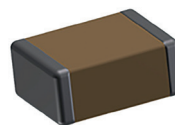


• Applications

X7R : Stable ceramic
 Typical uses : passing, coupling, filtering, blocking



RoHS compliant

• Electrical Parameters

Electrical Characteristics at + 25°C unless otherwise specified
Operating Temperature - 55°C, + 125°C
Temperature Coefficient ± 15% with 0Vdc applied
Dissipation Factor ≤ 0.025 at 1kHz for C ≥ 1nF
 ≤ 0.025 at 1MHz for C ≤ 1nF

Insulation Resistance (IR)
 25°C/Un 10⁵ MOhm or 1000 Ohm-Farad whichever is less
 125°C/Un 10⁴ MOhm or 100 Ohm-Farad whichever is less
Dielectric Strength Test
 Performed per method 103 of EIA 198-2-E
 Applied test voltages :
 250Vdc-rated : 250% of rated voltage
 500Vdc-rated : min 150% of rated voltage
 630Vdc, 1000Vdc-rated : min 120% of rated voltage

• Quick Reference Data

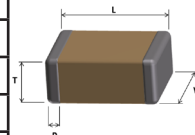
	0603	0805	1206	1210	1808	1812	1825	2220	2225	3640	4040	5440
200V	100pF - 4.7nF	100pF - 33nF	100pF - 100nF	560pF - 220nF	560pF-180nF	1.2nF - 560nF	2.2nF - 680nF	4.7nF - 820nF	4.7nF - 1.2µF			
250V		100pF - 4.7nF	100pF - 22nF	560pF - 56nF	560pF - 100nF	1.2nF - 470nF	2.2nF - 470nF	4.7nF - 470nF	4.7nF - 820nF	56nF - 1µF	56nF - 1µF	56nF - 1.5µF
500V		100pF - 4.7nF	100pF - 22nF	560pF - 56nF	560pF - 100nF	1.2nF - 470nF	2.2nF - 470nF	4.7nF - 470nF	4.7nF - 820nF	56nF - 1µF	56nF - 1µF	56nF - 1.5µF
630V		100pF - 3.9nF	100pF - 18nF	560pF - 39nF	560pF - 39nF	1.2nF - 120nF	2.2nF - 270nF	4.7nF - 150nF	4.7nF - 560nF	56nF - 680nF	56nF - 820nF	56nF - 1µF
1000V		100pF - 2.2nF	100pF - 3.3nF	560pF - 15nF	560pF - 22nF	1.2nF - 100nF	2.2nF - 120nF	4.7nF - 120nF	4.7nF - 220nF	56nF - 270nF	56nF - 390nF	56nF - 560nF

• Ordering Information

0805	Y	220	J	A	P	B	XX
SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINATION	PACKAGING	SPECIAL PARAMETERS
0603 0805 1206 1210 1808 1812 1825 2220 2225 3640 4040 5440	Y = X7R	Expressed in picofarads (pF). The first two digits are significant, the third digit give the number of noughts. Example : 102 = 1000pF	J = ± 5% K = ± 10% M = ± 20% Z = - 20%, + 80%	C = 200V P = 250V E = 500V F = 630V G = 1000V	F = Palladium-Silver W = Nickel with Gold plated finish X = Nickel with Tin plated finish P = Polymer with Tin plated finish C = Copper with Tin plated finish	B = 7" reel V = Bulk	

• Dimensions in millimeters

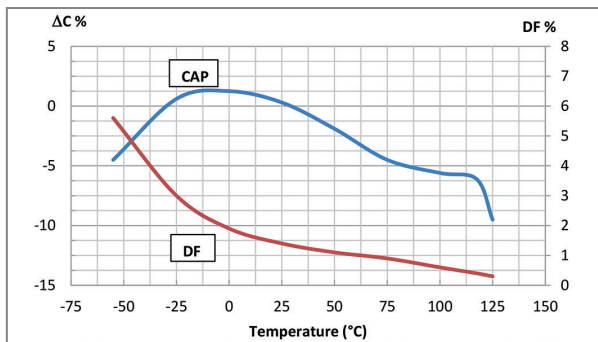
Designation	0603	0805	1206	1210	1808	1812	1825	2220	2225	3640	4040	5440
Length (L)	1.60 ± 0.1	2.00 ± 0.2	3.20 ± 0.2	3.20 ± 0.2	4.6 ± 0.25	4.50 ± 0.3	4.50 ± 0.3	5.70 ± 0.4	5.70 ± 0.4	9.20 ± 0.4	10.2 ± 1	13.8 ± 0.5
Width (W)	0.80 ± 0.1	1.25 ± 0.2	1.60 ± 0.2	2.50 ± 0.2	2 ± 0.25	3.20 ± 0.2	6.40 ± 0.3	5.00 ± 0.4	6.40 ± 0.4	10.2 ± 0.4	10.2 ± 1	10.2 ± 0.4
Thickness (T)	0.90	1.40	1.70	1.70	2.00	2.80	2.50	4.00	4.50	6.00	6.00	6.00
Termination (P)	Min	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.80	0.80	0.80
	Max	0.40	0.70	0.70	0.80	1.00	1.00	1.00	1.00	1.50	1.50	1.50



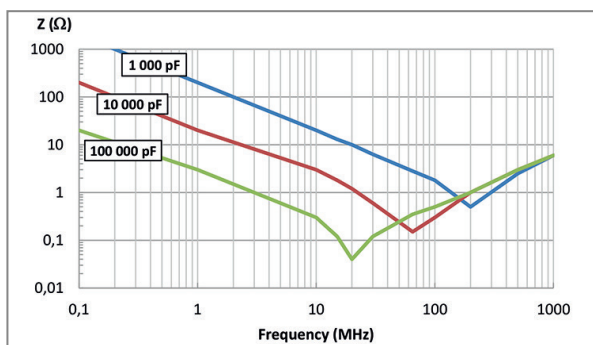
For P termination (Polymer type) add 0.20mm to all dimensions.

• **Typical Characteristics**

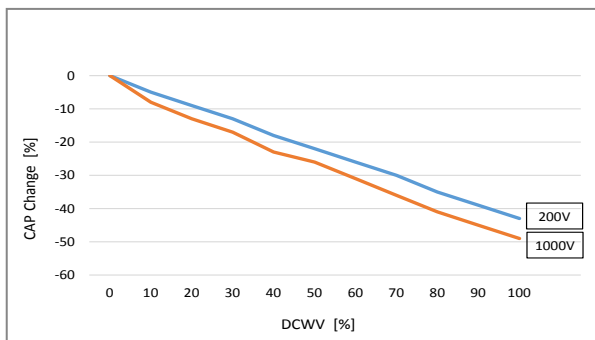
X7R Capacitance and dissipation factor vs temperature



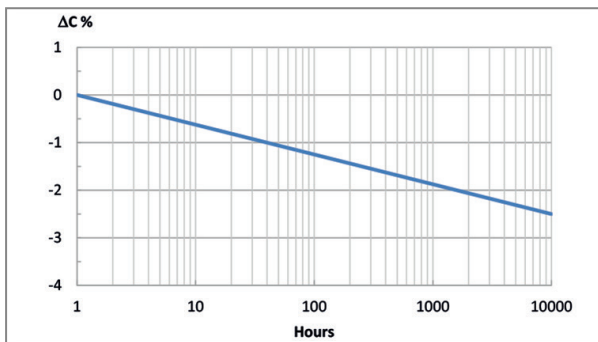
X7R Impedance vs frequency



Voltage coefficient



X7R Aging Rate



X7R Insulation resistance vs temperature

