</th> <th>Temperature(°C)</th> <th>Time(min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>min.operating temperature+0/-3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25</td> <td>2~3</td> </tr> <tr> <td>3</td> <td>max.operating temperature+0/-3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25</td> <td>2~3</td> </tr> </tbody> </table>	Step	Temperature(°C)	Time(min.)	1	min.operating temperature+0/-3	30	2	25	2~3	3	max.operating temperature+0/-3	30	4	25	2~3
			Step	Temperature(°C)			Time(min.)														
			1	min.operating temperature+0/-3			30														
			2	25	2~3																
		3	max.operating temperature+0/-3	30																	
		4	25	2~3																	
		CLASS I	$\pm 2.5\%$ or $\pm 0.25\text{pF}$ whichever is larger																		
CLASS II	X5R, X7R	$\pm 7.5\%$																			
	Y5V	$\pm 20\%$																			
DF(CLASS I)	Within the specified initial value		4	25	2~3																
Tan6(CLASS II)	Within the specified initial value		Leave the capacitor in ambient condition for specified time* before measurement *24 ± 2hours(CLASS I)24 ± 2hours(CLASS II)																		
Insulation Resistance	Within the specified initial value																				

NO	Recommended Soldering Method					
15	Recommended Soldering Method By Size-Capactiance	Size inch(mm)	Temperature Characteristic	Capactiance	Condition	
					Flow	Rellow
		0402(1005)	-	-	○	○
		0603(1608)	CLASS I	-	○	○
			CLASS II	C<1uF	-	○
		C≥1uF		○	○	
		805(2012)	CLASS I	-	○	○
			CLASS II	C<4.7uF	-	○
				C≥4.7uF	○	○
		Array	-	-	○	○
		1206(3216)	CLASS I	-	○	○
			CLASS II	C<10uF	-	○
				C≥10uF	-	○
		Array	-	-	-	○
		0210(3225)	-	-	-	○
1808(4520)	-	-	-	○		
1812(4532)	-	-	-	○		
2220(5750)	-	-	-	○		

" Note1. initial Measurement For CLASS II Perform the heat treatment at 150°C+0/-10°C for 1 hour. Then leave the capacitor in ambient condition for 24 ± 2 hours before measurement. Then perform the measurement."

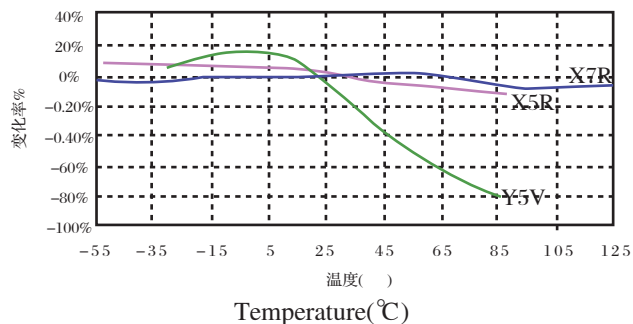
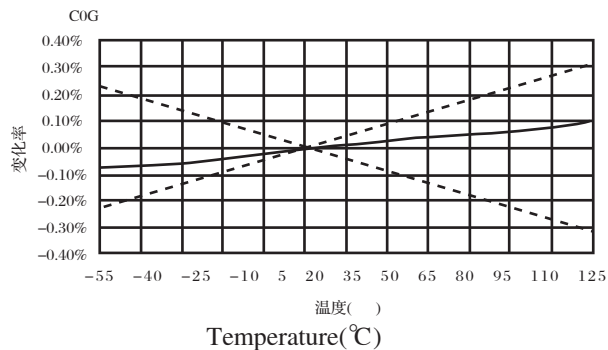
"Note2. Latter Measurement1, CLASS I Leave the capacitor in ambient condition for 24 ± 2 hours before measurement. Then perform the measurement2.CLASS II Perform the heat treatment at 150°C+0/-10°C for 1 hour. Then leave the capacitor in ambient condition for 24 ± 2 hours before measurement.Then perform the measurement"

"Note3. All size in Reliability Test Condition Section is "inch"

"Note4. Camera Sthobe Circuit Capacitors Should be Following a Special"

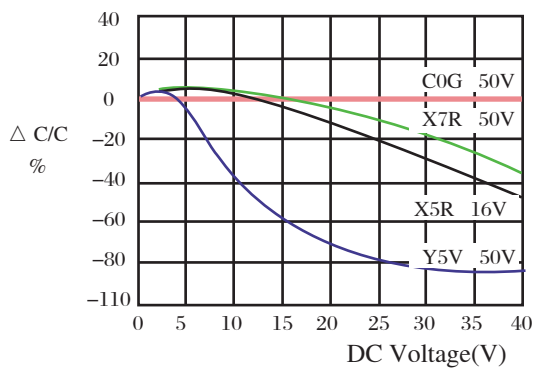
电气特性 Electrical Characteristics

电容量-温度特性 CAPACITANCE-TEMPERATURE CHARACTERISTICS



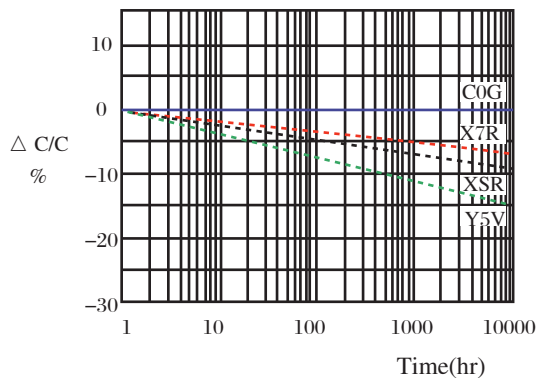
电容量-直流偏压特性

CAPACITANCE-DC VOLTAGE BIAS CHARACTERISTICS



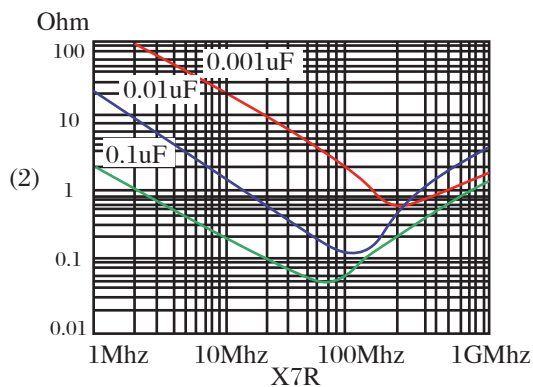
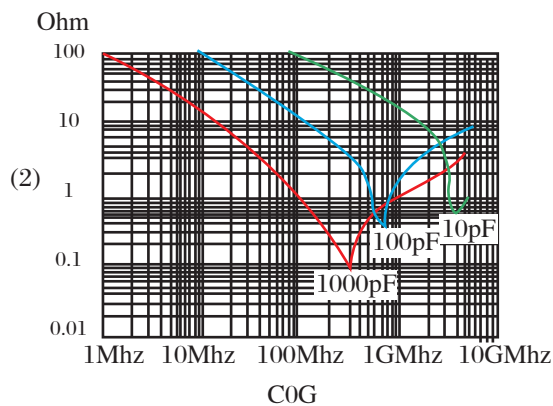
电容量老化特性

CAPACITANCE CHANGE-AGING

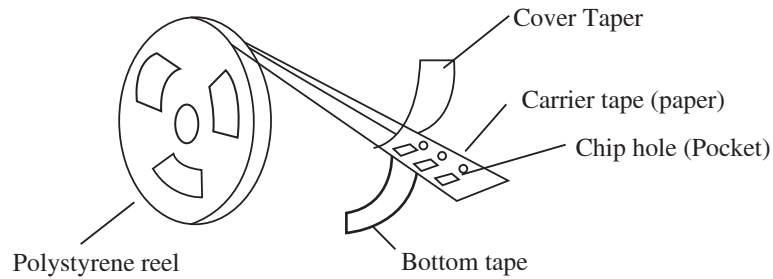


35

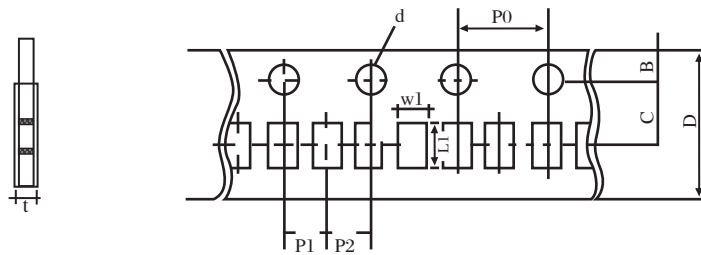
阻抗-频率特性 IMPEDANCE-FREQUENCY CHARACTERISTICS



编带和包装 Taping and Package PAPER TAPING

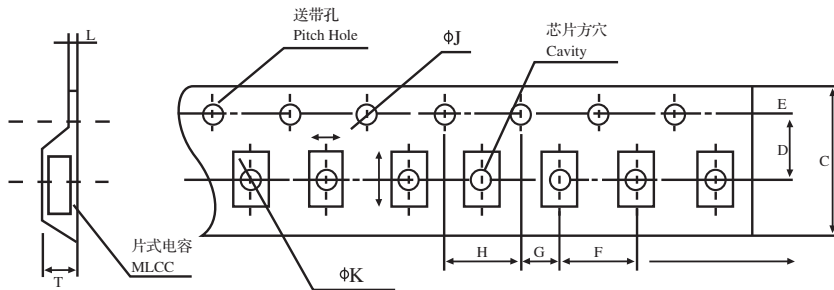


Dimensions of paper taping for 0402 type



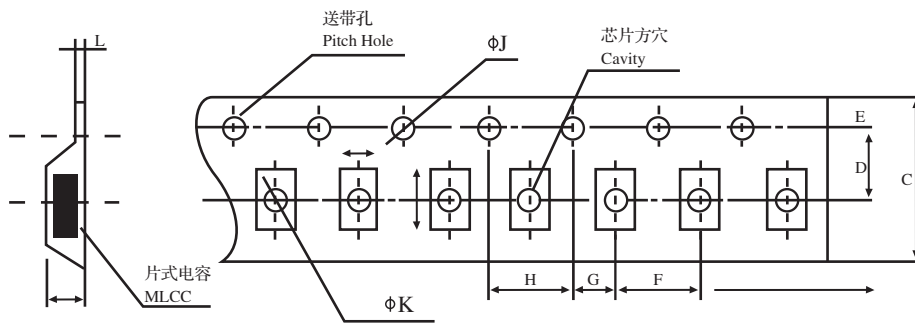
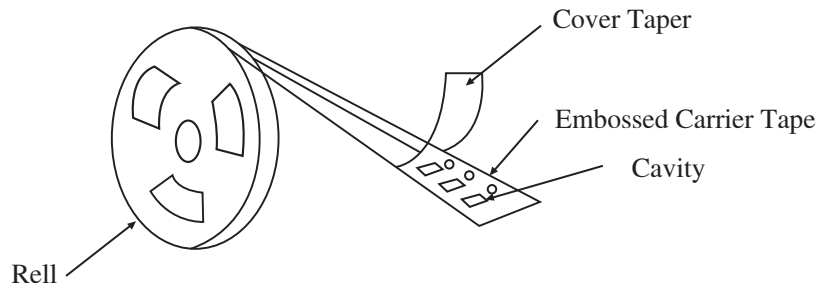
Code	W1	L1	D	C	B	P1	P2	P0	d	t
0402	0.65 ± 0.20	1.15 ± 0.20	8.00 ± 0.20	3.50 ± 0.05	1.75 ± 0.10	2.00 ± 0.05	2.00 ± 0.05	4.00 ± 0.10	$1.50 - 0 / + 0.1$	0.8 Below

Dimensions of paper taping for 0603.0805.1206 types.



Code paper	A	B	C	D*	E	F	G*	H	J	T
0603	1.10 ± 0.20	1.90 ± 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	150000	110Max
0805	1.45 ± 0.20	2.30 ± 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	150000	110Max
1206	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	1.50 ± 0.10	110Max

编带和包装 Taping and Package EHBOSSED TAPING

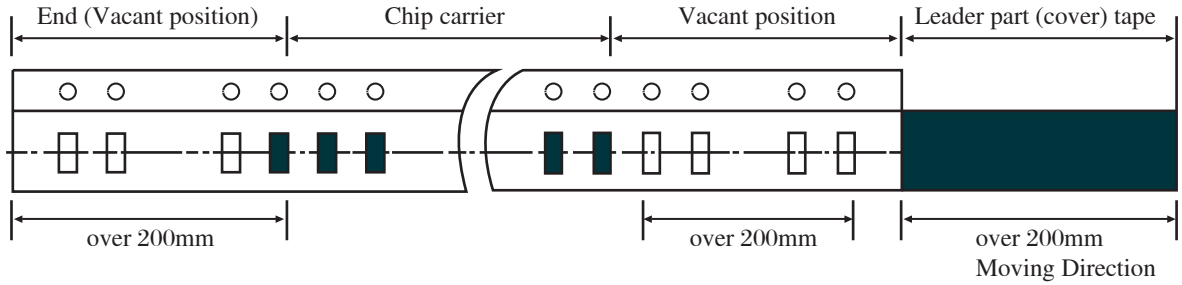


Code paper	A	B	C	D*	E	F	G*	H	J	T
1206 (3216)	1.95	3.60	8.00	3.50	1.75	4.00	2.00	4.00	1.50	1.85
	± 0.20	± 0.20	± 0.20	± 0.05	± 0.10	± 0.10	± 0.10	± 0.10	0.00	Max
1210 (3225)	2.70	3.42	8.00	3.50	1.75	4.00	2.00	4.00	1.55	3.20
	± 0.10	± 0.10	± 0.10	± 0.05	± 0.10	± 0.10	± 0.05	± 0.10	0.00	Max
1808 (4520)	2.20	4.95	12.00	5.50	1.75	4.00	2.00	4.00	1.50	3.00
	± 0.10	± 0.10	± 0.10	± 0.05	± 0.10	± 0.10	± 0.05	± 0.10	0.00	Max
1812 (4532)	3.66	4.95	12.00	5.50	1.75	8.00	2.00	4.00	1.55	4.00
	± 0.10	± 0.10	± 0.10	± 0.05	± 0.10	± 0.10	± 0.05	± 0.10	0.00	Max

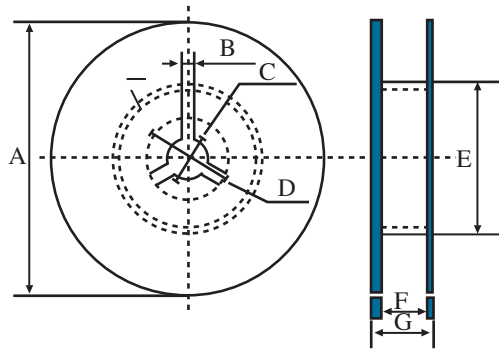
Note The place with “*” means where needs exactly dimensions.

编带和包装 Taping and Package

Structure of leader part and end part of the carrier paper



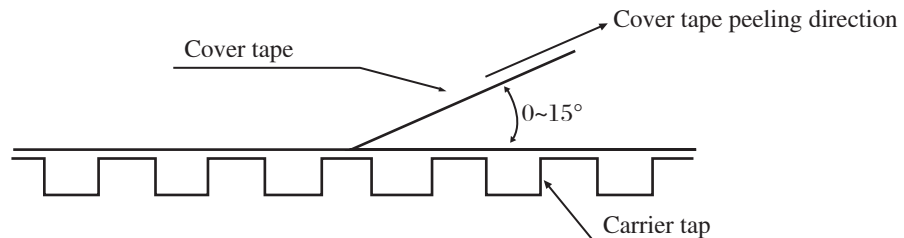
Reel Dimensions (unit: mm)



CODE

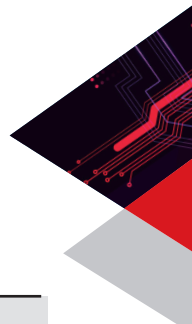
TYPE	A	B	C	D	E	F	G
7' REEL	$\phi 178 \pm 0.5$	3	$\phi 13 \pm 0.5$	$\phi 21 \pm 0.8$	$\phi 50$ or more	10.0 ± 1.5	12max
13' REEL	$\phi 330 \pm 2.0$	3	$\phi 13 \pm 0.5$	$\phi 21 \pm 0.8$	$\phi 50$ or more	10.0 ± 1.5	12max

Top tape peeling strength



Standard: $0.1N < \text{peeling strength} < 0.7N$

No paper dirty remains on the scotch when peeling, and sticks top and bottom tape



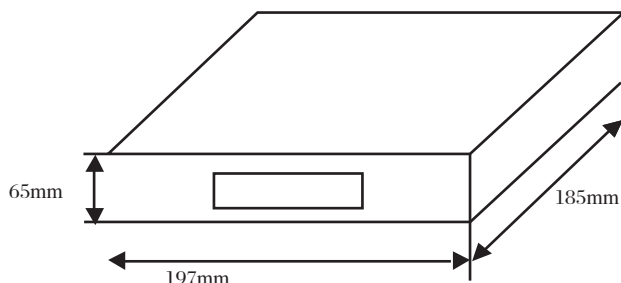
SIZE	PACKAGE STYLE & QUANTITY				unit pcs
	PT	ET	BC	BP	
0402(1005)	10000	.....	20000	5000	
0603(1608)	5000	.....	15000	5000	
0805(2012)	5000	2500	10000	5000	
1206(3216)	5000	2500	5000	5000	
1210(3225)	.....	2000	.....	2000	
1808(4520)	.....	2000	.....	2000	
1812(4532)	.....	2000	.....	2000	
2220(5750)	.....	.....	.....	500	
2225(5763)	.....	.....	.....	500	

● 外包装 Outer packing

小包装 The first package

Quantity: 5 reels (Max 25000pcs)

数量: 5 卷 (25000pcs 最多)



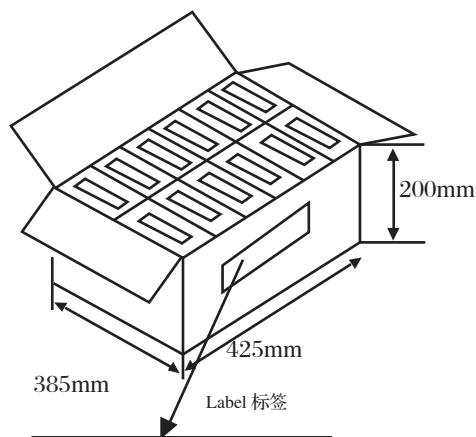
Label 标签

PART NO 型号规格
 QUANTITY 数量
 DATE 日期

大包装 The second package

Quantity: 12 cases (Max 300000pcs)

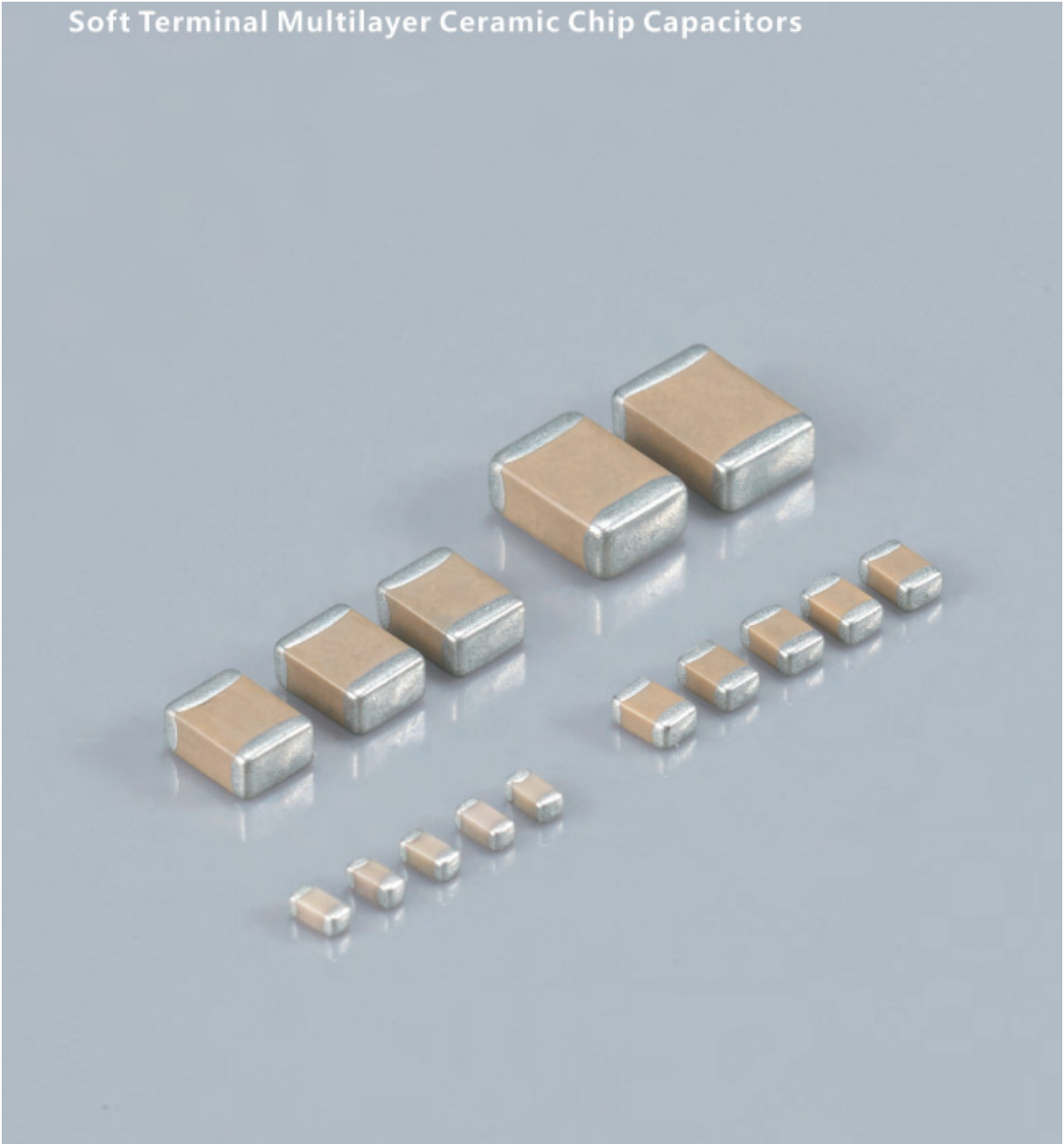
数量: 12 盒 (最多300000pcs)



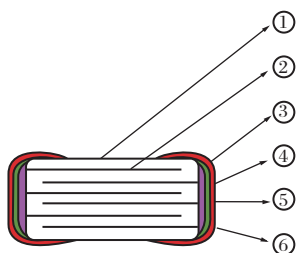
Production name 产品名称
 Quantity 数量
 Wenght 重量

软端子系列MLCC

Soft Terminal Multilayer Ceramic Chip Capacitors



产品结构图 (Product Structure)



No.	名称 (Name)
①	陶瓷介质 (Cermic Dielectric)
②	内电极 (Inner Electrode)
③	铜电极 (Copper Layer)
④	树脂电极 (Resin Electrode)
⑤	镍层(Nickel Layer)
⑥	锡层 (Tin Layer)

特点:

- 具有良好的抗弯性能，抗弯曲度可达到5mm以上。
- 导电性树脂可以吸收外部的应力，起到保护元件与焊锡接合部的作用。
- 具有良好的抗热冲击、高低温冲击性能。
- 产品符合ROHS,WEE和 REACHI的要求。

FEATVRES:

- Has good beeding performance. bending degree is up to 5mm
- The conductive resin can absorb the external stress, and play the role of the protection element and the solder joint part.
- Has good thermal shock,high low temperature impacrf-ormance
- Products meet the requirements of RoHS, WEE and REACH

应用:

- 通信基站
- 车载电子产品
- 高端的开关电器
- LED照明
- 要求抗弯曲性能强，可靠性高的基板上

APPLICATION:

- Communication base station
- Carelectronic products
- High end switching power supply
- LED lighting
- On the substrate with high bending resistance and

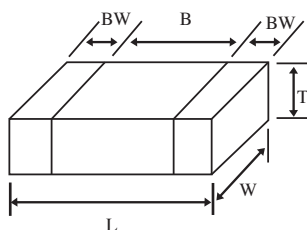
品名构成说明 (Part Name)

(e.g)	HV	1206	X7R	102	K	202	P	T	S
	①	②	③	④	⑤	⑥	⑦	⑧	⑨

① 电容器种类别 (Product code of MLCC)

HV 中高压电容 High-Voltage Capacitor

② 尺寸代码 (size code)



代码 EIA CODE	Metric Sys	L(mm)	W(mm)	T(mm)	L1/L2(mm)
0805	2012	2.00 ± 0.2	1.25 ± 0.2	0.60 ± 0.1	0.50 ± 0.20
				0.85 ± 0.2	
				1.25 ± 0.2	
1206	3216	3.20 ± 0.2	1.60 ± 0.2	0.85 ± 0.2	0.50 ± 0.25
				1.25 ± 0.2	
				1.60 ± 0.2	
1210	3225	3.20 ± 0.2	2.50 ± 0.3	≤ 1.80	0.75 ± 0.25
1808	4520	4.50 ± 0.4	2.00 ± 0.2	≤ 2.00	0.75 ± 0.25
1812	4532	4.50 ± 0.4	3.20 ± 0.3	≤ 3.50	0.75 ± 0.25
2220	5750	5.70 ± 0.5	5.00 ± 0.5	≤ 4.50	1.00 ± 0.25
2225	5763	5.70 ± 0.5	6.30 ± 0.5	≤ 4.50	1.00 ± 0.25

③ 温度特性代码 (Code of temperature characteristics)

代码 CODE	温度特性 Temp.Charat	参考温度点 Reference Temperature Point	容量变化率 Capacitance Change	工作温度范围 Range Working Temperature
C0G	C0G	25℃	0 ± 30ppm/25℃	-55~125℃
X7R	X7R	25℃	± 15℃	-55~125℃

④ 静电容量 (Nominal Capacitance Unit:pF)

三数学法：带二位数字表示有效值，第三位字表示“0”的个数，小数用“R”表示。

Expressde by three figures.The first and secind figures are singnificant digits,and the thid figure dentes the number of zeros, “R” is used to denote the decimal point

[e.g] 1RS:1.5pF ORS:0.5pF 102:1,000pF

⑤ 静电容量允许差 (Code Of Capacitance Tolerance)

代码 CODE	许容差 Tolerance	对应标称容量范围 Capacitance range	温度特性 Temp.charat
B	± 0.10pF	10pF或以下 10pF or less	C0G
C	± 0.25pF		
D	± 0.5pF	10pF或以上 Over 10pF	X7R
J	± 5%		
K	± 10%		



⑥ 额定工作电压(Working Voltage,Vdc)

三数学法：带二位数字表示有效值，第三位字表示“0”的个数，小数用“R”表示。 Expressde by three figures. The first and secind figures are significant digits, and the thid figure dentes the number of zeros, "R" is used to denote the decimal point

[e.g] 251:250V

⑦ 端电极(Termination)

P:3层电镀端子

S:银端头

C:铜端头

P: 3layer plating terminations

S: Fired Ag terminations

C:Fired Cu terminations

⑧ 包装形式(Package)

B:袋装散装品(Bulk)

T:卷盘编带品(Reel Teping)

⑨ 特殊要求(Special Requirement)

S:软端子 Soft Termination



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技术支持：13617378722 (李先生)