



Ceramic Chip Capacitors

CC Series

FEATURES

- High reliability
- Small size with high dielectric constant
- Low inductance
- Popular temperature coefficients available
- Wide operating temperature range
- High insulation resistance
- Case sizes: 0603, 0805, 1206, 1210
- RoHS Compliant



CHARACTERISTICS

Item	Characteristics		
	NPO / COG	X7R	Z5U
Operating Temperature Range	-55°C ~ +125°C	-55°C ~ +125°C	-25°C ~ +85°C
Temperature Coefficient	±30ppm/°C for C>20pF +120ppm, -40ppm/°C for C≤20pF	ΔC ±15% maximum over -55°C +125°C	ΔC ±56%-22% maximum over +10°C +85°C
Measuring Conditions for Capacitance and D.F.	1MHz, 1Vrms for C≤1,000pF 1KHz, 1Vrms for C>1,000pF	1KHz, 1Vrms	1KHz, 0.3Vrms
Dissipation Factor and Tangent of Loss Angle (Tan δ)	≥0.001 for C≥50pF ≤1.5(150/C + 7) × 10 ⁻² for C<50pF	≤0.025	≤0.030
Insulation Resis. After 60 sec. Charging at Rated Voltage 25°C	≥100GΩ or ≥1,000MΩ(C) whichever is less	≥100GΩ or ≥1,000MΩ(C) whichever is less	≥10GΩ or ≥1,000MΩ(C) whichever is less
Voltage Test 25°C	2.5 x rated voltage	2.5 x rated voltage	2.5 x rated voltage
Capacitance Aging	0	±1.5% per decade hour	±5% per decade hour

PART NUMBERING SYSTEM

C	C	5	0	2	N	1	0	1	J	-	R	C
Series		Voltage		Case Size	Temperature Coefficient	Value			Tolerance	Suffix		

CODES FOR CASE SIZE, TEMPERATURE COEFFICIENT, AND TOLERANCE

Case Size	Code	Temperature Coefficient	Code	Tolerance	Code	Tolerance	Code	Suffix	Code
0805	1	NPO / COG	N	±0.25pF	C	±20%	M	RoHS	-RC
1206	2	X7R	B	±0.5pF	D	+80% -20%	Z		
1210	3	Z5U	Z	±5%	J	+100% -0%	P		
0603	4	Y5V	V	±10%	K	GMV	V		
0402	5								

For capacitance values below 10pF, use C or D.
GMV = Guaranteed Minimum Value

CAPACITANCE RANGES

Case Size	NPO / COG		X7R		Z5U (0805, 1206, 1210) / Y5V (0603)	
	50V	100V	50V	100V	50V	100V
0603	1.0pF~470pF		100pF~0.01μF		0.01μF~0.1μF	---
0805	1.0pF~1500pF	1.0pF~1000pF	100pF~0.1μF	100pF~0.022μF	2700pF~0.15μF	---
1206	1.0pF~3900pF	1.0pF~2700pF	100pF~0.1μF	100pF~0.047μF	8200pF~0.47μF	---
1210	4700pF~8200pF	3300pF~5600pF	0.12μF~0.22μF	0.047μF~0.1μF	0.22μF~0.68μF	---
0402	1.0pF~220pF		220pF~1000pF			

TOLERANCE AVAILABLE

Availability	NPO / COG				X7R			Z5U		
Tolerance	±0.25pF	±0.5pF	±2%	±5%	±5%	±10%	±20%	±20%	+80% -20%	+100% -0%
Capacitance	<5pF	≤10pF	>13pF	≥10pF	All Values	All Values	All Values	All Values	All Values	All Values



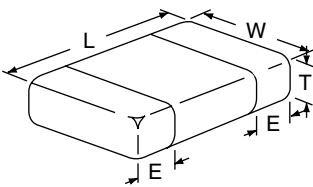
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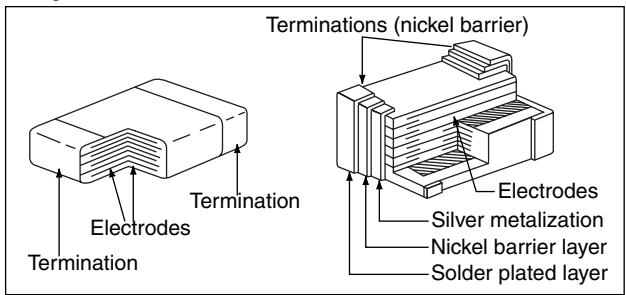
Ceramic Chip Capacitors

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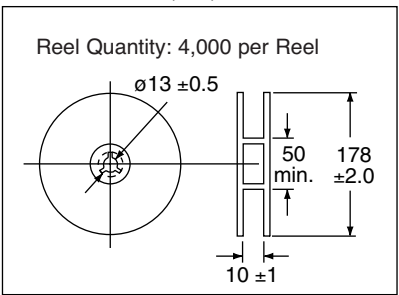
DIMENSIONS



Configuration:



Reel Dimensions (mm):



Case Size	Dimensions (mm)			
	L (length)	W (width)	T (thickness) max.	E (termination)
0603	1.52 ±0.2	0.8 ±0.2	.65	0.5 ±0.2
0805	2.0 ±0.2	1.2 ±0.2	1.0	0.5 ±0.2
1206	3.2 ±0.2	1.6 ±0.2	1.25	0.5 ±0.2
1210	3.2 ±0.2	2.5 ±0.2	1.3	0.5 ±0.2
0402	1.0 ±0.2	0.5 ±0.2	.35	0.4 ±0.2



Mouser Electronics

Authorized Distributor

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140-CC502V104M	140-CC502Z104M	140-CC502Z224M	140-CC255B103K-RC	140-CC255B122K-RC	140-CC255B152K-RC
140-CC255B182K-RC	140-CC255B222K-RC	140-CC255B272K-RC	140-CC255B332K-RC	140-CC255B392K-RC	140-CC255B472K-RC
140-CC255B562K-RC	140-CC255B682K-RC	140-CC255B822K-RC	140-CC505B102K-RC	140-CC505B221K-RC	140-CC505B271K-RC
140-CC505B331K-RC	140-CC505B391K-RC	140-CC505B471K-RC	140-CC505B561K-RC	140-CC505B681K-RC	140-CC505B821K-RC
140-CC505N1.0C-RC	140-CC505N1.5C-RC	140-CC505N120J-RC	140-CC505N121J-RC	140-CC505N150J-RC	140-CC505N151J-RC
140-CC505N180J-RC	140-CC505N181J-RC	140-CC505N2.0C-RC	140-CC505N2.2C-RC	140-CC505N220J-RC	140-CC505N221J-RC
140-CC505N270J-RC	140-CC505N3.0C-RC	140-CC505N3.3C-RC	140-CC505N3.9C-RC	140-CC505N330J-RC	140-CC505N390J-RC
140-CC505N4.7C-RC	140-CC505N470J-RC	140-CC505N5.0D-RC	140-CC505N560J-RC	140-CC505N6.0D-RC	140-CC505N6.8D-RC
140-CC505N680J-RC	140-CC505N7.0D-RC	140-CC505N8.0D-RC	140-CC505N820J-RC	140-CC505N9.0D-RC	140-CC501B393K-RC
140-CC501B333K-RC	140-CC502B224K-RC	140-CC501B392K	140-CC501B391K	140-CC502V224M	140-CC501B271K-RC
140-CC501B102K-RC	140-CC501B103K-RC	140-CC501B104K-RC	140-CC501B122K-RC	140-CC501B123K-RC	140-CC501B152K-RC
140-CC501B182K-RC	140-CC501B183K-RC	140-CC501B221K-RC	140-CC501B222K-RC	140-CC501B223K-RC	140-CC501B272K-RC
140-CC501B273K-RC	140-CC501B331K-RC	140-CC501B332K-RC	140-CC501B391K-RC	140-CC501B392K-RC	140-CC501B471K-RC
140-CC501B472K-RC	140-CC501B473K-RC	140-CC501B561K-RC	140-CC501B562K-RC	140-CC501B681K-RC	140-CC501B682K-RC
140-CC501B821K-RC	140-CC501B822K-RC	140-CC502B153K-RC	140-CC502B182K-RC	140-CC502B183K-RC	140-CC502B222K-RC
140-CC502B223K-RC	140-CC502B272K-RC	140-CC502B273K-RC	140-CC502B332K-RC	140-CC502B333K-RC	140-CC502B391K-RC
140-CC502B392K-RC	140-CC502B393K-RC	140-CC502B471K-RC			