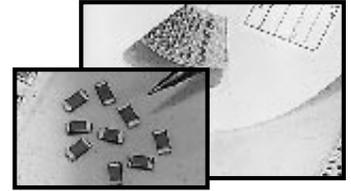


### FEATURES

- CLASS II DIELECTRIC, TEMPERATURE STABLE
- EXCELLENT FREQUENCY CHARACTERISTICS, NON-LINEAR CAPACITANCE CHANGE
- HIGHER CAPACITANCE THAN X7R (UP TO 100 $\mu$ F)
- NICKEL BARRIER TERMINATIONS AND EXCELLENT MECHANICAL STRENGTH
- EIA MARKING AVAILABLE

**RoHS  
Compliant**

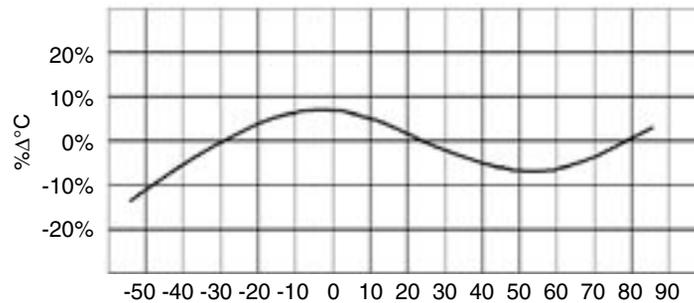
\*See Part Number System for Details



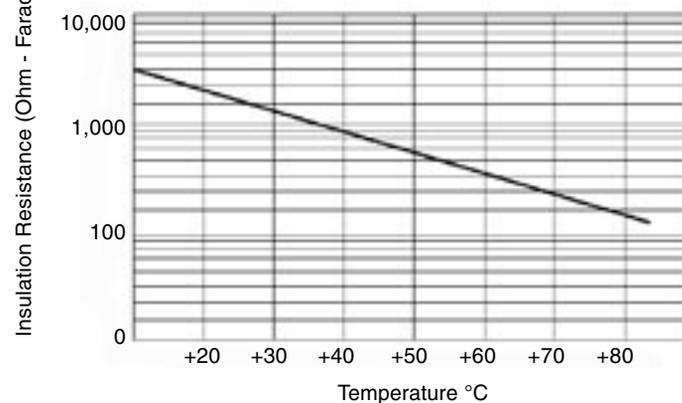
### CHARACTERISTICS

Capacitance Range	0.0012 $\mu$ F to 100 $\mu$ F
Capacitance Tolerances	$\pm$ 10%(K), $\pm$ 20%(M)
Operating Temperature Range	-55 $^{\circ}$ C to +85 $^{\circ}$ C
Temperature Characteristics	$\pm$ 15% $\Delta$ max. over temperature range (with 0 Vdc applied)
Rated Voltages	6.3Vdc, 10Vdc, 16Vdc, 25Vdc, 35Vdc, 50Vdc
Dissipation Factor	C < 2.2 $\mu$ F 5% max., C $\geq$ 2.2 $\mu$ F 10% max. @ 1.0Vrms and KHz, +25 $^{\circ}$ C
Insulation Resistance	10,000 Megohms min. or 100Meg ohm/ $\mu$ F min. whichever is less @ 25 $^{\circ}$ C
Dielectric Withstanding Voltage	250% of Rated Voltage for 5 $\pm$ 1 seconds, 50 milliamps maximum
Test Conditions (EIA-198-2E)	1KHz, 1.0V $\pm$ 0.2 Vrms

Typical X5R Temperature Coefficient



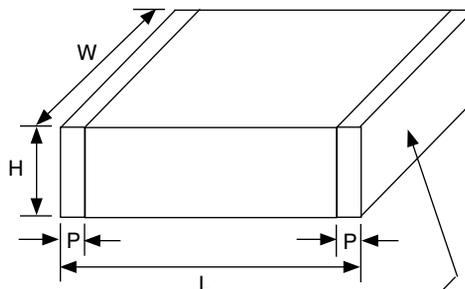
Insulation Resistance vs. Temperature



### X5R CAPACITOR SIZE CHART (mm)

(CONSULT FACTORY FOR CAPACITANCE VALUES NOT LISTED)

EIA Case Size	0201	0402	0603						0805					
Length (L)	0.6±0.05	1.0±0.05	1.6±0.15						2.0±0.2					
Width (W)	0.3±0.05	0.5±0.05	0.8±0.15						1.25±0.2					
Thickness (T max.)	0.33	0.6	0.9						1.4					
Termination Width (P)	0.10~0.20	0.10~0.40	0.10~0.60						0.25~0.75					
Capacitance	Working Voltage (Vdc)													
	10V	6.3	10	16	6.3	10	16	25	6.3	10	16	25	35	50
1200pF														
1500														
1800														
2200														
2700														
3300														
3900														
4700														
5600														
6800														
8200														
0.01μF														
0.012														
0.015														
0.018														
0.022														
0.027														
0.033														
0.039														
0.047														
0.056														
0.068														
0.082														
0.1														
0.12														
0.15														
0.18														
0.22														



Sn-Pb solder plate finish over nickel barrier over Cu base. Also available with 100% Pb-free plating finish.

## X5R CAPACITOR SIZE CHART (mm)

EIA Case Size	0603	0805	1206	1210	1812																			
Length (L)	1.6±0.15	2.0±0.2	3.2±0.2	3.2±0.2	4.5±0.3																			
Width (W)	0.8±0.15	1.25±0.2	1.6±0.2	2.5±0.2	3.2±0.25																			
Thickness (T max.)	0.9	1.4	1.8	2.8	3.3																			
Termination Width (P)	0.10~0.60	0.25~0.75	0.25~0.75	0.25~0.85	0.25~1.50																			
Capacitance	Working Voltage (Vdc)																							
	6.3	10	16	25	6.3	10	16	25	35	50	6.3	10	16	25	6.3	10	16	25	35	6.3	10	16	25	
0.27																								
0.33																								
0.39																								
0.47																								
0.56																								
0.68																								
0.82																								
1.0																								
1.2																								
1.5																								
1.8																								
2.2																								
3.3																								
4.7																								
6.8																								
10																								
22																								
47																								
100																								

