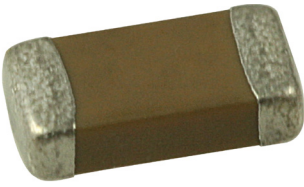


General Purpose Ceramic Capacitors (C Series)



Features:

- RoHS Compliant and Halogen Free
- Capacitance range: 0.1pF to 220uF
- Voltage range: 4V to 100V
- Terminations: 100% matte Tin (Sn), Palladium (Pd-Ag), Gold (Au) and Lead (Pb)
- Very low ESR in X7R/X5R (<10mΩ typical)

Part Number Structure

C Series	0805 Size	COG Temperature Characteristic (Dielectric)	500 Rated Voltage	101 Capacitance (picofarads)	J Tolerance	N Termination	P Packaging	Optional Thickness Identifier
01005	0201	COG	1st two digits are significant followed by number of zeroes.	1st two digits are significant, followed by number of zeroes. e.g. : 101 = 100pF	* B = ± 0.1pF * C = ± 0.25pF * D = ± 0.5pF F = ± 1% G = ± 2% J = ± 5% K = ± 10% M = ± 20% N = ± 30% Z = +80 - 20% * For values below 10pF only.	N = 100% matte Tin (Sn) over Nickel * P = Palladium Silver * G = Gold over Nickel Pb = 90% Tin (Sn)/10% Lead (Pb) * Pd/Ag & Gold terminations have limited values & sizes available.	D = Paper Tape (10" Reel) E = Embossed Tape (7" Reel) P = Paper Tape (7" Reel) R = Paper Tape (13" Reel) U = Embossed Tape (13" Reel)	Leave blank for standard thickness. Designate "-" for Min. "*" for Max. followed by Thickness Code e.g. -E (min. thickness of .026") *E (max. thickness of .026")
0402	0603	X7R	4R0 = 4.0 VDCW	6R3 = 6.3 VDCW				
0805	1206	X6S	6R3 = 6.3 VDCW	100 = 10 VDCW				
1206	1210	X5R	160 = 16 VDCW	101 = 100pF				
1812	2220	Y5V	250 = 25 VDCW	R denotes decimal				
2221		Z5U	500 = 50 VDCW	6R8 = 6.8pF				
			630 = 63 VDCW					
			101 = 100 VDCW					

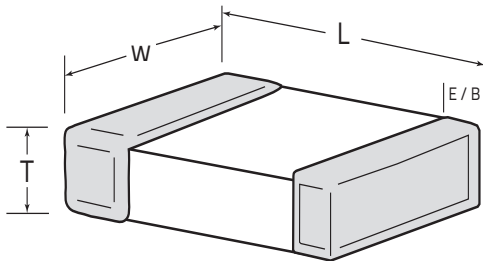
Example P/N: C0805COG500-101JNP

Optional Thickness Identifier Codes:

CODE:	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	6
DIMENSION:	.015	.020	.026	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100	.105	.110	.023

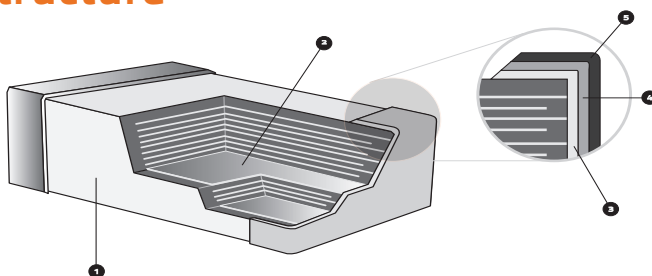
Dimensions

Unit: inches (mm)



Size	L	W	T	E/B
01005	0.016 ± 0.0008 (0.4 ± 0.02)	0.008 ± 0.0008 (0.2 ± 0.02)	See Specific Value	0.002 (min.) (0.05)
0201	0.024 ± 0.002 (0.6 ± 0.05)	0.012 ± 0.002 (0.3 ± 0.05)	See Specific Value	0.002 (min.) (0.20)
0402	0.040 ± 0.002 (1.0 ± 0.05)	0.020 ± 0.002 (0.5 ± 0.05)	See Specific Value	0.004 (min.) (0.10)
0603	0.063 ± 0.006 (1.6 ± 0.15)	0.031 ± 0.0046 (0.8 ± 0.15)	See Specific Value	0.008 (min.) (0.20)
0805	0.08 ± 0.008 (2.0 ± 0.20)	0.050 ± 0.008 (1.25 ± 0.20)	See Specific Value	0.020 ± 0.010 (0.508 ± 0.254)
1206	0.126 ± 0.008 (3.2 ± 0.20)	0.063 ± 0.008 (1.6 ± 0.20)	See Specific Value	0.020 ± 0.010 (0.508 ± 0.254)
1210	0.126 ± 0.008 (3.2 ± 0.20)	0.098 ± 0.008 (2.50 ± 0.20)	See Specific Value	0.020 ± 0.010 (0.508 ± 0.254)
1812	0.177 ± 0.012 (4.495 ± 0.30)	0.126 ± 0.012 (3.20 ± 0.30)	See Specific Value	0.024 ± 0.015 (0.6096 ± 0.381)
2220	0.225 ± 0.016 (5.715 ± 0.41)	0.200 ± 0.006 (5.08 ± 0.41)	See Specific Value	0.025 ± 0.015 (0.635 ± 0.381)

Structure

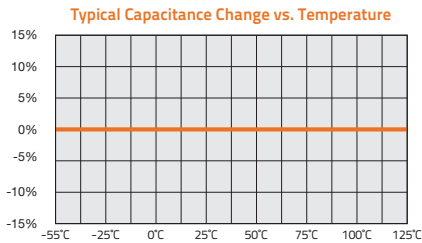


1	Ceramic Body (dielectric)	4	Nickel Plating
2	Inner Electrode	5	Tin Plating
3	Inner Termination		

General Purpose Ceramic Capacitors (C Series)

Electrical Specifications

NPO/COG



Operating Temperature Range:
-55°C to +125°C

Temperature Coefficient:
0 ±30PPM/°C

Temperature Voltage Coefficient:
0 ±30PPM/°C

Insulation Resistance:
>1000 Ω-F or 10 GΩ, for values ≤ 0.047μF (whichever is less at 25°C, VDCV).
For Capacitance values > 0.047μF, the 500 Ω-F rule applies. (The IR at 125°C is 10% of the value at 25°C)

Ageing:

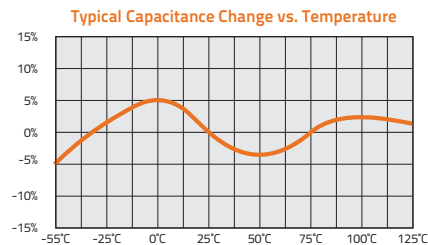
None

Withstanding Voltage:
>2.5 times VDCV

Capacitance Tolerance:
B,C,D,F,G,J,K

Dissipation Factor:
0.1% max

X7R



Operating Temperature Range:
-55°C to +125°C

Temperature Coefficient:
0 ±15%Δ°C MAX.

Temperature Voltage Coefficient:
X7R not applicable

Insulation Resistance:
>100 Ω-F or 10 GΩ, whichever is less at 25°C, VDCV. (The IR at 125°C is 10% of the value at 25°C)

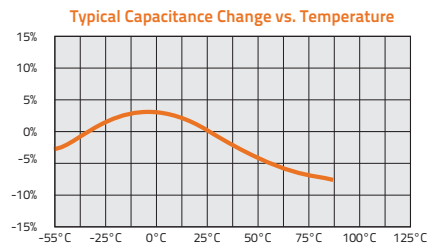
Ageing:
2.5% per decade hour, typical

Withstanding Voltage:
>2.5 times VDCV

Capacitance Tolerance:
J,K,M

Rated Voltage	D.F.	Exception of D.F.	
≥50V	≤2.5%	≤3%	0201 (50V); 0603≥0.047μF 0805≥0.22μF; 1206≥0.47μF
		≤5%	0603≥1μF; 0805≥1μF; 1206≥4.7μF; 1210≥4.7μF
25V	≤2.5%	≤5%	0201≥0.01μF; 0805≥1μF; 1210≥4.7μF
		≤10%	0402≥0.10μF; 0603≥0.33μF; 0805≥2.2μF 1206≥4.7μF; 1210≥22μF
16V	≤3.5%	≤5%	0201≥0.01μF; 0402≥0.033μF; 0805≥0.68μF; 1206≥2.2μF; 1210≥4.7μF
		≤10%	0402≥0.47μF; 0603≥0.68μF; 0805≥2.2μF; 1206≥4.7μF; 1210≥22μF
10V	≤5%	≤10%	0402≥0.33μF; 0603≥0.33μF; 0805≥2.2μF; 1206≥2.2μF; 1210≥22μF
6.3V	≤10%		

X5R



Operating Temperature Range:
-55°C to +85°C

Temperature Coefficient:
0 ±15%Δ°C MAX.

Temperature Voltage Coefficient:
X5R not applicable

Insulation Resistance:
>100 Ω-F or 10 GΩ, whichever is less at 25°C, VDCV. (The IR at 125°C is 10% of the value at 25°C)

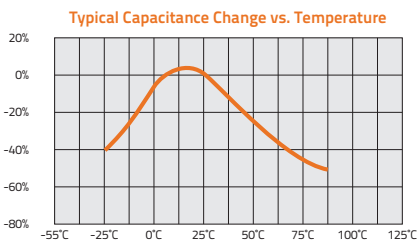
Ageing:
2.5% per decade hour, typical

Withstanding Voltage:
>2.5 times VDCV

Capacitance Tolerance:
K,M

Rated Voltage	D.F.	Exception of D.F.	
≥50V	≤2.5%	≤3%	0201 (50V); 0603≥0.047μF 0805≥0.22μF; 1206≥0.47μF
		≤5%	0603≥1μF; 0805≥1μF; 1206≥4.7μF; 1210≥4.7μF
25V	≤2.5%	≤5%	0201≥0.01μF; 0805≥1μF; 1210≥4.7μF
		≤10%	0402≥0.10μF; 0603≥0.33μF; 0805≥2.2μF 1206≥4.7μF; 1210≥22μF
16V	≤3.5%	≤5%	0201≥0.01μF; 0402≥0.033μF; 0805≥0.68μF; 1206≥2.2μF; 1210≥4.7μF
		≤10%	0402≥0.47μF; 0603≥0.68μF; 0805≥2.2μF; 1206≥4.7μF; 1210≥22μF
10V	≤5%	≤10%	0402≥0.33μF; 0603≥0.33μF; 0805≥2.2μF; 1206≥2.2μF; 1210≥22μF
6.3V	≤10%		

Z5U



Operating Temperature Range:
+10°C to +85°C

Temperature Coefficient:
+22% - 56%Δ°C MAX.

Insulation Resistance:
>100 Ω-F or 10 GΩ, whichever is less at 25°C, VDCV. (The IR at 125°C is 10% of the value at 25°C)

Ageing:
5% per decade hour, typical

Withstanding Voltage:
>2.5 times VDCV

Capacitance Tolerance:
M,Z

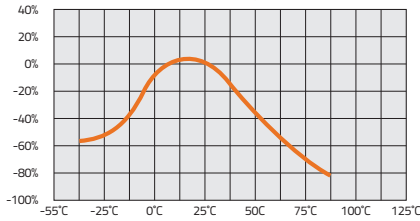
Rated Voltage	D.F.	Exception of D.F.	
≥50V	≤5%	≤9%	0603≥0.1μF; 0805≥0.47μF; 1206≥4.7μF;
25V	≤5%	≤9%	0402≥0.047μF; 0603≥0.1μF; 0805≥0.33μF; 1206≥1μF; 1210≥4.7μF
16V	≤9%	≤12.5%	0603≥2.2μF; 0805≥3.3μF; 1206≥10μF; 1210≥22μF; 1812≥47μF
10V	≤12.5%	≤16%	0603≥2.2μF; 0805≥3.3μF; 1206≥4.7μF; 1210≥10μF; 1812≥47μF
6.3V	≤16%		

General Purpose Ceramic Capacitors (C Series)

Electrical Specifications

Y5V

Typical Capacitance Change vs. Temperature



Operating Temperature Range:

-30°C to +85°C

Temperature Coefficient:

+22% - 82%Δ°C MAX.

Insulation Resistance:

>100 Ω-F or 10 GΩ, whichever is less at 25°C, WDCV. (The IR at 125°C is 10% of the value at 25°C)

Ageing:

7% per decade hour, typical

Withstanding Voltage:

>2.5 times VDCW

Capacitance Tolerance:

M,Z

Rated Voltage	D.F.	Exception of D.F.	
≥50V	≤5%	≤9%	0603±0.1uF; 0805±0.47uF; 1206±4.7uF;
25V	≤5%	≤9%	0402±0.047uF; 0603±0.1uF; 0805±0.33uF; 1206±1uF; 1210±4.7uF
16V	≤9%	≤12.5%	0603±2.2uF; 0805±3.3uF; 1206±10uF; 1210±22uF; 1812±47uF
10V	≤12.5%	≤16%	0603±2.2uF; 0805±3.3uF; 1206±4.7uF; 1210±10uF; 1812±47uF
6.3V	≤16%		

Test Parameters

Test parameters for Multilayer Ceramic Capacitors - X7R, X5R, X6S, X7S, Z5U and Y5V: 1KHz ± 100Hz at 1.0 ± 0.2 Vrms < 10uF (10 V min.)

1KHz ± 100Hz at 1.0 ± 0.1 Vrms < 10uF (6.3V max.)

120Hz ± 24Hz at 1.0 ± 0.1 Vrms ≥ 10uF

Test parameters for Multilayer Ceramic Capacitors - NPO/COG:

1MHz ± 100KHz at 1.0 ± 0.2 Vrms ≤ 1000pF, 25°C

1KHz ± 100Hz at 1.0 ± 0.2 Vrms > 1000pF, 25°C

Note: To ensure proper capacitance readings, the voltage level must be held constant. The HP4284 and Agilent E4980 has a "ALC" (Automatic Level Control) function and should be switched to the "ON" position for accurate capacitance readings.

Voltage and Capacitance Range

COG (NPO) Dielectric

Values that are typically available.

(All measurements in inches)

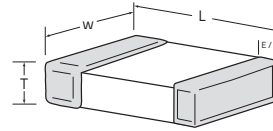
Size		01005 (± 0.0008)		0201 (± 0.002)		0402 (± 0.004)			0504 (± 0.008)		0603 (± 0.006)		0805 (± 0.008)			1206 (± 0.008)		1210 (± 0.008)		1812 (± 0.012)	
T (max)		0.008		0.012		0.025			0.040		0.033		0.055			0.070		0.075		0.085	
Min E/B		0.002		0.002		0.004			0.005		0.008		0.020 ± .010			0.020 ± .010		0.020 ± .010		0.024 ± .015	
VDCW (MAX)		6.3V	16V	25V	50V	25V	50V	25V	50V	100V	50V	100V	50V	100V	25V	50V	100V	50V	100V	50V	100V
CAPACITANCE CODE CAPACITANCE VALUE	OR1	0.1pF																			
	OR2	0.2pF																			
	OR3	0.3pF																			
	OR4	0.4pF																			
	OR5	0.5pF																			
	1R0	1.0pF																			
	1R2	1.2																			
	1R5	1.5																			
	1R8	1.8																			
	2R2	2.2																			
	2R7	2.7																			
	3R3	3.3																			
	3R9	3.9																			
	4R7	4.7																			
	5R0	5.0																			
	5R6	5.6																			
	6R8	6.8																			
	8R2	8.2																			
	100	10pF																			
	120	12																			
	150	15																			
	180	18																			
	220	22																			

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.

General Purpose Ceramic Capacitors (C Series)

Voltage and Capacitance Range

X7R Dielectric



Values that are typically available.

(All measurements in inches)

Size		01005 (± 0.0008)		0201 (± 0.002)				0402 (± 0.004)				0504 (± 0.008)			0603 (± 0.006)					0805 (± 0.008)		
L		0.016		0.024				0.040				0.053			0.063					0.080		
W		0.008		0.012				0.020				0.040			0.032					0.050		
T (max)		0.008		0.012				0.025				0.040			0.038					0.058		
Min E/B		0.002		0.002				0.004				0.005			0.008					0.020 ± .010		
VDCW (MAX)		6.3V	10V	6.3V	10V	16V	25V	16V	25V	50V	100V	25V	50V	100V	10V	16V	25V	50V	100V	25V	50V	100V
CAPACITANCE CODE ->-&																						

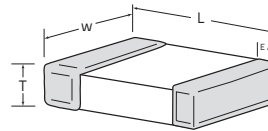
Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.

All components manufactured with the X7R dielectric are also available as an X5R dielectric.

General Purpose Ceramic Capacitors (C Series)

Voltage and Capacitance Range

X7R Dielectric



Values that are typically available.

(All measurements in inches)

Size			0201 (± 0.002)			0402 (± 0.004)				0603 (± 0.006)						0805 (± 0.008)						
L			0.024			0.040				0.063						0.080						
W			0.012			0.020				0.032						0.050						
T (max) [✱]			0.012			0.025				0.038						0.058						
Min E/B			0.002			0.004				0.008						0.020 ± .010						
VDCW (MAX)			4V	6.3V	10V	6.3V	10V	16V	25V	50V	6.3V	10V	16V	25V	50V	100V	6.3V	10V	16V	25V	50V	100V
CAPACITANCE CODE -----CAPACITANCE VALUE----- CAPACITANCE VALUE	393	.039																				
	473	.047																				
	563	.056																				
	683	.068																				
	823	.082																				
	104	.100uF																				
	124	.120																				
	154	.150																				
	184	.180																				
	224	.220																				
	274	.270																				
	334	.330																				
	394	.390																				
	474	.470																				
	564	.560																				
	684	.680																				
	824	.820																				
	105	1.00uF																				
	125	1.20																				
	155	1.50																				
	185	1.80																				
	225	2.20																				
	335	3.30																				
	475	4.70																				
685	6.80																					
106	10.0uF																					
156	15.0uF																					
226	22.0uF																					
476	47.0uF																					
107	100.0uF																					

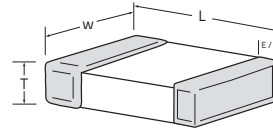
* For values above 1uF, thickness may be greater than specified above.
T(max): 0603 – 0.040"
0805 – 0.060"

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.
All components manufactured with the X7R dielectric are also available as an X5R dielectric.

General Purpose Ceramic Capacitors (C Series)

Voltage and Capacitance Range

X7R Dielectric



Values that are typically available.

(All measurements in inches)

Size		1206 (± 0.008)					1210 (±0.008)					1812 (±0.012)						2220 / 2221 °(±0.016)			
L		0.126					0.126					0.177						0.225 / .225			
W		0.063					0.098					0.126						0.200 / .210			
T (max)*		0.070					0.125					0.085						0.108 / .108			
Min E/B		0.020 ± .010					0.020 ± .010					.024 ± .015						00.025 ± .015			
VDCW (MAX)		10V	16V	25V	50V	100V	10V	16V	25V	50V	100V	6.3V	10V	16V	25V	50V	100V	16V	25V	50V	100V
CAPACITANCE CODE ->-&																					

* For values above 1uF, thickness may be greater than specified above.

T(max): 1206 – 0.075" 1812 – 0.130"
1210 – 0.125" 2220 – 0.135"

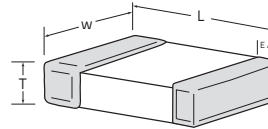
Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.

All components manufactured with the X7R dielectric are also available as an X5R dielectric.

General Purpose Ceramic Capacitors (C Series)

Voltage and Capacitance Range

X7R Dielectric



Values that are typically available.

(All measurements in inches)

Size	1206 (± 0.008)						1210 (±0.008)						1812 (±0.012)						2220 / 2221 (±0.016)			
L	0.126						0.126						0.177						0.225 / .225			
W	0.063						0.098						0.126						0.200 / .210			
T (max)*	0.070						0.125						0.095						0.108 / .108			
Min E/B	0.020 ± .010						0.020 ± .010						0.024 ± .015						0.025 ± .015			
VDCW (MAX)	6.3V	10V	16V	25V	50V	100V	6.3V	10V	16V	25V	50V	100V	6.3V	10V	16V	25V	50V	100V	16V	25V	50V	100V
394	.390																					
474	.470																					
564	.560																					
684	.680																					
824	.820																					
105	1.00uF																					
125	1.20																					
155	1.50																					
185	1.80																					
225	2.20																					
335	3.30																					
475	4.70																					
685	6.80																					
106	10.0uF																					
156	15.0uF																		X7S	X7S	X7S	
226	22.0uF																					
476	47.0uF																					
107	100.0uF																					

* For values above 1uF, thickness may be greater than specified above.

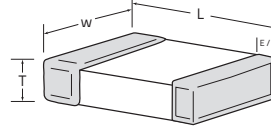
T(max): 1206 – 0.075" 1812 – 0.130"
1210 – 0.125" 2220 – 0.135"

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.
All components manufactured with the X7R dielectric are also available as an X5R dielectric.

General Purpose Ceramic Capacitors (C Series)

Voltage and Capacitance Range

X5R Dielectric



Values that are typically available.

(All measurements in inches)

Size	01005 (± 0.0008)	0201 (± 0.002)	0402 (± 0.004)	0603 (± 0.006)	0805 (± 0.008)	1206 (± 0.008)	1210 (± 0.016)	1812 (± 0.016)
L	0.016	0.024	0.040	0.063	0.080	0.126	0.126	0.177
W	0.008	0.012	0.020	0.032	0.050	0.063	0.098	0.126
T (max)	0.008	0.012	0.025	0.040	0.060	0.072	0.125	0.130
Min. E/B	0.002	0.002	0.004	0.008	0.020 ± .010	0.020 ± .010	0.020 ± .010	0.024 ± .015
VDCW (MAX)	6.3V 10V	4V 6.3V 10V 16V 25V	4V 6.3V 10V 16V 25V 50V	6.3V 10V 16V 25V 35V 50V	6.3V 10V 16V 25V 50V	6.3V 10V 16V 25V 50V	6.3V 10V 16V 25V 16V 25V	16V 25V 16V 25V
102	1000pF							
122	1200							
152	1500							
182	1800							
222	2200							
272	2700							
332	3300							
392	3900							
472	4700							
562	5600							
682	6800							
822	8200							
103	.01uF							
153	.015							
223	.022							
333	.033							
393	.039							
473	.047							
104	0.10uF							
154	.150							
224	.220							
334	.330							
474	.470							
684	.680							
105	1.00uF							
125	1.20							
155	1.50							
185	1.80							
225	2.20							
335	3.30							

For values above 1uF, thickness may be greater than specified above.

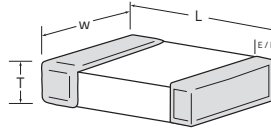
T(max): 1206 – 0.075" 1812 – 0.130"
1210 – 0.125" 2220 – 0.135"

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.
All components manufactured with the X7R dielectric are also available as an X5R dielectric.

General Purpose Ceramic Capacitors (C Series)

Voltage and Capacitance Range

X5R Dielectric (0402 - 1206)



Values that are typically available.

(All measurements in inches)

Size			0201 (± 0.002)			0402 (± 0.008)			0603 (± 0.006)					0805 (± 0.008)					1206 (± 0.008)						
L			0.024			0.040			0.063					0.080					0.126						
W			0.012			0.020			0.032					0.050					0.063						
T (max)			0.0216			0.0335			0.040					0.060					0.072						
Min E/B			0.002			0.004			0.008					0.020 ± .010					0.020 ± .010						
VDCW (MAX)			4V	6.3V	10V	4V	6.3V	10V	16V	4V	6.3V	10V	16V	25V	4V	6.3V	10V	16V	25V	50V	6.3V	10V	16V	25V	50V
CAPACITANCE CODE 395 475 685 106 156 226 476 107 157 227	CAPACITANCE VALUE		3.90uF																						
	4.70uF																								
	6.80uF																								
	10.0uF																								
	15.0uF																								
	22.0uF																								
	47.0uF																								
	100.0uF																								
	150.0uF																								
	220.0uF																								

X5R Dielectric (1210 - 2221)

(All measurements in inches)

Size		1210 (±0.016)					1812 (±0.016)					2220 / 2221 (±0.016)				
L		0.126					0.177					0.225 / .225				
W		0.098					0.126					0.200 / .210				
T (max)		0.125					0.130					0.135				
Min E/B		0.020 ± .010					0.024 ± .015					0.025 ± .015				
VDCW (MAX)		6.3V	10V	16V	25V	50V	6.3V	10V	16V	25V	6.3V	10V	25V	50V		
CAPACITANCE CODE →<																

For values above 1uF, thickness may be greater than specified above.

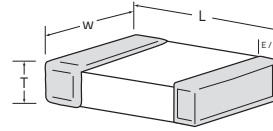
T(max): 1206 – 0.075" 1812 – 0.130"
1210 – 0.125" 2220 – 0.135"

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.
All components manufactured with the X7R dielectric are also available as an X5R dielectric.

General Purpose Ceramic Capacitors (C Series)

Voltage and Capacitance Range

Z5U Dielectric



Values that are typically available.

(All measurements in inches)

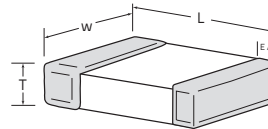
Size	0504 (± 0.008)		0603 (± 0.006)		0805 (± 0.008)		1206 (± 0.008)		1210 (± 0.016)		1812 (± 0.016)		2220 / 2221 (± 0.016)	
L	0.050		0.063		0.080		0.126		0.126		0.177		0.225 / .225	
W	0.040		0.032		0.050		0.063		0.098		0.126		0.200 / .210	
T (max)	0.040		0.038		0.058		0.070		0.075		0.085		0.108 / .108	
Min E/B	0.005		0.008		0.020 ± .010		0.020 ± .010		0.020 ± .010		0.024 ± .015		0.025 ± .015	
VDCW (MAX)	25V 50V		25V 50V		25V 50V		25V 50V		25V 50V		25V 50V		25V 50V	
102	1000pF													
122	1200													
152	1500													
182	1800													
222	2200													
272	2700													
332	3300													
392	3900													
472	4700													
562	5600													
682	6800													
822	8200													
103	.01uF													
123	.012													
153	.015													
183	.018													
223	.022													
273	.027													
333	.033													
393	.039													
473	.047													
563	.056													
683	.068													
823	.082													
104	.100uF													
124	.120													
154	.150													
184	.180													
224	.220													
274	.270													
334	.330													

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.

General Purpose Ceramic Capacitors (C Series)

Voltage and Capacitance Range

Z5U Dielectric



Values that are typically available.

(All measurements in inches)

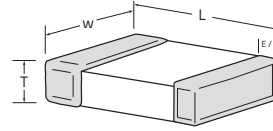
Size			0504 (± 0.008)		0603 (± 0.006)		0805 (± 0.008)		1206 (± 0.008)		1210 (±0.016)		1812 (±0.016)		2220 / 2221 (±0.016)			
L			0.050		0.063		0.080		0.126		0.126		0.177		0.225 / .225			
W			0.040		0.032		0.050		0.063		0.098		0.126		0.200 / .210			
T (max)			0.040		0.038		0.058		0.070		0.075		0.085		0.108 / .108			
Min E/B			0.005		0.008		0.020 ± .010		0.020 ± .010		0.020 ± .010		0.024 ± .015		0.025 ± .015			
VDCW (MAX)			25V		50V		25V		50V		25V		50V		25V		50V	
←CAPACITANCE CODE→	394	↑CAPACITANCE VALUE↓	.390															
	474		.470															
	564		.560															
	684		.680															
	824		.820															
	105		1.00uF															
	125		1.20															
	155		1.50															
	185		1.80															
	225		2.20															
	335		3.30															
	395		3.90															
	475		4.70															
	685		6.80															
	106		10.0uF															
	156		15.0uF															
	226		22.0uF															
	476		47.0uF															
	107		100.0uF															

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available. For values above 1uF, thickness may be greater than specified above.

General Purpose Ceramic Capacitors (C Series)

Voltage and Capacitance Range

Y5V Dielectric



Values that are typically available.

(All measurements in inches)

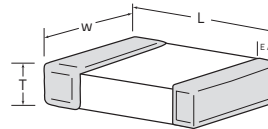
Size		0201 (± 0.002)		0402 (± 0.004)				0603 (± 0.006)				0805 (± 0.008)				1206 (± 0.008)				1210 (±0.016)				1812 (±0.016)				
L		0.024		0.040				0.063				0.080				0.126				0.126				0.177				
W		0.012		0.020				0.032				0.050				0.063				0.098				0.126				
T (max)		0.012		0.025				0.038				0.058				0.070				0.096				0.085				
Min E/B		0.002		0.004				0.008				0.020 ± .010				0.020 ± .010				0.020 ± .010				0.024 ± .015				
VDCW (MAX)		10V	6.3V	10V	16V	25V	50V	6.3V	10V	16V	25V	50V	6.3V	10V	16V	25V	50V	10V	16V	25V	50V	6.3V	10V	16V	25V	6.3V	10V	25V
CAPACITANCE CODE	102	1000pF																										
	122	1200																										
	152	1500																										
	182	1800																										
	222	2200																										
	272	2700																										
	332	3300																										
	392	3900																										
	472	4700																										
	562	5600																										
	682	6800																										
	822	8200																										
	103	.01uF																										
	123	.012																										
	153	.015																										
	183	.018																										
	223	.022																										
	273	.027																										
	333	.033																										
	393	.039																										
473	.047																											
563	.056																											
683	.068																											
823	.082																											
104	.100uF																											
124	.120																											
154	.150																											
184	.180																											
224	.220																											
274	.270																											
334	.330																											

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.
For values above 1uF, thickness may be greater than specified above.

General Purpose Ceramic Capacitors (C Series)

Voltage and Capacitance Range

Y5V Dielectric



Values that are typically available.

(All measurements in inches)

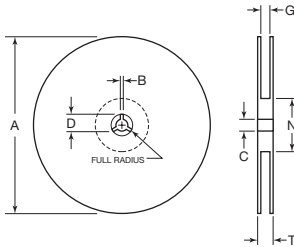
Size		0201 (± 0.002)		0402 (± 0.004)		0603 (± 0.006)				0805 (± 0.008)				1206 (± 0.008)				1210 (±0.016)					1812 (±0.016)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
L		0.024		0.040		0.063				0.080				0.126				0.126					0.177																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
W		0.012		0.020		0.032				0.050				0.063				0.098					0.126																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
T (max)		0.012		0.025		0.038				0.058				0.070				0.10					0.085																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Min E/B		0.002		0.004		0.008				0.020 ± .010				0.020 ± .010				0.020 ± .010					0.024 ± .015																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
VDCW (MAX)		10V	6.3V	10V	16V	6.3V	10V	16V	25V	50V	6.3V	10V	16V	25V	50V	10V	16V	25V	50V	6.3V	10V	16V	25V	50V	6.3V	10V	25V																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
CAPACITANCE CODE → → → → → → → → → → → → → → → →	394	CAPACITANCE VALUE → → → → → → → → → → → → → → → →	.390																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.
For values above 1uF, thickness may be greater than specified above.

General Purpose Ceramic Capacitors (C Series)

Tape and Reel Specifications

All tape and reel specifications must be adhered to per EIA-481-1-A.

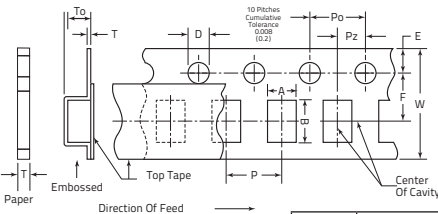


Reel Dimensions

Unit: mm (inch)

Tape	B min	C	A (7")	A (13")	D min	N min	G	T max
4mm	2.0 (0.079)	13 ± 0.05 (0.512 ± 0.02)	178 ± 2.0 (7 ± 0.079)	-	21 ± 0.8 (0.82 ± 0.03)	50 (1.97)	5.0 ± 1.5 (0.196 ± 0.05)	8.0 max (0.315 max)
8mm	2.0 (0.07)	13 ± 0.05 (0.512 ± 0.02)	178 ± 2.0 (7 ± 0.079)	330 ± 2.0 (13 ± 0.08)	20.2 (0.795)	50 (1.97)	10 ± 1.5 (0.394 ± 0.059)	14.9 (0.587)
12mm	2.0 (0.07)	13 ± 0.05 (0.512 ± 0.02)	178 ± 2.0 (7 ± 0.079)	330 ± 2.0 (13 ± 0.08)	20.2 (0.795)	50 (1.97)	10 ± 1.5 (0.394 ± 0.059)	14.9 (0.587)

Taping Specifications



7 in. Reel Quantities **

Size	01005 (E)	01005 (P)	0201	0402	0603	0805	1206	1210	1812	2221
Tape Size	4mm	8mm	8mm	8mm	8mm	8mm	8mm	8mm	12mm	12mm
Min Qty Per Reel	40,000*	20,000*	15,000	5,000	3,000	2,000	2,000	1,000	1,000	1,000
Max Qty Per Reel	40,000*	20,000*	15,000	10,000	4,000	5,000	5,000	5,000	3,000	1,000

Note: ** Quantity dependent on thickness

*Smaller quantities may be available. Please contact us.

Paper Tape Carrier Dimensions (8mm)

Size (inches)	A	B	W	F	E	Po	Pz	D	t	P
01005	$\frac{0.25 \pm 0.05}{(0.010 \pm .002)}$	$\frac{0.45 \pm 0.05}{(0.018 \pm .002)}$	$\frac{8.0 \pm 0.2}{(.315 \pm .008)}$	$\frac{3.5 \pm 0.1}{(.138 \pm .004)}$	$\frac{1.75 \pm 0.1}{(.069 \pm .004)}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$	$\frac{2.0 \pm 0.05}{- 0.0}$ $\frac{- 0.0}{(.039 \pm .002)}$ $- .000$	$\frac{1.5 \pm 0.1}{(.064 \pm .004)}$	$\frac{1.15 \text{ MAX}}{(.045 \text{ MAX})}$	$\frac{2.0 \pm 0.05}{(.079 \pm .002)}$
0201	$\frac{0.37 \pm 0.05}{(0.014 \pm .002)}$	$\frac{0.67 \pm 0.05}{(0.026 \pm .002)}$	$\frac{8.0 \pm 0.2}{(.315 \pm .008)}$	$\frac{3.5 \pm 0.1}{(.138 \pm .004)}$	$\frac{1.75 \pm 0.1}{(.069 \pm .004)}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$	$\frac{2.0 \pm 0.05}{- 0.0}$ $\frac{- 0.0}{(.039 \pm .002)}$ $- .000$	$\frac{1.5 \pm 0.1}{(.064 \pm .004)}$	$\frac{1.15 \text{ MAX}}{(.045 \text{ MAX})}$	$\frac{2.0 \pm 0.05}{(.079 \pm .002)}$
0402	$\frac{0.65 \pm 0.1}{(.026 \pm .004)}$	$\frac{1.10 \pm 0.2}{(.043 \pm .008)}$	$\frac{8.0 \pm 0.2}{(.315 \pm .008)}$	$\frac{3.5 \pm 0.1}{(.138 \pm .004)}$	$\frac{1.75 \pm 0.1}{(.069 \pm .004)}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$	$\frac{2.0 \pm 0.05}{- 0.0}$ $\frac{- 0.0}{(.039 \pm .002)}$ $- .000$	$\frac{1.5 \pm 0.1}{(.064 \pm .004)}$	$\frac{1.15 \text{ MAX}}{(.045 \text{ MAX})}$	$\frac{2.0 \pm 0.05}{(.079 \pm .002)}$
0603	$\frac{1.10 \pm 0.2}{(.043 \pm .008)}$	$\frac{1.90 \pm 0.2}{(.075 \pm .008)}$	$\frac{8.0 \pm 0.2}{(.315 \pm .008)}$	$\frac{3.5 \pm 0.1}{(.138 \pm .004)}$	$\frac{1.75 \pm 0.1}{(.069 \pm .004)}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$	$\frac{2.0 \pm 0.05}{- 0.0}$ $\frac{- 0.0}{(.039 \pm .002)}$ $- .000$	$\frac{1.5 \pm 0.1}{(.064 \pm .004)}$	$\frac{1.15 \text{ MAX}}{(.045 \text{ MAX})}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$
0805	$\frac{1.16 \pm 0.2}{(.046 \pm .008)}$	$\frac{2.4 \pm 0.2}{(.095 \pm .008)}$	$\frac{8.0 \pm 0.2}{(.315 \pm .008)}$	$\frac{3.5 \pm 0.1}{(.138 \pm .004)}$	$\frac{1.75 \pm 0.1}{(.069 \pm .004)}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$	$\frac{2.0 \pm 0.05}{- 0.0}$ $\frac{- 0.0}{(.039 \pm .002)}$ $- .000$	$\frac{1.5 \pm 0.1}{(.064 \pm .004)}$	$\frac{1.15 \text{ MAX}}{(.045 \text{ MAX})}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$
1206	$\frac{2.0 \pm 0.2}{(.079 \pm .008)}$	$\frac{3.6 \pm 0.2}{(.142 \pm .008)}$	$\frac{8.0 \pm 0.2}{(.315 \pm .008)}$	$\frac{3.5 \pm 0.1}{(.138 \pm .004)}$	$\frac{1.75 \pm 0.1}{(.069 \pm .004)}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$	$\frac{2.0 \pm 0.05}{- 0.0}$ $\frac{- 0.0}{(.039 \pm .002)}$ $- .000$	$\frac{1.5 \pm 0.1}{(.064 \pm .004)}$	$\frac{1.15 \text{ MAX}}{(.045 \text{ MAX})}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$

Unit: mm (inch)

Embossed Carrier Dimensions (4mm, 8mm & 12mm)

Size (inches)	A	B	W	F	E	Po	Pz	D	To	T	P
01005	$\frac{0.23}{(0.009)}$	$\frac{0.43}{(0.016)}$	$\frac{4.0 \pm 0.05}{(0.157 \pm 0.002)}$	$\frac{1.8 \pm 0.02}{(0.070 \pm 0.001)}$	$\frac{0.9 \pm 0.05}{(0.035 \pm 0.002)}$	$\frac{2.0 \pm 0.04}{(0.079 \pm 0.001)}$	$\frac{2.00}{(0.079)}$	$\frac{0.8 \pm 0.04}{(0.031 \pm 0.001)}$	$\frac{0.5 \text{ max}}{(0.019 \text{ max})}$	$\frac{0.15 - 0.4}{(0.005 - 0.015)}$	$\frac{1.00}{(0.039)}$
0805	$\frac{1.48 \pm 0.2}{(.058 \pm .008)}$	$\frac{2.3 \pm 0.2}{(.091 \pm .008)}$	$\frac{8.0 \pm 0.2}{(.315 \pm .008)}$	$\frac{3.5 \pm .0.1}{(.138 \pm .004)}$	$\frac{1.75 \pm 0.1}{(.069 \pm .004)}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$	$\frac{2.0 \pm 0.05}{(.079 \pm .002)}$	$\frac{1.5 \pm 0.1}{- 0.0}$ $\frac{- 0.0}{(.06 \pm .004)}$ $- .000$	$\frac{2.5 \text{ MAX}}{(.098 \text{ MAX})}$	$\frac{0.6 \text{ MAX}}{(.024 \text{ MAX})}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$
1206	$\frac{2.0 \pm 0.2}{(.079 \pm .008)}$	$\frac{3.6 \pm 0.2}{(.142 \pm .008)}$	$\frac{8.0 \pm 0.2}{(.315 \pm .008)}$	$\frac{3.5 \pm .0.1}{(.138 \pm .004)}$	$\frac{1.75 \pm 0.1}{(.069 \pm .004)}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$	$\frac{2.0 \pm 0.05}{(.079 \pm .002)}$	$\frac{1.5 \pm 0.1}{- 0.0}$ $\frac{- 0.0}{(.06 \pm .004)}$ $- .000$	$\frac{2.5 \text{ MAX}}{(.098 \text{ MAX})}$	$\frac{0.6 \text{ MAX}}{(.024 \text{ MAX})}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$
1210	$\frac{2.9 \pm 0.2}{(.114 \pm .008)}$	$\frac{3.6 \pm 0.2}{(.142 \pm .008)}$	$\frac{8.0 \pm 0.2}{(.315 \pm .008)}$	$\frac{3.5 \pm .0.1}{(.138 \pm .004)}$	$\frac{1.75 \pm 0.1}{(.069 \pm .004)}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$	$\frac{2.0 \pm 0.05}{(.079 \pm .002)}$	$\frac{1.5 \pm 0.1}{- 0.0}$ $\frac{- 0.0}{(.06 \pm .004)}$ $- .000$	$\frac{2.5 \text{ MAX}}{(.098 \text{ MAX})}$	$\frac{0.6 \text{ MAX}}{(.024 \text{ MAX})}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$
1812	$\frac{3.6 \pm 0.2}{(.142 \pm .008)}$	$\frac{4.9 \pm 0.2}{(.193 \pm .008)}$	$\frac{12.0 \pm 0.3}{(.472 \pm .012)}$	$\frac{5.6 \pm .0.1}{(.221 \pm .004)}$	$\frac{1.75 \pm 0.1}{(.069 \pm .004)}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$	$\frac{2.0 \pm 0.05}{(.079 \pm .002)}$	$\frac{1.5 \pm 0.1}{- 0.0}$ $\frac{- 0.0}{(.06 \pm .004)}$ $- .000$	$\frac{3.8 \text{ MAX}}{(.150 \text{ MAX})}$	$\frac{0.6 \text{ MAX}}{(.024 \text{ MAX})}$	$\frac{8.0 \pm 0.1}{(.315 \pm .004)}$

General Purpose Ceramic Capacitors (C Series)

Environmental Test Criteria

NO	ITEM		PERFORMANCE	TEST CONDITION																													
1	APPEARANCE		NO ABNORMAL EXTERIOR APPEARANCE	THROUGH MICROSCOPE (X10)																													
2	INSULATION RESISTANCE		10,000M OR 500M μ F PRODUCT WHICHEVER IS SMALLER (RATED VOLTAGE IS BELOW 16V: 10,000M OR 100M μ F)	RATED VOLTAGE SHALL BE APPLIED. MEASUREMENT TIME IS 60 - 120 RATED VOLTAGE TIME 60 SEC .																													
3	WITHSTANDING VOLTAGE		NO DIELECTRIC BREAKDOWN OR MECHANICAL BREAKDOWN	CLASS I : 300% OF THE RATED VOLTAGE FOR 1-5 SEC, CLASS II: 250% OF THE RATED VOLTAGE FOR 1-5 SEC IS APPLIED WITH LESS THAN 50 mA CURRENT																													
4	CAPACITANCE	CLASS I	WITHIN THE SPECIFIED TOLERANCE	CAPACITANCE	FREQUENCY	VOLTAGE																											
				1,000pF AND BELOW	1MHz $\pm$ 10%	0.5 ~ 5 Vrms																											
				MORE THAN 1,000 pF	1kHz $\pm$ 10%																												
		CLASS II	WITHIN THE SPECIFIED TOLERANCE	CAPACITANCE	FREQUENCY	VOLTAGE																											
				10 μ F AND BELOW	1kHz $\pm$ 10%	1.0 $\pm$ 0.2Vrms																											
			MORE THAN 10 μ F	120Hz $\pm$ 20%	0.5 $\pm$ 0.1Vrms																												
5	Q	CLASS I	OVER 30pF : Q 1,000 LESS THAN 30pF: Q 400 +20C (C: CAPACITANCE)	CAPACITANCE	FREQUENCY	VOLTAGE																											
				1,000pF AND BELOW	1MHz $\pm$ 10%	0.5 ~ 5 Vrms																											
				MORE THAN 1,000 pF	1kHz $\pm$ 10%																												
6	DISSIPATION FACTOR (Tan θ CLASS II)	CLASS II	X7R, X6S, X5R																														
			<table><tr><th>Rated Voltage</th><th>D.F.</th><th colspan="2">Exception of D.F.</th></tr><tr><td rowspan="2">$\geq$50V</td><td rowspan="2">$\leq$2.5%</td><td>$\leq$3%</td><td>0201 (50V); 0603$\geq$0.047μF 0805$\geq$0.22μF; 1206$\geq$0.47μF</td></tr><tr><td>$\leq$5%</td><td>0603$\geq$1μF; 0805$\geq$1μF; 1206$\geq$4.7μF; 1210$\geq$4.7μF</td></tr><tr><td rowspan="2">25V</td><td rowspan="2">$\leq$2.5%</td><td>$\leq$5%</td><td>0201$\geq$0.01μF; 0805$\geq$1μF; 1210$\geq$4.7μF</td></tr><tr><td>$\leq$10%</td><td>0402$\geq$0.10μF; 0603$\geq$0.33μF; 0805$\geq$2.2μF 1206$\geq$4.7μF; 1210$\geq$22μF</td></tr><tr><td rowspan="2">16V</td><td rowspan="2">$\leq$3.5%</td><td>$\leq$5%</td><td>0201$\geq$0.01μF; 0402$\geq$0.033μF; 0805$\geq$0.68μF; 1206$\geq$2.2μF; 1210$\geq$4.7μF</td></tr><tr><td>$\leq$10%</td><td>0402$\geq$0.47μF; 0603$\geq$0.68μF; 0805$\geq$2.2μF; 1206$\geq$4.7μF; 1210$\geq$22μF</td></tr><tr><td>10V</td><td>$\leq$5%</td><td>$\leq$10%</td><td>0402$\geq$0.33μF; 0603$\geq$0.33μF; 0805$\geq$2.2μF; 1206$\geq$2.2μF; 1210$\geq$22μF</td></tr><tr><td>6.3V</td><td>$\leq$10%</td><td></td><td></td></tr></table>	Rated Voltage	D.F.	Exception of D.F.		$\geq$ 50V	$\leq$ 2.5%	$\leq$ 3%	0201 (50V); 0603 $\geq$ 0.047 μ F 0805 $\geq$ 0.22 μ F; 1206 $\geq$ 0.47 μ F	$\leq$ 5%	0603 $\geq$ 1 μ F; 0805 $\geq$ 1 μ F; 1206 $\geq$ 4.7 μ F; 1210 $\geq$ 4.7 μ F	25V	$\leq$ 2.5%	$\leq$ 5%	0201 $\geq$ 0.01 μ F; 0805 $\geq$ 1 μ F; 1210 $\geq$ 4.7 μ F	$\leq$ 10%	0402 $\geq$ 0.10 μ F; 0603 $\geq$ 0.33 μ F; 0805 $\geq$ 2.2 μ F 1206 $\geq$ 4.7 μ F; 1210 $\geq$ 22 μ F	16V	$\leq$ 3.5%	$\leq$ 5%	0201 $\geq$ 0.01 μ F; 0402 $\geq$ 0.033 μ F; 0805 $\geq$ 0.68 μ F; 1206 $\geq$ 2.2 μ F; 1210 $\geq$ 4.7 μ F	$\leq$ 10%	0402 $\geq$ 0.47 μ F; 0603 $\geq$ 0.68 μ F; 0805 $\geq$ 2.2 μ F; 1206 $\geq$ 4.7 μ F; 1210 $\geq$ 22 μ F	10V	$\leq$ 5%	$\leq$ 10%	0402 $\geq$ 0.33 μ F; 0603 $\geq$ 0.33 μ F; 0805 $\geq$ 2.2 μ F; 1206 $\geq$ 2.2 μ F; 1210 $\geq$ 22 μ F	6.3V	$\leq$ 10%		
			Rated Voltage	D.F.	Exception of D.F.																												
			$\geq$ 50V	$\leq$ 2.5%	$\leq$ 3%	0201 (50V); 0603 $\geq$ 0.047 μ F 0805 $\geq$ 0.22 μ F; 1206 $\geq$ 0.47 μ F																											
					$\leq$ 5%	0603 $\geq$ 1 μ F; 0805 $\geq$ 1 μ F; 1206 $\geq$ 4.7 μ F; 1210 $\geq$ 4.7 μ F																											
			25V	$\leq$ 2.5%	$\leq$ 5%	0201 $\geq$ 0.01 μ F; 0805 $\geq$ 1 μ F; 1210 $\geq$ 4.7 μ F																											
					$\leq$ 10%	0402 $\geq$ 0.10 μ F; 0603 $\geq$ 0.33 μ F; 0805 $\geq$ 2.2 μ F 1206 $\geq$ 4.7 μ F; 1210 $\geq$ 22 μ F																											
			16V	$\leq$ 3.5%	$\leq$ 5%	0201 $\geq$ 0.01 μ F; 0402 $\geq$ 0.033 μ F; 0805 $\geq$ 0.68 μ F; 1206 $\geq$ 2.2 μ F; 1210 $\geq$ 4.7 μ F																											
					$\leq$ 10%	0402 $\geq$ 0.47 μ F; 0603 $\geq$ 0.68 μ F; 0805 $\geq$ 2.2 μ F; 1206 $\geq$ 4.7 μ F; 1210 $\geq$ 22 μ F																											
			10V	$\leq$ 5%	$\leq$ 10%	0402 $\geq$ 0.33 μ F; 0603 $\geq$ 0.33 μ F; 0805 $\geq$ 2.2 μ F; 1206 $\geq$ 2.2 μ F; 1210 $\geq$ 22 μ F																											
			6.3V	$\leq$ 10%																													
			Y5V, Z5U																														
			<table><tr><th>Rated Voltage</th><th>D.F.</th><th colspan="2">Exception of D.F.</th></tr><tr><td>$\geq$50V</td><td>$\leq$5%</td><td>$\leq$9%</td><td>0603$\geq$0.1μF; 0805$\geq$0.47μF; 1206$\geq$4.7μF;</td></tr><tr><td rowspan="2">25V</td><td rowspan="2">$\leq$5%</td><td>$\leq$9%</td><td>0402$\geq$0.047μF; 0603$\geq$0.1μF; 0805$\geq$0.33μF; 1206$\geq$1μF; 1210$\geq$4.7μF</td></tr><tr><td>$\leq$12.5%</td><td>0603$\geq$2.2μF; 0805$\geq$3.3μF; 1206$\geq$10μF; 1210$\geq$22μF; 1812$\geq$47μF</td></tr><tr><td>10V</td><td>$\leq$12.5%</td><td>$\leq$16%</td><td>0603$\geq$2.2μF; 0805$\geq$3.3μF; 1206$\geq$4.7μF; 1210$\geq$10μF; 1812$\geq$47μF</td></tr><tr><td>6.3V</td><td>$\leq$16%</td><td colspan="2"></td></tr></table>	Rated Voltage	D.F.	Exception of D.F.		$\geq$ 50V	$\leq$ 5%	$\leq$ 9%	0603 $\geq$ 0.1 μ F; 0805 $\geq$ 0.47 μ F; 1206 $\geq$ 4.7 μ F;	25V	$\leq$ 5%	$\leq$ 9%	0402 $\geq$ 0.047 μ F; 0603 $\geq$ 0.1 μ F; 0805 $\geq$ 0.33 μ F; 1206 $\geq$ 1 μ F; 1210 $\geq$ 4.7 μ F	$\leq$ 12.5%	0603 $\geq$ 2.2 μ F; 0805 $\geq$ 3.3 μ F; 1206 $\geq$ 10 μ F; 1210 $\geq$ 22 μ F; 1812 $\geq$ 47 μ F	10V	$\leq$ 12.5%	$\leq$ 16%	0603 $\geq$ 2.2 μ F; 0805 $\geq$ 3.3 μ F; 1206 $\geq$ 4.7 μ F; 1210 $\geq$ 10 μ F; 1812 $\geq$ 47 μ F	6.3V	$\leq$ 16%										
			Rated Voltage	D.F.	Exception of D.F.																												
			$\geq$ 50V	$\leq$ 5%	$\leq$ 9%	0603 $\geq$ 0.1 μ F; 0805 $\geq$ 0.47 μ F; 1206 $\geq$ 4.7 μ F;																											
			25V	$\leq$ 5%	$\leq$ 9%	0402 $\geq$ 0.047 μ F; 0603 $\geq$ 0.1 μ F; 0805 $\geq$ 0.33 μ F; 1206 $\geq$ 1 μ F; 1210 $\geq$ 4.7 μ F																											
					$\leq$ 12.5%	0603 $\geq$ 2.2 μ F; 0805 $\geq$ 3.3 μ F; 1206 $\geq$ 10 μ F; 1210 $\geq$ 22 μ F; 1812 $\geq$ 47 μ F																											
			10V	$\leq$ 12.5%	$\leq$ 16%	0603 $\geq$ 2.2 μ F; 0805 $\geq$ 3.3 μ F; 1206 $\geq$ 4.7 μ F; 1210 $\geq$ 10 μ F; 1812 $\geq$ 47 μ F																											
			6.3V	$\leq$ 16%																													

General Purpose Ceramic Capacitors (C Series)

Environmental Test Criteria

NO	ITEM		PERFORMANCE		TEST CONDITION																			
7	CAPACITANCE TEMPERATURE COEFFICIENT	CLASS I	CHARACTERISTIC	TEMP. COEFFICIENT (PPM/°C)	THESE SYMMETRICAL TOLERANCE APPLY TO 2 POINT MEASUREMENT OF TEMPERATURE COEFFICIENT: ONE AT -25°C AND AT 85°C																			
			COG/NPO	0 ± 60 (±30)	STEP	TEMPERATURE (°C)																		
				-150 ± 60	1	25 ± 2																		
				-220 ± 60	2	MIN RATED TEMP ± 2																		
				-330 ± 60	3	25 ± 2																		
				-470 ± 60	4	MAX RATED TEMP ± 2																		
				-750 ± 120	5	25 ± 2																		
				+350 ~ -1000																				
8	TEMPERATURE CHARACTERISTICS	CLASS II	CAPACITANCE CHANGE		<table><tr><th>STEP</th><th>TEMP. (°C) B</th><th>TEMP. (°C) F</th></tr><tr><td>1</td><td>25 ± 2</td><td>25 ± 2</td></tr><tr><td>2</td><td>-55 ± 2</td><td>-25 ± 2</td></tr><tr><td>3</td><td>25 ± 2</td><td>25 ± 2</td></tr><tr><td>4</td><td>125 ± 2</td><td>85 ± 2</td></tr><tr><td>5</td><td>25 ± 2</td><td>25 ± 2</td></tr></table> $\frac{C2 - C1}{C1} \times 100\%$ C1: CAPACITANCE AT STANDARD TEMPERATURE (25°C) C2: CAPACITANCE AT EACH TEMPERATURE		STEP	TEMP. (°C) B	TEMP. (°C) F	1	25 ± 2	25 ± 2	2	-55 ± 2	-25 ± 2	3	25 ± 2	25 ± 2	4	125 ± 2	85 ± 2	5	25 ± 2	25 ± 2
			STEP	TEMP. (°C) B			TEMP. (°C) F																	
			1	25 ± 2			25 ± 2																	
			2	-55 ± 2			-25 ± 2																	
			3	25 ± 2			25 ± 2																	
			4	125 ± 2			85 ± 2																	
			5	25 ± 2			25 ± 2																	
			CHAR.				CAP. CHANGE (%)																	
			X	X7R			±15%																	
				X6S			±22%																	
X5R	±15%																							
Y	Y5V	-82% ~ +22%																						
	Z5U	-56% ~ +22%																						
	</																							

General Purpose Ceramic Capacitors (C Series)

Environmental Test Criteria

NO	ITEM		PERFORMANCE		TEST CONDITION									
12	RESISTANCE TO SOLDERING HEAT	APPEARANCE	NO MECHANICAL DAMAGE SHALL OCCUR		DIP : SOLDER TEMPERATURE OF 270± 5 °C DIP TIME :10±1 SEC. EACH TERMINATION SHALL BE FULLY IMMERSED AND PREHEATED AS FOLLOWING: <table><tr><th>STEP</th><th>TEMP. (°C)</th><th>TIME (SEC.)</th></tr><tr><td>1</td><td>80~100</td><td>60</td></tr><tr><td>2</td><td>150~180</td><td>60</td></tr></table> MEASURE AT ROOM TEMP. AFTER COOLING FOR CLASS I : 24 ± 2 HOURS CLASS II : 48 ± 4 HOURS	STEP	TEMP. (°C)	TIME (SEC.)	1	80~100	60	2	150~180	60
		STEP	TEMP. (°C)	TIME (SEC.)										
		1	80~100	60										
		2	150~180	60										
		CAPACITANCE	CHARACTERISTIC			CAP. CHANGE								
			CLASS I			WITHIN ±2.5% OR ±0.25 pF WHICHEVER IS LARGER								
			CLASS II	X		WITHIN ±7.5%								
				Y		WITHIN ±20%								
QCLASS I	30 pF AND OVER: Q 1000 LESS THAN 30 pF: Q 400+ 20xC													
Tan CLASS II	TO SATISFY THE SPECIFIED INITIAL VLUE													
INSULATION RESISTANCE	TO SATISFY THE SPECIFIED INITIAL VLUE													
WITHSTANDING VOLTAGE	TO SATISFY THE SPECIFIED INITIAL VLUE													
13	VIBRATION TEST	APPEARANCE	NO MECHANICAL DAMAGE SHALL OCCUR		THE CAPACITOR SHALL BE SUBJECTED TO A HARMONIC MOTION HAVING A TOTAL AMPLITUDE of 1.5mm. THE ENTIRE FREQUENCY RANGE, FROM 10 TO 55Hz AND RETURN TO 10Hz SHALL BE TRAVERSED IN 1 MINUTE. THIS CYCLE SHALL BE PERFORMED 2 HOURS IN EACH THREE MUTUALLY PERPENDICULAR DIREC-TION, FOR TOTAL PERIOD of 6 HOURS.									
		CAPACITANCE	CHARACTERISTIC			CAP. CHANGE								
			CLASS I			WITHIN ±2.5% OR ±0.25 pF WHICHEVER IS LARGER								
			CLASS II	X		WITHIN ±5%								
				Y		WITHIN ±20%								
		QCLASS I	30 pF AND OVER: Q 1000 LESS THAN 30 pF: Q 400+ 20xC											
		Tan CLASS II	TO SATISFY THE SPECIFIED INITIAL VALUE											
		INSULATION RESISTANCE	TO SATISFY THE SPECIFIED INITIAL VALUE											

General Purpose Ceramic Capacitors (C Series)

Environmental Test Criteria

NO	ITEM	PERFORMANCE				TEST CONDITION																																																								
14	HUMIDITY (STEADY STATE)	APPEARANCE	NO MECHANICAL DAMAGE SHALL OCCUR				TEMPERATURE : 40±2 °C RELATIVE HUMIDITY: 90~95 %RH TEST TIME : 500 +12/-0 Hr. MEASURE AT ROOM TEMPERATURE AFTER COOLING FOR CLASS I : 24±2 Hr. CLASS II : 48±4 Hr. SEE (FIG.3)																																																							
		CAPACITANCE	CHARACTERISTIC		CAPACITANCE CHANGE																																																									
			CLASS I		WITHIN ±5% OR±0.5pF WHICHEVER IS LARGER																																																									
			CLASS II	X	WITHIN ±12.5%																																																									
				Y	WITHIN ±30%																																																									
		QCLASS I	30pF AND OVER : Q 350 10 ~ 30pF : Q 275 + 2.5xC LESS THAN 10pF : Q 200 + 10xC																																																											
		DISSIPATION FACTOR (Tan Θ CLASS II)	X7R, X6S, X5R <table><tr><th>Rated Voltage</th><th>D.F.</th><th colspan="2">Exception of D.F.</th></tr><tr><td rowspan="2">≥50V</td><td rowspan="2">≤2.5%</td><td>≤3%</td><td>0201 (50V); 0603±0.047uF 0805±0.22uF; 1206±0.47uF</td></tr><tr><td>≤5%</td><td>0603±1uF; 0805±1uF; 1206±4.7uF; 1210±4.7uF</td></tr><tr><td rowspan="2">25V</td><td rowspan="2">≤2.5%</td><td>≤5%</td><td>0201±0.01uF; 0805±1uF; 1210±4.7uF</td></tr><tr><td>≤10%</td><td>0402±0.10uF; 0603±0.33uF; 0805±2.2uF 1206±4.7uF; 1210±22uF</td></tr><tr><td rowspan="2">16V</td><td rowspan="2">≤3.5%</td><td>≤5%</td><td>0201±0.01uF; 0402±0.033uF; 0805±0.68uF; 1206±2.2uF; 1210±4.7uF</td></tr><tr><td>≤10%</td><td>0402±0.47uF; 0603±0.68uF; 0805±2.2uF; 1206±4.7uF; 1210±22uF</td></tr><tr><td>10V</td><td>≤5%</td><td>≤10%</td><td>0402±0.33uF; 0603±0.33uF; 0805±2.2uF; 1206±2.2uF; 1210±22uF</td></tr><tr><td>6.3V</td><td>≤10%</td><td></td><td></td></tr></table> Y5V, Z5U <table><tr><th>Rated Voltage</th><th>D.F.</th><th colspan="2">Exception of D.F.</th></tr><tr><td>≥50V</td><td>≤5%</td><td>≤9%</td><td>0603±0.1uF; 0805±0.47uF; 1206±4.7uF;</td></tr><tr><td>25V</td><td>≤5%</td><td>≤9%</td><td>0402±0.047uF; 0603±0.1uF; 0805±0.33uF; 1206±1uF; 1210±4.7uF</td></tr><tr><td>16V</td><td>≤9%</td><td>≤12.5%</td><td>0603±2.2uF; 0805±3.3uF; 1206±10uF; 1210±22uF; 1812±47uF</td></tr><tr><td>10V</td><td>≤12.5%</td><td>≤16%</td><td>0603±2.2uF; 0805±3.3uF; 1206±4.7uF; 1210±10uF; 1812±47uF</td></tr><tr><td>6.3V</td><td>≤16%</td><td></td><td></td></tr></table>					Rated Voltage	D.F.	Exception of D.F.		≥50V	≤2.5%	≤3%	0201 (50V); 0603±0.047uF 0805±0.22uF; 1206±0.47uF	≤5%	0603±1uF; 0805±1uF; 1206±4.7uF; 1210±4.7uF	25V	≤2.5%	≤5%	0201±0.01uF; 0805±1uF; 1210±4.7uF	≤10%	0402±0.10uF; 0603±0.33uF; 0805±2.2uF 1206±4.7uF; 1210±22uF	16V	≤3.5%	≤5%	0201±0.01uF; 0402±0.033uF; 0805±0.68uF; 1206±2.2uF; 1210±4.7uF	≤10%	0402±0.47uF; 0603±0.68uF; 0805±2.2uF; 1206±4.7uF; 1210±22uF	10V	≤5%	≤10%	0402±0.33uF; 0603±0.33uF; 0805±2.2uF; 1206±2.2uF; 1210±22uF	6.3V	≤10%			Rated Voltage	D.F.	Exception of D.F.		≥50V	≤5%	≤9%	0603±0.1uF; 0805±0.47uF; 1206±4.7uF;	25V	≤5%	≤9%	0402±0.047uF; 0603±0.1uF; 0805±0.33uF; 1206±1uF; 1210±4.7uF	16V	≤9%	≤12.5%	0603±2.2uF; 0805±3.3uF; 1206±10uF; 1210±22uF; 1812±47uF	10V	≤12.5%	≤16%	0603±2.2uF; 0805±3.3uF; 1206±4.7uF; 1210±10uF; 1812±47uF	6.3V	≤16%			
			Rated Voltage	D.F.	Exception of D.F.																																																									
			≥50V	≤2.5%	≤3%	0201 (50V); 0603±0.047uF 0805±0.22uF; 1206±0.47uF																																																								
					≤5%	0603±1uF; 0805±1uF; 1206±4.7uF; 1210±4.7uF																																																								
25V	≤2.5%		≤5%	0201±0.01uF; 0805±1uF; 1210±4.7uF																																																										
			≤10%	0402±0.10uF; 0603±0.33uF; 0805±2.2uF 1206±4.7uF; 1210±22uF																																																										
16V	≤3.5%		≤5%	0201±0.01uF; 0402±0.033uF; 0805±0.68uF; 1206±2.2uF; 1210±4.7uF																																																										
			≤10%	0402±0.47uF; 0603±0.68uF; 0805±2.2uF; 1206±4.7uF; 1210±22uF																																																										
10V	≤5%		≤10%	0402±0.33uF; 0603±0.33uF; 0805±2.2uF; 1206±2.2uF; 1210±22uF																																																										
6.3V	≤10%																																																													
Rated Voltage	D.F.	Exception of D.F.																																																												
≥50V	≤5%	≤9%	0603±0.1uF; 0805±0.47uF; 1206±4.7uF;																																																											
25V	≤5%	≤9%	0402±0.047uF; 0603±0.1uF; 0805±0.33uF; 1206±1uF; 1210±4.7uF																																																											
16V	≤9%	≤12.5%	0603±2.2uF; 0805±3.3uF; 1206±10uF; 1210±22uF; 1812±47uF																																																											
10V	≤12.5%	≤16%	0603±2.2uF; 0805±3.3uF; 1206±4.7uF; 1210±10uF; 1812±47uF																																																											
6.3V	≤16%																																																													
INSULATION RESISTANCE	MINIMUM INSULATION RESISTANCE: 1,000 M OR 50M .μF PRODUCT WHICHEVER IS SMALLER																																																													

General Purpose Ceramic Capacitors (C Series)

Environmental Test Criteria

NO	ITEM		PERFORMANCE			TEST CONDITION	
15	MOISTURE RESISTANCE	APPEARANCE	NO MECHANICAL DAMAGE SHALL OCCUR			APPLIED VOLTAGE: RATED VOLTAGE TEMPERATURE : 40±2 °C RELATIVE HUMIDITY: 90~95%RH TEST TIME : 500 +12/-0 Hr. CURRENT APPLIED: 50mA MAX. MEASURING AT ROOM TEMPERATURE AFTER COOLING FOR CLASS I : 24±2 Hr. CLASS II : 48±4 Hr. SEE (FIG.3)	
		CAPACITANCE	CHARACTERISTIC		CAPACITANCE CHANGE		
			CLASS I		WITHIN ±7.5% OR±0.75pF WHICHEVER IS LARGER		
			CLASS II	X	WITHIN ±12.5%		
				Y	WITHIN ±30%		
		QCLASS I	30pF AND OVER : Q 200 30pF AND BELOW : Q 100 + 10/3xC				
		DISSIPATION FACTOR (Tan Θ CLASS II)	X7R, X6S, X5R				
			Rated Voltage	D.F.	Exception of D.F.		
			≥50V	≤2.5%	≤3%		0201 (50V); 0603≥0.047uF 0805≥0.22uF; 1206≥0.47uF
					≤5%		0603≥1uF; 0805≥1uF; 1206≥4.7uF; 1210≥4.7uF
			25V	≤2.5%	≤5%		0201≥0.01uF; 0805≥1uF; 1210≥4.7uF
					≤10%		0402≥0.10uF; 0603≥0.33uF; 0805≥2.2uF 1206≥4.7uF; 1210≥22uF
			16V	≤3.5%	≤5%		0201≥0.01uF; 0402≥0.033uF; 0805≥0.68uF; 1206≥2.2uF; 1210≥4.7uF
					≤10%		0402≥0.47uF; 0603≥0.68uF; 0805≥2.2uF; 1206≥4.7uF; 1210≥22uF
	10V		≤5%	≤10%	0402≥0.33uF; 0603≥0.33uF; 0805≥2.2uF; 1206≥2.2uF; 1210≥22uF		
6.3V	≤10%						
Y5V, Z5U							
Rated Voltage	D.F.	Exception of D.F.					
≥50V	≤5%	≤9%	0603≥0.1uF; 0805≥0.47uF; 1206≥4.7uF;				
25V	≤5%	≤9%	0402≥0.047uF; 0603≥0.1uF; 0805≥0.33uF; 1206≥1uF; 1210≥4.7uF				
16V	≤9%	≤12.5%	0603≥2.2uF; 0805≥3.3uF; 1206≥10uF; 1210≥22uF; 1812≥47uF				
10V	≤12.5%	≤16%	0603≥2.2uF; 0805≥3.3uF; 1206≥4.7uF; 1210≥10uF; 1812≥47uF				
6.3V	≤16%						
INSULATION RESISTANCE	MINIMUM INSULATION RESISTANCE: 100 M OR 25M .uF PRODUCT, WHICHEVER IS SMALLER						

General Purpose Ceramic Capacitors (C Series)

Environmental Test Criteria

NO	ITEM	PERFORMANCE				TEST CONDITION			
16	HIGH TEMPERATURE RESISTANCE	APPEARANCE	NO MECHANICAL DAMAGE SHALL OCCUR				APPLIED VOLTAGE: 150% OF RATED VOLTAGE TEST TIME : 1000 +48/-0 Hr. CURRENT APPLIED: 50mA MAX.		
		CAPACITANCE	CHARACTERISTIC		CAP. CHANGE				
			CLASS I		WITHIN ±3% OR ±0.3pF, WHICHEVER IS LARGER				
			CLASS II	X	WITHIN ±12.5%		CHAR.	TEMP.	
				Y	WITHIN ±30%		CLASS I	125 ±3 °C	
		QCLASS I	30pF AND OVER : Q 350 10 - 30 pF : Q 275 + 2.5xC LESS THAN 10pF :Q 200 + 10xC				CLASS II	X	125 ±3 °C
							Y	85 ±3 °C	
		DISSIPATION FACTOR (Tan Θ CLASS II)	X7R, X6S, X5R				(INITIAL VALUE MEASUREMENT) FOR CLASS II CAPACITORS, 150 % OF RATED VOLTAGE SHALL BE APPLIED FOR 1 HOUR AT THE MAXIMUM OPERATING TEMPERATURE, THEN KEEP IT AT ROOM TEMPERATURE. FOR 48 ±4 Hrs. SEE (FIG.3)		
			Rated Voltage	D.F.	Exception of D.F.				
			≥50V	≤2.5%	≤3%	0201 (50V); 0603≥0.047uF 0805≥0.22uF; 1206≥0.47uF			
					≤5%	0603≥1uF; 0805≥1uF; 1206≥4.7uF; 1210≥4.7uF			
			25V	≤2.5%	≤5%	0201≥0.01uF; 0805≥1uF; 1210≥4.7uF			
					≤10%	0402≥0.10uF; 0603≥0.33uF; 0805≥2.2uF 1206≥4.7uF; 1210≥22uF			
			16V	≤3.5%	≤5%	0201≥0.01uF; 0402≥0.033uF; 0805≥0.68uF; 1206≥2.2uF; 1210≥4.7uF			
					≤10%	0402≥0.47uF; 0603≥0.68uF; 0805≥2.2uF; 1206≥4.7uF; 1210≥22uF			
10V	≤5%		≤10%	0402≥0.33uF; 0603≥0.33uF; 0805≥2.2uF; 1206≥2.2uF; 1210≥22uF					
6.3V	≤10%								
Y5V, Z5U									
Rated Voltage	D.F.	Exception of D.F.							
≥50V	≤5%	≤9%	0603≥0.1uF; 0805≥0.47uF; 1206≥4.7uF;						
25V	≤5%	≤9%	0402≥0.047uF; 0603≥0.1uF; 0805≥0.33uF; 1206≥1uF; 1210≥4.7uF						
16V	≤9%	≤12.5%	0603≥2.2uF; 0805≥3.3uF; 1206≥10uF; 1210≥22uF; 1812≥47uF						
10V	≤12.5%	≤16%	0603≥2.2uF; 0805≥3.3uF; 1206≥4.7uF; 1210≥10uF; 1812≥47uF						
6.3V	≤16%								
INSULATION RESISTANCE	MINIMUM INSULATION RESISTANCE: 1,000M OR 50M.μF PRODUCT WHICHEVER IS SMALLER								

General Purpose Ceramic Capacitors (C Series)

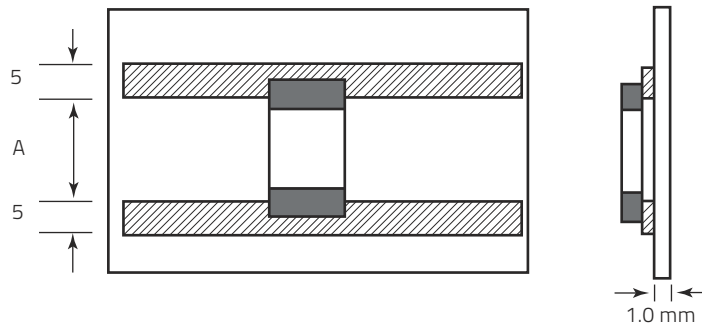
Environmental Test Criteria

NO	ITEM	PERFORMANCE	TEST CONDITION
17	APPEARANCE	NO MECHANICAL DAMAGE SHALL OCCUR	CAPACITORS SHALL BE SUBJECTED TO FIVE CYCLES OF THE TEMPERATURE CYCLE AS FOLLOWING
	CAPACITANCE	CHARACTERISTIC	
		CLASS I	
		CLASS II	
	QCLASS I	WITHIN $\pm 2.5\%$ OR $\pm 0.25\text{pF}$ WHICHEVER IS LARGER	STEP
		WITHIN $\pm 7.5\%$	TEMP.(°C)
		WITHIN $\pm 20\%$	TIME (MIN)
	TAN CLASS II	30 pF AND OVER : Q 1000 LESS THAN 30pF:Q 400+20xC	1
			2
			3
			4
	INSULATION RESISTANCE	TO SATISFY THE SPECIFIED INITIAL VALUE	

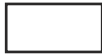
MEASURE AT ROOM TEMPERATURE
AFTER COOLING FOR
CLASS I : 24±2 Hr.
CLASS II : 48±4 Hr.
SEE(FIG.3)

General Purpose Ceramic Capacitors (C Series)

Adhesive Strength of Termination



CODE	DIMENSION (mm)	A (mm)	CODE	DIMENSION (mm)	A (mm)
01005 (0402)	0.40 x 0.20	0.12	1206 (3216)	3.2 x 1.6	2.2
0201 (0603)	0.61 x 0.31	0.2	1210 (3225)	3.2 x 2.5	2.2
0402 (1005)	1.0 x 0.5	0.4	1812 (4532)	4.5 x 3.2	3.5
0603 (1608)	1.6 x 0.8	1.0	2220 (5750)	5.7 x 5.08	4.7
0805 (2012)	2.0 x 1.25	1.2			

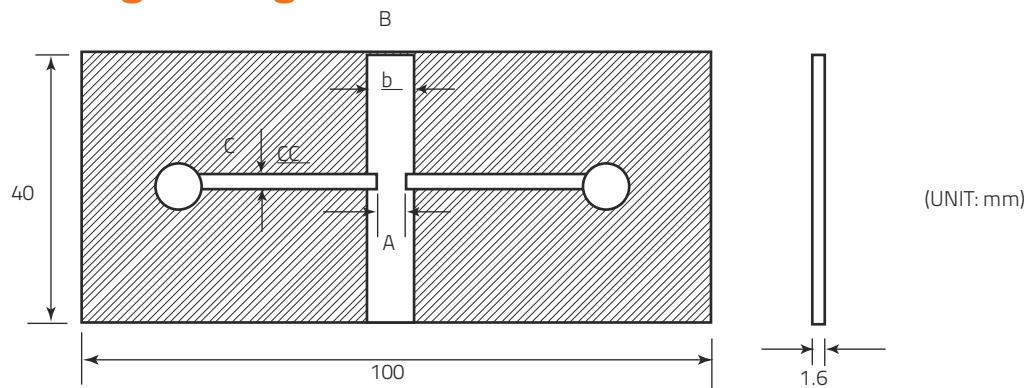


MATERIAL: ALUMINA SUBSTRATE (Al₂O₃ 95% min) OR GLASS EPOXY SUBSTRATE



COPPER FOIL (t = 0.035mm)

Substrate Bending Strength



CODE	DIMENSION (mm)	A (mm)	B (mm)	C (mm)
01005 (0402)	0.40 x 0.20	0.12	0.7	0.20
0201 (0603)	0.61 x 0.31	0.2	1.0	0.4
0402 (1005)	1.0 x 0.5	0.4	1.4	0.5
0603 (1608)	1.6 x 0.8	1.0	3.0	1.0
0805 (2012)	2.0 x 1.25	1.2	4.0	1.65
1206 (3216)	3.2 x 1.6	2.2	5.0	2.0
1210 (3225)	3.2 x 2.5	2.2	5.0	3.2
1812 (4532)	4.5 x 3.2	3.5	7.0	4.0
2220 (5750)	5.7 x 5.08	4.7	8.5	5.0

MATERIAL: GLASS EPOXY SUBSTRATE



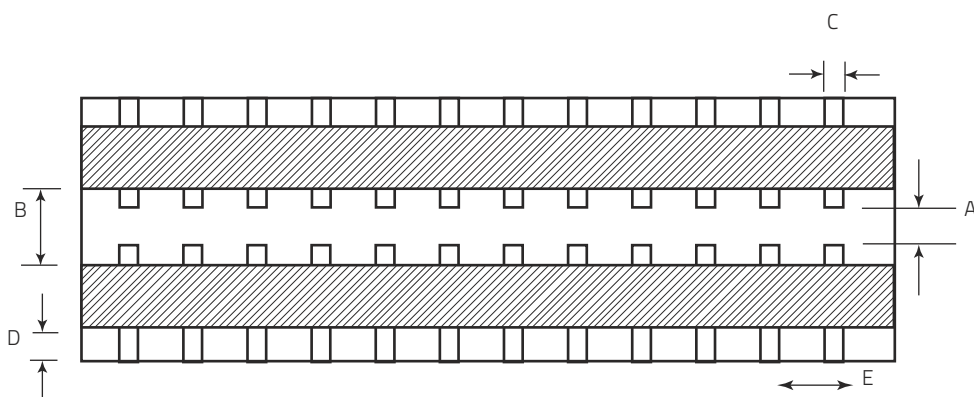
COPPER FOIL (t = 0.035mm)



SOLDER RESIST

General Purpose Ceramic Capacitors (C Series)

Test Substrate



(UNIT: mm)

CODE	DIEMNSION (mm)	A	B	C	D	E
0201 (0603)	0.61 x 0.31	0.2	1.0	0.4	7.5	3.6
0402 (1005)	1.0 x 0.5	0.4	1.4	0.5	7.5	3.8
0603 (1608)	1.6 x 0.8	1.0	3.0	0.7	7.5	4.0
0805 (2012)	2.0 x 1.25	1.2	4.0	1.0	7.5	4.2
1206 (3216)	3.2 x 1.6	2.2	5.0	1.3	7.5	4.6
1210 (3225)	3.2 x 2.5	2.2	5.0	2.0	7.5	5.5
1812 (4532)	4.5 x 3.2	3.5	7.0	2.7	7.5	6.2
2220 (5750)	5.7 x 5.08	4.7	8.5	3.4	7.5	7.0

MATERIAL: GLASS EPOXY SUBSTRATE



COPPER FOIL (t = 0.035mm)



SOLDER RESIST