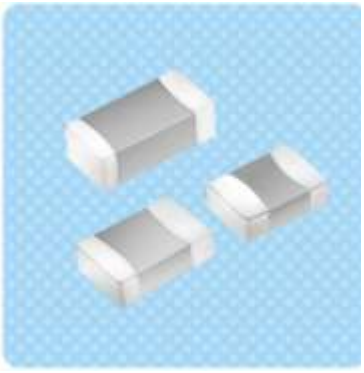
CC Series Multilayer Chip Ceramic Capacition



FEATURES

- New monolithic structre, has high reliability.
- Small size, yet has high electrostatic capactitance.
- Can operate at high-voltage levels.
- Supplied in tape on reel.

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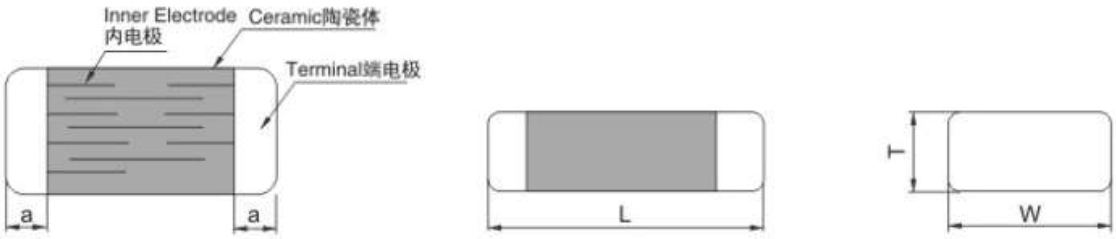
APPLICATIONS

- The circuit filter and vibration bell of telephone,electrograph and modern.
- Snubber circuit for switching power supply
- DC-DC converter
- Remote control and Security syte

SHAPE AND DIMENSIONS



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Part Number	Dimensions (mm)			
	L	W	T	a
CC0603(0201)	0.6±0.05	0.3±0.05	0.3±0.05	0.1±0.05
CC1005(0402)	1.0±0.05	0.5±0.05	0.5±0.05	0.2±0.1
CC1608(0603)	1.60±0.15	0.80±0.15	0.85±0.15	0.3±0.1
CC2012(0805)	2.00±0.20	1.25±0.20	0.8±0.15 1.25±0.20	0.5±0.20
CC3216(1206)	3.20±0.20	1.60±0.20	0.8±0.20 1.10±0.30 1.60±0.30	0.60±0.30
CC3225(1210)	3.20±0.20	2.50±0.20	1.25±0.20	0.80±0.30
CC4532(1812)	4.50±0.20	3.20±0.20	1.25±0.20	0.80±0.30

PRODUCT IDENTIFICATION

CC 2012 CG 101 K 500 N T

① ② ③ ④ ⑤ ⑥ ⑦

1. Productor Code: Length 长（L）×Width 宽（W）
2. Delectric Type: CG: COG or NPO; B: X7R; C:X5R; F: Y5V
3. Normal Capacitance(PF)：100：10； 101：100 ; 102：1000
4. Tolerance: B:0.1pf; C: 0.25pf; J ±5% ; K ±10%
5. Rate Voltage: 6R3: 6.3V; 500: 50V; 101: 100V
6. Termination Type: S: pure silver; C: pure copper; N: three layers plating terminlal
   Package: B:by bulk T: Tape and Reel

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Temperature Coeifficent/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
COG	20°C	0±30 ppm/℃	-55℃～125℃
COH	20°C	0±60 ppm/℃	-55℃～125℃
HG	20°C	-33±30 ppm/℃	-25℃～85℃
LG	20°C	-75±30 ppm/℃	-25℃～85℃
PH	20°C	-150± 60 ppm/℃	-25℃～85℃
RH	20°C	-220± 60 ppm/℃	-25℃～85℃
SH	20°C	-330± 60 ppm/℃	-25℃～85℃
TH	20°C	-470± 60 ppm/℃	-25℃～85℃
UJ	20°C	-750± 120 ppm/℃	-25℃～85℃
SL	20°C	-1000～+140 ppm/℃	-25℃～85℃
X7R	20°C	±15%	-55℃～125℃
X5R	20°C	±15%	-55℃～85℃
X7S	20°C	±22%	-55℃～125℃
X6S	20°C	±22%	-55℃～105℃
Z5U	20°C	-56%～+22%	10℃～85℃
Y5V	20°C	-80%～+30%	-25℃～85℃

Note: Nominal temperature coefficient and allowed tolerance of class Ⅰ are decided by the changing of the capacitance between 20°C and 85°C. Nominal temperature coefficient of class Ⅱ are decided by the temperature of 20°C.

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SPECIFICATIONS

- CC1005 TYPE

Part Number	Capacitance(pF)	Tolerance	Rate Voltage(V)	Temperature coefficient	SRF(GHZ)
CC1005CG1R0B500 NT	1.0	B	50	0±30ppm/℃	1.5-3
CC1005CG1R2B500 NT	1.2	B	50	0±30ppm/℃	1.5-3
CC1005CG1R5B500 NT	1.5	B	50	0±30ppm/℃	1.5-3
CC1005CG2R2B500 NT	2.2	B	50	0±30ppm/℃	1.5-3
CC1005CG2R7B500 NT	2.7	B	50	0±30ppm/℃	1.5-3
CC1005CG3R3C500 NT	3.3	C	50	0±30ppm/℃	1.5-3
CC1005CG3R9C500 NT	3.9	C	50	0±30ppm/℃	1.5-3
CC1005CG4R7C500 NT	4.7	C	50	0±30ppm/℃	1.5-3
CC1005CG5R6J500 NT	5.6	J	50	0±30ppm/℃	1.5-3
CC1005CG6R8J500 NT	6.8	J	50	0±30ppm/℃	1.5-3
CC1005CG8R2J500 NT	8.2	J	50	0±30ppm/℃	1.5-3
CC1005CG100J500 NT	10	J	50	0±30ppm/℃	1.5-3
CC1005CG120J500 NT	12	J	50	0±30ppm/℃	1.5-3
CC1005CG150J500 NT	15	J	50	0±30ppm/℃	1.5-3
CC1005CG180J500 NT	18	J	50	0±30ppm/℃	1.5-3
CC1005CG220J500 NT	22	J	50	0±30ppm/℃	1.5-3
CC1005CG270J500 NT	27	J	50	0±30ppm/℃	1.5-3
CC1005CG330J500 NT	33	J	50	0±30ppm/℃	1.5-3
CC1005CG390J500 NT	39	J	50	0±30ppm/℃	1.5-3
CC1005CG470J500 NT	47	J	50	0±30ppm/℃	1.5-3

Part Number	Capacitance(pF)	Tolerance	Rate Voltage(V)	Temperature coefficient	SRF(GHZ)
CC1005CG560J500 NT	56	J	50	0±30ppm/℃	1.5-3
CC1005CG680J500 NT	68	J	50	0±30ppm/℃	1.5-3
CC1005CG820J500 NT	82	J	50	0±30ppm/℃	1.5-3
CC1005CG101J500 NT	100	J	50	0±30ppm/℃	1.5-3
CC1005CG151K500 NT	150	K	50	0±30ppm/℃	1.5-3
CC1005CG181K500 NT	180	K	50	0±30ppm/℃	1.5-3
CC1005CG221K500 NT	220	K	50	0±30ppm/℃	1.5-3
CC1005CG331K500 NT	330	K	50	0±30ppm/℃	1.5-3
CC1005CG471K500 NT	470	K	50	0±30ppm/℃	1.5-3
CC1005CG561K500 NT	560	K	50	0±30ppm/℃	1.5-3
CC1005CG681K500 NT	680	K	50	0±30ppm/℃	1.5-3
CC1005CG821K500 NT	820	K	50	0±30ppm/℃	1.5-3
CC1005B102K500N T	1000	K	50	±15%	1-1.5
CC1005B103K500N T	10000	K	50	±15%	1-1.5
CC1005B104K160N T	100000	K	16	±15%	1-1.5

- CC1608 TYPE

Part Number	Capacitance(pF)	Tolerance	Rate Voltage(V)	Temperature coefficient	SRF(GHZ)
CC1608CG1R0B5 00NT	1.0	B	50	0±30ppm/℃	1.5-3
CC1608CG1R2B5 00NT	1.2	B	50	0±30ppm/℃	1.5-3
CC1608CG1R5B5 00NT	1.5	B	50	0±30ppm/℃	1.5-3
CC1608CG1R8B5 00NT	1.8	B	50	0±30ppm/℃	1.5-3

Part Number	Capacitance(pF)	Tolerance	Rate Voltage(V)	Temperature coefficient	SRF(GHZ)
CC1608CG2R2B500NT	2.2	B	50	0±30ppm/℃	1.5-3
CC1608CG2R7C500NT	2.7	C	50	0±30ppm/℃	1.5-3
CC1608CG3R3C500NT	3.3	C	50	0±30ppm/℃	1.5-3
CC1608CG3R9C500NT	3.9	C	50	0±30ppm/℃	1.5-3
CC1608CG4R7C500NT	4.7	C	50	0±30ppm/℃	1.5-3
CC1608CG5R6C500NT	5.6	C	50	0±30ppm/℃	1.5-3
CC1608CG6R8C500NT	6.8	C	50	0±30ppm/℃	1.5-3
CC1608CG8R2C500NT	8.2	C	50	0±30ppm/℃	1.5-3
CC1608CG100J500NT	10	J	50	0±30ppm/℃	1.5-3
CC1608CG120J500NT	12	J	50	0±30ppm/℃	1.5-3
CC1608CG150J500NT	15	J	50	0±30ppm/℃	1.5-3
CC1608CG180J500NT	18	J	50	0±30ppm/℃	1.5-3
CC1608CG220J500NT	22	J	50	0±30ppm/℃	1.5-3
CC1608CG270J500NT	27	J	50	0±30ppm/℃	1.5-3
CC1608CG330J500NT	33	J	50	0±30ppm/℃	1.5-3
CC1608CG390J500NT	39	J	50	0±30ppm/℃	1.5-3
CC1608CG470J500NT	47	J	50	0±30ppm/℃	1.5-3
CC1608CG560J500NT	56	J	50	0±30ppm/℃	1.5-3
CC1608CG680J500NT	68	J	50	0±30ppm/℃	1.5-3
CC1608CG820J500NT	82	J	50	0±30ppm/℃	1.5-3
CC1608CG101J160NT	100	J	16	0±30ppm/℃	1.5-3
CC1608CG151J500NT	150	J	50	0±30ppm/℃	1.5-3

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Part Number	Capacitance(pF)	Tolerance	Rate Voltage(V)	Temperature coefficient	SRF(GHZ)
CC1608CG181J500NT	180	J	50	0±30ppm/℃	1.5-3
CC1608CG221J500NT	220	J	50	0±30ppm/℃	1.5-3
CC1608CG331J500NT	330	J	50	0±30ppm/℃	1.5-3
CC1608CG471J500NT	470	J	50	0±30ppm/℃	1.5-3
CC1608B102K500NT	1000	K	50	±15%	1-1.5
CC1608B222K500NT	2200	K	50	±15%	1-1.5
CC1608B103K500NT	10000	K	50	±15%	1-1.5
CC1608B104K500NT	100000	K	50	±15%	1.1-1.5
CC1608C225M100NT	2200000	M	10	±15%	1.1-1.5

- CC2012 TYPE

Part Number	Capacitance(pF)	Tolerance	Rate Voltage(V)	Temperature coefficient	SRF(GHZ)
CC2012CG1R0B500NT	1.0	B	50	0±30ppm/℃	1.5-3
CC2012CG1R2B500NT	1.2	B	50	0±30ppm/℃	1.5-3
CC2012CG1R5B500NT	1.5	B	50	0±30ppm/℃	1.5-3
CC2012CG2R2B500NT	2.2	B	50	0±30ppm/℃	1.5-3
CC2012CG2R7B500NT	2.7	B	50	0±30ppm/℃	1.5-3
CC2012CG3R3C500NT	3.3	C	50	0±30ppm/℃	1.5-3
CC2012CG3R9C500NT	3.9	C	50	0±30ppm/℃	1.5-3
CC2012CG4R7C500NT	4.7	C	50	0±30ppm/℃	1.5-3
CC2012CG5R6D500NT	5.6	D	50	0±30ppm/℃	1.5-3
CC2012CG6R8D500NT	6.8	B	50	0±30ppm/℃	1.5-3
CC2012CG8R2D500NT	8.2	B	50	0±30ppm/℃	1.5-3
CC2012CG100J500NT	10	J	50	0±30ppm/℃	1.5-3

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Part Number	Capacitance(pF)	Tolerance	Rate Voltage(V)	Temperature coefficient	SRF(GHZ)
CC2012CG120J500NT	12	J	50	0±30ppm/℃	1.5-3
CC2012CG150J500NT	15	J	50	0±30ppm/℃	1.5-3
CC2012CG180J500NT	18	J	50	0±30ppm/℃	1.5-3
CC2012CG220J500NT	22	J	50	0±30ppm/℃	1.5-3
CC2012CG270J500NT	27	J	50	0±30ppm/℃	1.5-3
CC2012CG330J500NT	33	J	50	0±30ppm/℃	1.5-3
CC2012CG470J500NT	47	J	50	0±30ppm/℃	1.5-3
CC2012CG560J500NT	56	J	50	0±30ppm/℃	1.5-3
CC2012CG680J500NT	68	J	50	0±30ppm/℃	1.5-3
CC2012CG820J500NT	82	J	50	0±30ppm/℃	1.5-3
CC2012CG101J500NT	100	J	50	0±30ppm/℃	1-1.5
CC2012CG151J500NT	150	J	50	0±30ppm/℃	1-1.5
CC2012CG181J500NT	180	J	50	0±30ppm/℃	1-1.5
CC2012CG221J500NT	220	J	50	0±30ppm/℃	1-1.5
CC2012CG331J500NT	330	J	50	0±30ppm/℃	1-1.5
CC2012CG471J500NT	470	J	50	0±30ppm/℃	1-1.5
CC2012B103K500NT	10000	K	50	±15%	1-1.5
CC2012B223K500NT	22000	K	50	±15%	1-1.5
CC2012B104K500NT	100000	K	50	±15%	1-1.5
CC2012B105K160NT	1000000	K	16	±15%	1.2-1.5
CC2012C105K250NT	1000000	K	25	±15%	1.2-1.5
CC2012B225K160NT	2200000	K	16	±15%	1.2-1.5

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CC3216 TYPE

Part Number	Capacitance(pF)	Tolerance	Rate Voltage(V)	Temperature coefficient	SRF(GHZ)
CC3216CG1R0B500 NT	1.0	B	50	0±30ppm/℃	1.5-3
CC3216CG1R2B500 NT	1.2	B	50	0±30ppm/℃	1.5-3
CC3216CG1R5B500 NT	1.5	B	50	0±30ppm/℃	1.5-3
CC3216CG1R8B500 NT	1.8	B	50	0±30ppm/℃	1.5-3
CC3216CG2R2B500 NT	2.2	B	50	0±30ppm/℃	1.5-3
CC3216CG2R7C500 NT	2.7	C	50	0±30ppm/℃	1.5-3
CC3216CG3R3C500 NT	3.3	C	50	0±30ppm/℃	1.5-3
CC3216CG3R9C500 NT	3.9	C	50	0±30ppm/℃	1.5-3
CC3216CG4R7C500 NT	4.7	C	50	0±30ppm/℃	1.5-3
CC3216CG5R6C500 NT	5.6	C	50	0±30ppm/℃	1.5-3
CC3216CG6R8C500 NT	6.8	C	50	0±30ppm/℃	1.5-3
CC3216CG8R2C500 NT	8.2	C	50	0±30ppm/℃	1.5-3
CC3216CG100J500 NT	10	J	50	0±30ppm/℃	1.5-3
CC3216CG120J500 NT	12	J	50	0±30ppm/℃	1.5-3
CC3216CG150J500 NT	15	J	50	0±30ppm/℃	1.5-3
CC3216CG180J500 NT	18	J	50	0±30ppm/℃	1.5-3
CC3216CG220J500 NT	22	J	50	0±30ppm/℃	1.5-3
CC3216CG270J500 NT	27	J	50	0±30ppm/℃	1.5-3
CC3216CG330J500 NT	33	J	50	0±30ppm/℃	1.5-3

Part Number	Capacitance(pF)	Tolerance	Rate Voltage(V)	Temperature coefficient	SRF(GHZ)
CC3216CG390J500 NT	39	J	50	0±30ppm/℃	1.5-3
CC3216CG470J500 NT	47	J	50	0±30ppm/℃	1.5-3
CC3216CG560J500 NT	56	J	50	0±30ppm/℃	1.5-3
CC3216CG680J500 NT	68	J	50	0±30ppm/℃	1.5-3
CC3216CG820J500 NT	82	J	50	0±30ppm/℃	1.5-3
CC3216CG101J500 NT	100	J	50	0±30ppm/℃	1.0-1.5
CC3216CG151K500 NT	150	K	50	0±30ppm/℃	1.0-1.5
CC3216CG181K500 NT	181	K	50	0±30ppm/℃	1.0-1.5
CC3216CG221K500 NT	220	K	50	0±30ppm/℃	1.0-1.5
CC3216CG331K500 NT	330	K	50	0±30ppm/℃	1.0-1.5
CC3216CG471K500 NT	470	K	50	0±30ppm/℃	1.0-1.5

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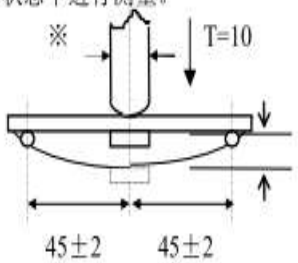
Reliability Test

<table>
<tr><td>项目
Item</td><td colspan="2">技术规格
Technical Specification</td><td colspan="3">测 试 方 法
Test Method and Remarks</td></tr>
<tr><td rowspan="4">容量
Capacitance</td><td rowspan="3">Ⅰ类
Class Ⅰ</td><td rowspan="3">应符合指定的误差级别
Should be within the specified tolerance.</td><td>标称容量
Capacitance</td><td>测试频率
Measuring Frequency</td><td>测试电压
Measuring Voltage</td></tr>
<tr><td>≤1000pF</td><td>1MHZ±10%</td><td rowspan="2">1.0±0.2Vrms</td></tr>
<tr><td>＞1000 pF</td><td>1KHZ±10%</td></tr>
<tr><td>Ⅱ类
Class Ⅱ</td><td>应符合指定的误差级别
Should be within the specified tolerance.</td><td colspan="3">测试温度： 25℃±3℃
Test Temprature: 25℃±3℃
C≤10μF：测试频率: 1KHZ±10%
测试电压: 1.0±0.2Vrms
Test Frequency: 1KHZ±10%
Test Voltage: 1.0±0.2Vrms
C＞10μF
X7R、X5R、X7S、X6S、Y5V：
测试频率: 120±24 HZ
测试电压:0.5±0.1Vrms
Test Frequency: 120±24 HZ
Test Voltage: 0.5±0.1Vrms
Z5U：测试频率:1±0.1KHZ
测试电压:0.5±0.05Vrms
Test Frequency: 1±0.1KHZ
Test Voltage: 0.5±0.05Vrms</td></tr>
<tr><td rowspan="5">损耗角正切
(DF, tan δ)
Dissipation Factor</td><td rowspan="5">Ⅰ类
Class Ⅰ</td><td>DF</td><td>标称容量
Capacitance</td><td>测试频率
Measuring Frequency</td><td>测试电压
Measuring Voltage</td></tr>
<tr><td>≤0.56%</td><td>Cr＜5 pF</td><td>1MHZ±10%</td><td rowspan="4">1.0±0.2Vrms</td></tr>
<tr><td>1.5[(150/Cr)+7]×10^{-4}</td><td>5pF≤Cr＜50 pF</td><td>1MHZ±10%</td></tr>
<tr><td>≤0.15%</td><td>50pF≤Cr≤1000 pF</td><td>1MHZ±10%</td></tr>
<tr><td>≤0.15%</td><td>＞1000 pF</td><td>1KHZ±10%</td></tr>
</table>

<table>
<tr><th>项目
Item</th><th colspan="8">技术规格
Technical Specification</th><th>测 试 方 法
Test Method and Remarks</th></tr>
<tr><td rowspan="6">损耗角正切(DF, tan δ)
Dissipation Factor</td><td rowspan="6">II类
Class II</td><td rowspan="2">X7R/
X5R
X7S/
X6S
(≥
0402)</td><td>≥
50V</td><td>25V</td><td>16V</td><td>10V</td><td>6.3V</td><td rowspan="2">C≤10μF
测试频率: 1KHZ±10%
测试电压: 1.0±0.2Vrms
Test Frequency: 1KHZ±10%
Test Voltage: 1.0±0.2Vrms

C>10μF X7R、X5R、X7S、X6S、Y5V
测试频率: 120±24 HZ
测试电压:0.5±0.1Vrms
Test Frequency: 120±24HZ
Test Voltage: 0.5±0.1Vrms Z5U:测试频率:1±0.1KHZ
测试电压:0.5±0.05Vrms
Test Frequency: 1±0.1KHZ
Test Voltage: 0.5±0.05Vrms</td></tr>
<tr><td>≤
2.5%</td><td>≤3.5%
(C
0.47μF)
≤10.0%
(C≥
0.47μF)</td><td>≤3.5%
(C
0.47μF)
≤10.0%
(C≥
0.47μF)</td><td>≤5.0%
(C
0.15μF)
≤10.0%
(C≥
0.15μF)</td><td>≤5.0%
(C
0.15μF)
≤10.0%
(C≥
0.15μF)</td></tr>
<tr><td rowspan="2">X7R/
X5R
X7S/
X6S
(
0402)</td><td>≥
50V</td><td>25V</td><td>16V</td><td>10V</td><td>6.3V</td></tr>
<tr><td>≤
3.5%</td><td>≤5.0%</td><td>≤5.0%
(C
0.047μF)
≤10%
(C>
0.047μF)</td><td>≤7.5%
(C
0.047μF)
≤10%
(C>
0.047μF)</td><td>≤7.5%
(C
0.047μF)
≤10%
(C>
0.047μF)</td></tr>
<tr><td rowspan="2">Y5V
Z5U</td><td colspan="2">≥25V</td><td>16V</td><td>10V</td><td>6.3V</td></tr>
<tr><td colspan="2">≤7.0%
(C<1.0μF)
≤9.0%
(C≥1.0μF)</td><td>≤15%</td><td>≤15%</td><td>≤15%</td></tr>
<tr><td rowspan="3">绝缘电阻
(IR)
Insulation
Resistance</td><td>I类
Class I</td><td colspan="7">C≤10 nF, Ri≥50000MΩ
C>10 nF, Ri• C_R≥500S</td><td rowspan="3">测试电压：额定电压（最高 500V）
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（Max 500V）
Duration: 60±5s
Test Humidity: ≤75%
Test Temprature: 25℃±5℃
Test Current: ≤50mA</td></tr>
<tr><td rowspan="2">II类
Class II</td><td>X7R/
X5R/
X7S/
X6S</td><td colspan="6">C≤25 nF, Ri≥10000MΩ
C>25 nF, Ri• C_R>100S</td></tr>
<tr><td>Y5V
Z5U</td><td colspan="6">C≤25 nF, Ri≥4000MΩ
C>25 nF, Ri• C_R>100S</td></tr>
<tr><td>介质耐电强度(DWV)
Dielectric Withstanding Voltage</td><td colspan="8">不应有介质被击穿或损伤
No breakdown or damage.</td><td>测量电压：
I 类:300%额定电压 II类:250%额定电压
时间：1～5 秒 充/放电电流：不应超过 50mA
(这部分说明不包括中高压 MLCC)
Measuring Voltage:
Class I :300% Rated voltage
Class II :250% Rated voltage
Duration: 1～5s
Charge/ Discharge Current: 50mA max.
(This method excludes high-voltage MLCC)</td></tr>
</table>

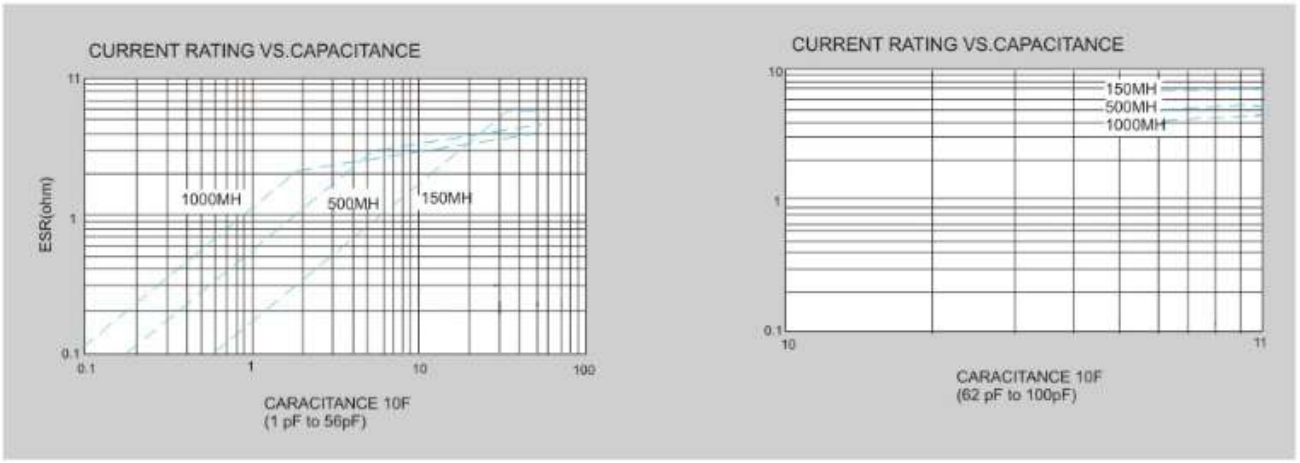
<table>
<tr><td>项目
Item</td><td colspan="4">技术规格
Technical Specification</td><td>测 试 方 法
Test Method and Remarks</td></tr>
<tr><td>可焊性
Solderability</td><td colspan="4">上锡率应大于 95%
外观：无可见损伤.
At least 95% of the terminal electrode is covered by new solder.
Visual Appearance: No visible damage.</td><td>将电容在 80~120℃的温度下预热 10~30 秒.
Preheating conditions:80 to 120℃; 10~30s.
有铅焊料：(Sn/Pb：63/37)
浸锡温度:235±5℃
浸锡时间:2±0.5s
Solder Temperature: 235±5℃
Duration: 2±0.5s
无铅焊料：
浸锡温度:245±5℃
浸锡时间:2±0.5s
Solder Temperature: 245±5℃
Duration: 2±0.5s</td></tr>
<tr><td>耐焊接热
Resistance to Soldering Heat</td><td>项目
Item</td><td>NPO 至 SL
NPO to SL</td><td>X7R/X5R/
X7S/X6S</td><td>Y5V、
Z5U</td><td>将电容在 100~200℃的温度下预热 10±2 分钟.
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±2 小时 放置条件：室温
Preheating conditions: 100 to 200℃; 10±2min.
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</td></tr>
<tr><td></td><td>ΔC/C</td><td>≤ ± 0.5% 或 ± 0.5PF，取较大值
≤±0.5% or ±0.5PF, whichever is larger</td><td>-5~+10%</td><td>-10~+20%</td><td></td></tr>
<tr><td></td><td>DF</td><td colspan="3">同初始标准
Same to initial value.</td><td></td></tr>
<tr><td></td><td>IR</td><td colspan="3">同初始标准
Same to initial value.</td><td></td></tr>
<tr><td></td><td colspan="4">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.</td><td></td></tr>
<tr><td>抗弯曲强度
Resistance to Flexure of Substrate (Bending Strength)</td><td colspan="4">外观：无可见损伤.
Appearance: No visible damage.</td><td>试验基板：Al_2O_3 或 PCB
弯曲深度：1mm
施压速度：0.5mm/sec.
单位：mm
应在弯曲状态下进行测量。
 

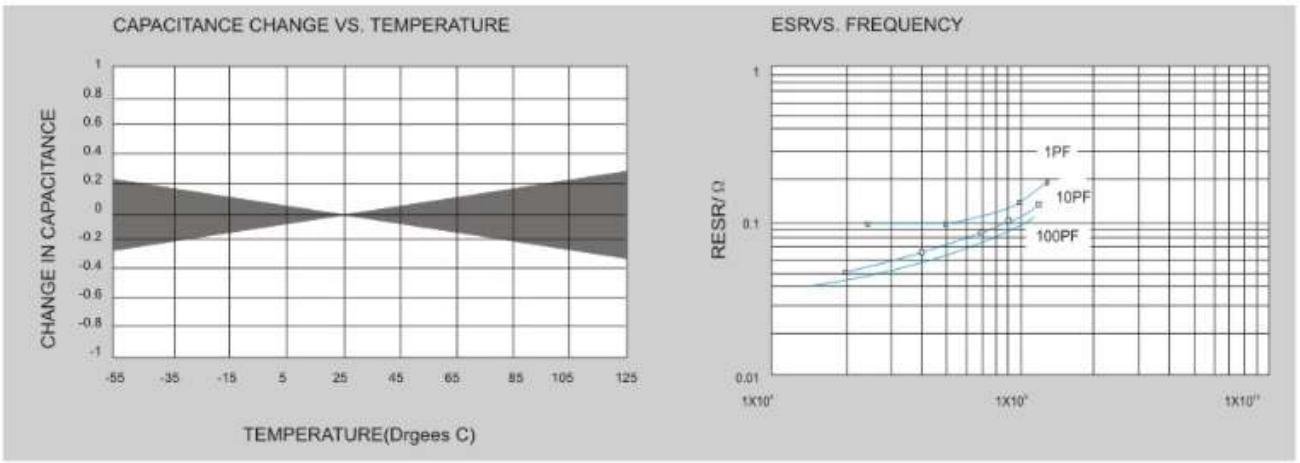
Test Board: Al_2O_3 or PCB
Warp: 1mm
Speed: 0.5mm/sec.
Unit: mm
The measurement should be made with the board in the bending position.</td></tr>
<tr><td></td><td>ΔC/C</td><td colspan="3">≤±10%</td><td></td></tr>
</table>

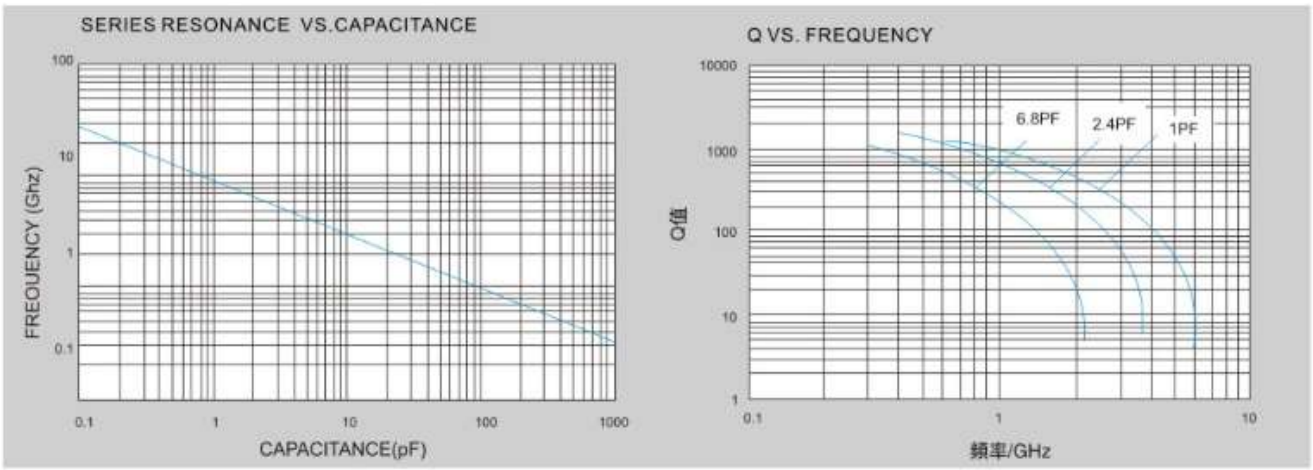
<table>
<tr><th>项目
Item</th><th>技术规格
Technical Specification</th><th>测 试 方 法
Test Method and Remarks</th></tr>
<tr><td>端头结合强度
Termination Adhesion</td><td>外观无可见损伤
No visible damage.</td><td>施加的力：5N　　时间：10±1S
Applied Force: 5N　　Duration: 10±1S</td></tr>
<tr><td>温度循环
Temperature Cycle</td><td>ΔC/C:
Ⅰ类：≤±1%或±1pF，
取两者中最大者
Ⅱ类：
B,X,BS,DS: ≤±10%
E,F: ≤±20%

Class Ⅰ: ≤±1% or ±1pF,
whichever is larger.
Class Ⅱ:
B,X,BS,DS: ≤±10%
E,F: ≤±20%</td><td>预处理（2类）：上限类别温度，1小时　恢复：24±1h
初始测量
循环次数：5次，一个循环分以下4步：<table><tr><th>阶段</th><th>温度（℃）</th><th>时间（分钟）</th></tr><tr><td>第1步</td><td>下限温度(NPO/X7R/X7S/X6S/X5R:-55 Y5V:-25 Z5U:+10)</td><td>30</td></tr><tr><td>第2步</td><td>常温　(+20)</td><td>2～3</td></tr><tr><td>第3步</td><td>上限温度(NPO/X7R/X7S:+125 Y5V/Z5U/X5R:+85　X6S:+105)</td><td>30</td></tr><tr><td>第4步</td><td>常温　(+20)</td><td>2～3</td></tr></table>试验后放置（恢复）时间：24±2h
Preheating conditions: up-category temperature, 1h
Recovery time: 24±1h
Initial Measurement
Cycling Times: 5 times, 1 cycle, 4 steps:<table><tr><th>Step</th><th>Temperature（℃）</th><th>Time (min.)</th></tr><tr><td>1</td><td>Low-category temp. (NPO/X7R/X7S/X6S/X5R:-55 Y5V:-25　Z5U:+10)</td><td>30</td></tr><tr><td>2</td><td>Normal temp. (+20)</td><td>2～3</td></tr><tr><td>3</td><td>Up-category temp. (NPO/X7R/X7S:+125 Y5V/Z5U/X5R:+85　X6S:+105)</td><td>30</td></tr><tr><td>4</td><td>Normal temp. (+20)</td><td>2～3</td></tr></table>Recovery time after test: 24±2h</td></tr>
<tr><td>潮湿试验
Moisture Resistance</td><td>Δ C/C</td><td>Ⅰ类: ≤±2%或±1pF,
取两者之中较大者
Ⅱ类: B,X,BS,DS:≤±10%
E,F: ≤±30%
Class Ⅰ: ≤±2% or ±1pF,
whichever is larger.
Class Ⅱ: B,X,BS,DS:≤±10%
E,F: ≤±30%</td><td rowspan="4">温度：40±2℃
湿度：90~95%RH
时间：500小时
放置条件：室温
放置时间：24小时(Ⅰ类)；48小时(Ⅱ类)
Temperature：40±2℃
Humidity：90~95%RH
Duration：500h
Recovery conditions：Room temperature
Recovery Time：24h (Class1) or 48h (Class2)</td></tr>
<tr><td>DF</td><td>≤2倍初始标准
Not more than twice of initial value.</td></tr>
<tr><td>IR</td><td>Ⅰ类：Ri≥2500MΩ或 Ri• C_R≥25S
取两者之中较小者.
Class Ⅰ：Ri≥2500MΩ或 Ri• C_R≥
25S whichever is smaller.
Ⅱ类：Ri≥1000MΩ或 Ri• C_R≥25S
取两者之中较小者.
Class Ⅱ：Ri≥1000MΩ或 Ri• C_R≥
25S whichever is smaller.</td></tr>
<tr><td colspan="2">外观：无损伤
Appearance: No visible damage.</td></tr>
</table>

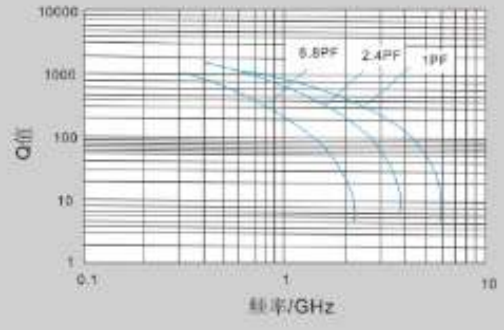
Typical Electrical Characteristics



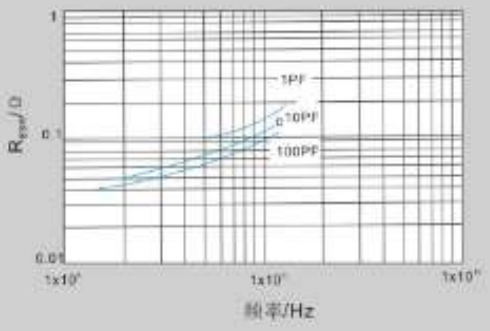




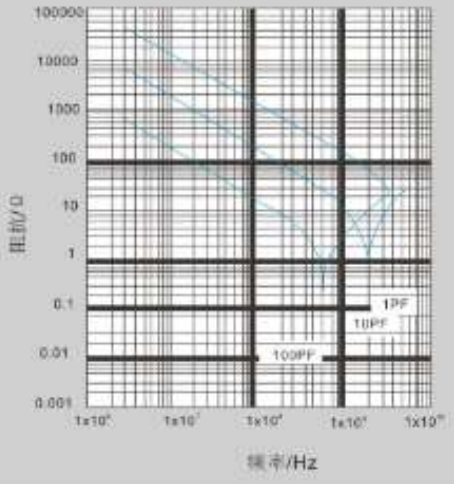
Q VS. FREQUENCY



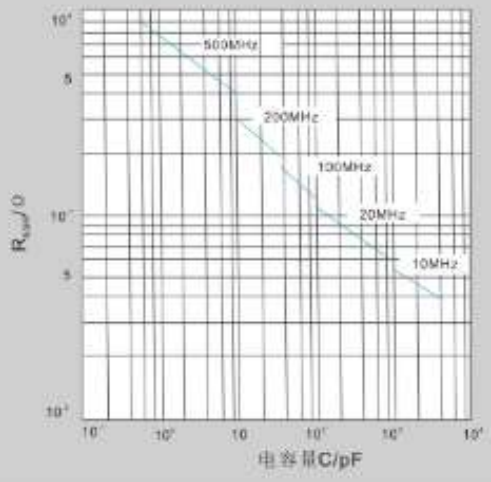
ESR VS. FREQUENCY



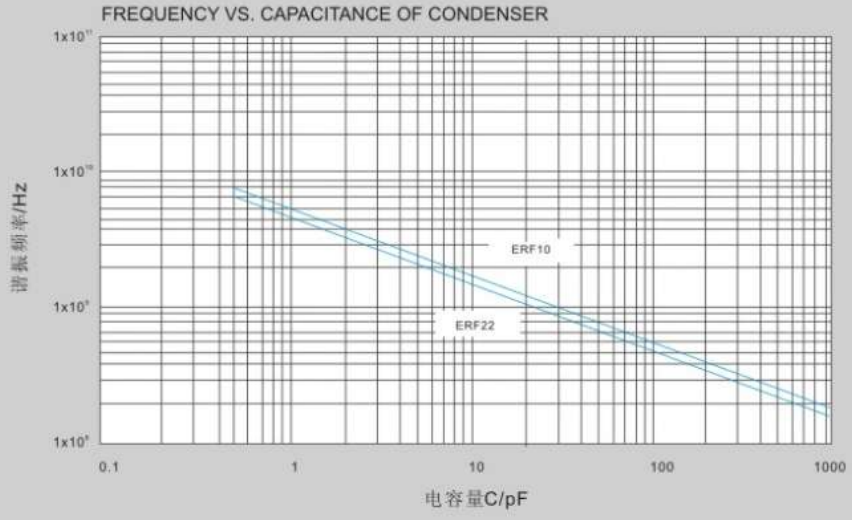
IMPEDANCE VS. FREQUENCY



ESR VS .CAPACITANCE OF CONDENSER

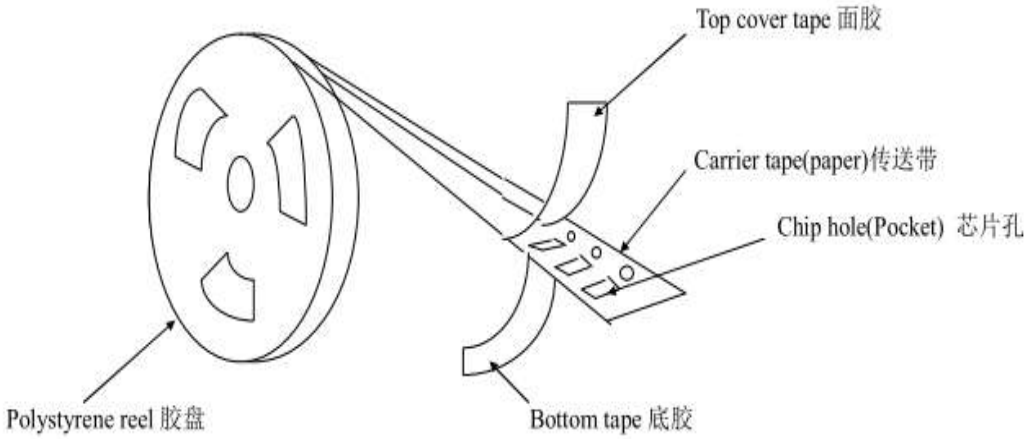


FREQUENCY VS. CAPACITANCE OF CONDENSER



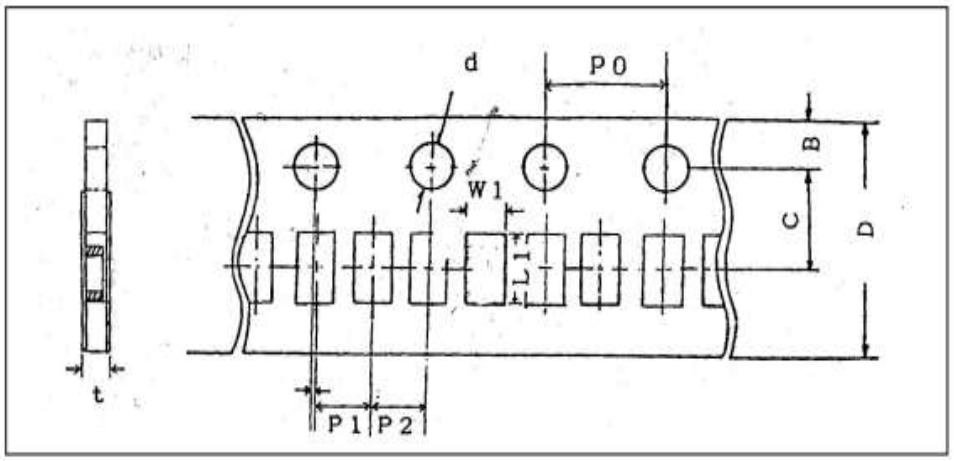
Package

※ 纸带卷盘结构 **PAPER TAPING**



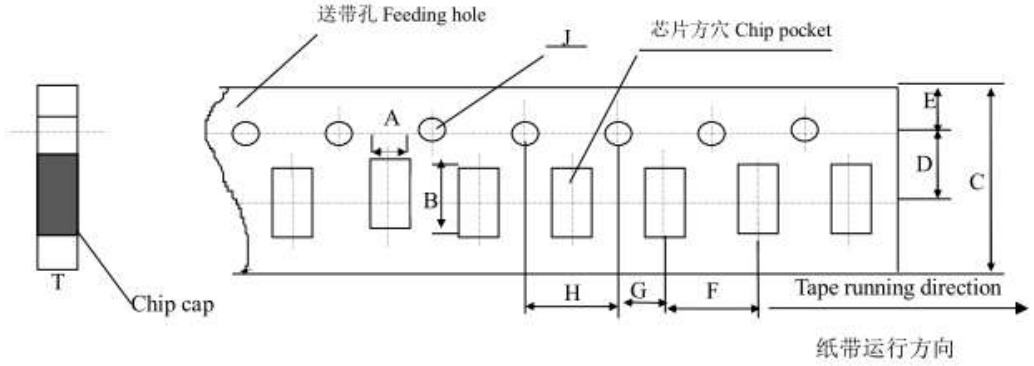
※ 0201、0402 纸带编带尺寸大小

Dimensions of paper taping for 0402 type



代号 Code	W1	L1	D	C	B	P1	P2	P0	d	t
0201	0.37± 0.10	0.67± 0.10	8.00± 0.10	3.50± 0.05	1.75± 0.10	2.00± 0.05	2.00± 0.05	4.00± 0.10	1.50 -0/+0.10	0.80 Below
0402	0.65± 0.10	1.15± 0.10	8.00± 0.10	3.50± 0.05	1.75± 0.10	2.00± 0.05	2.00± 0.05	4.00± 0.10	1.50 -0/+0.10	0.80 Below

Tel: 0086-769-85016657 **Fax**: 0086-769-85016658 **E-Mail**: sales@ZXcompo.com www.zxcompo.com



Unit：mm

代号 Code / 纸带规格 paper size	A	B	C	D*	E	F	G*	H	J	T
0603	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	1.50 -0/+0.10	1.10 Max
0805	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	1.50 -0/+0.10	1.10 Max
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/+0.10	1.10 Max

●塑胶卷盘结构 EMBOSSED TAPING