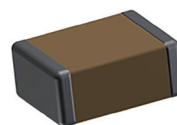


### • Applications

**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 10<sup>5</sup> MOhm or 1000 Ohm-Farad whichever is less  
 125°C/Un 10<sup>4</sup> MOhm or 100 Ohm-Farad whichever is less

#### Dielectric Strength Test

Performed per method 103 of EIA 198-2-E  
 1.2Un for 5s with 50mA max charging current

### • Quick Reference Data

	1206	1210	1808	1812	2220	2225	3640	4040	4055	5440	6660	8060
2000V	10pF - 2.2nF	10pF - 5.6nF	22pF - 4.7nF	22pF - 10nF	22pF - 27nF	22pF - 39nF	1nF - 100nF	1nF - 150nF	1nF - 150nF	1nF - 180nF	1nF - 270nF	1nF - 470nF
3000V			22pF - 1.8nF	22pF - 4.7nF	22pF - 12nF	22pF - 15nF	1nF - 47nF	1nF - 68nF	1nF - 68nF	1nF - 82nF	1nF - 120nF	1nF - 220nF
4000V			22pF - 820pF	22pF - 2.2nF	22pF - 6.8nF	22pF - 6.8nF	1nF - 18nF	1nF - 22nF	1nF - 27nF	1nF - 39nF	1nF - 68nF	1nF - 120nF
5000V			22pF - 470pF	22pF - 1.2nF	22pF - 4.7nF	22pF - 5.6nF	1nF - 12nF	1nF - 18nF	1nF - 22nF	1nF - 27nF	1nF - 47nF	1nF - 68nF
10KV									1nF - 4.7nF	1nF - 5.6nF	1nF - 8.2nF	1nF - 12nF

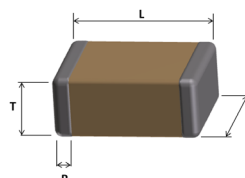
### • Ordering Information

0805	Y	220	J	A	P	B	XX
SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINATION	PACKAGING	SPECIAL PARAMETERS
1206 1210 1808 1812 2220 2225 3640 4040 4055 5440 6660 8060	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%	H = 2000V I = 3000V K = 4000V L = 5000V 10 = 10KV	F = Palladium-Silver 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

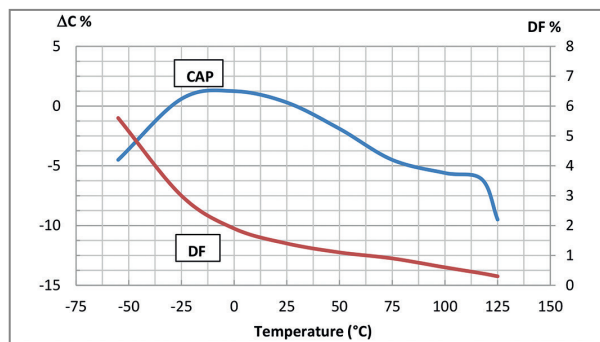
Designation	1206	1210	1808	1812	2220	2225	3640	4040	4055	5440	6660	8060
Length (L)	3.20 ± 0.2	3.20 ± 0.2	4.6 ± 0.25	4.50 ± 0.3	5.70 ± 0.4	5.70 ± 0.4	9.2 ± 0.4	10.2 ± 1	10.2 ± 1	13.80 ± 1	16.5 ± 1	20 ± 1
Width (W)	1.60 ± 0.2	2.50 ± 0.2	2 ± 0.25	3.20 ± 0.2	5.00 ± 0.4	6.40 ± 0.4	10.2 ± 0.4	10.2 ± 1	13.8 ± 1	16.80 ± 1	15 ± 1	15.2 ± 1
Thickness (T)	1.80	2.60	2.00	3.40	4.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Termination (P)	Min	0.25	0.25	0.25	0.25	0.25	0.80	0.80	0.80	0.80	0.80	0.80
	Max	0.70	0.80	1.00	1.00	1.00	1.50	1.50	1.50	1.50	1.50	1.50

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

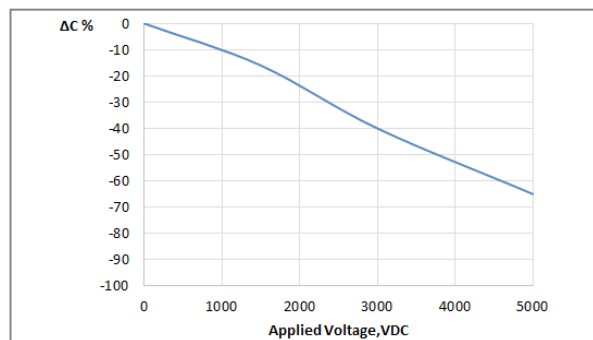


• **Typical Characteristics**

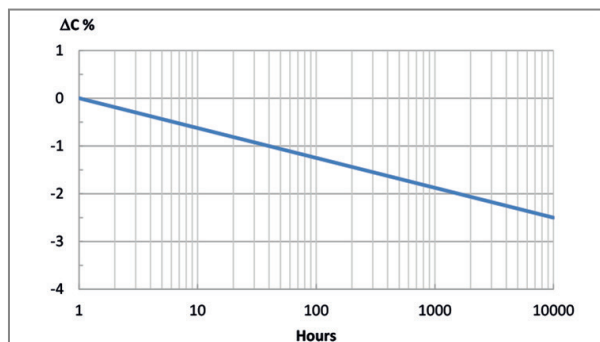
**X7R Capacitance and dissipation factor vs temperature**



**X7R Voltage coefficient of capacitance**



**X7R Aging**



**X7R Insulation resistance vs temperature**

