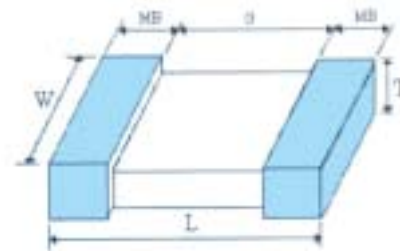


**X7R DIELECTRIC – GENERAL SPECIFICATION****INTRODUCTION :**

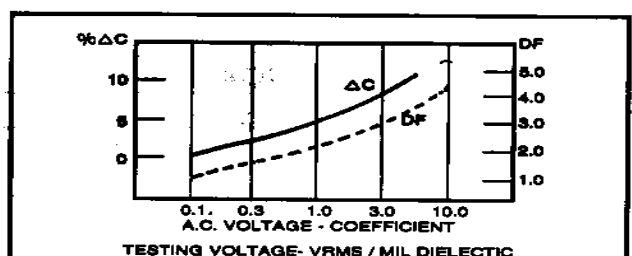
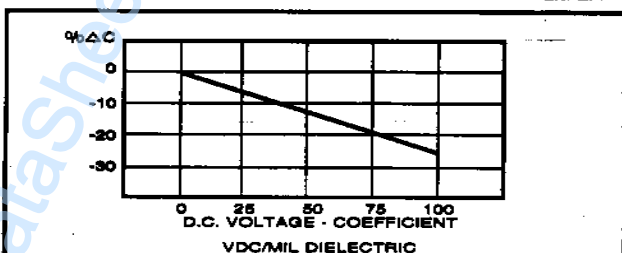
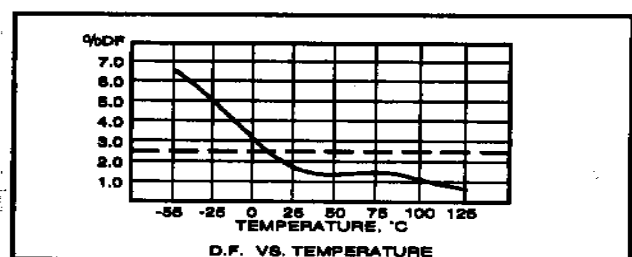
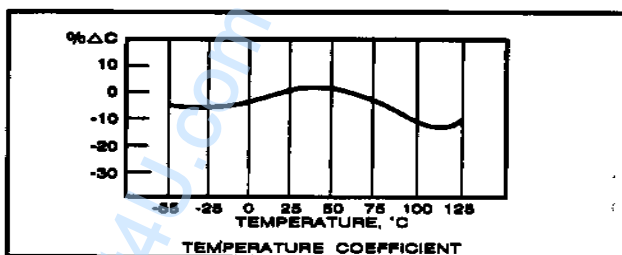
The X7R (BX) has moderate K value and is temperature stable. It shows moderate change in electrical properties under changing temperature, voltage and frequency. It's suitable for by-passing, coupling, and frequency discrimination circuit applications.

**FEATURES :**

- Stable electrical characteristics
- Small size with high capacitance values
- Consistent dimension and finish surface
- Engineered for automatic handling and insertion

**GENERAL SPECIFICATIONS :**

Capacitance Range	100pF to 10 $\mu$ F
Capacitance Tolerance	$\pm 10\%$ , $\pm 20\%$
Operating Temperature Range	-55 ~ 125
Temperature Coefficient ( $^{\circ}$ C Max.)	$\pm 15\%$
Rated Voltage (VDC)	16, 25, 50, 100, 200/250, 500, 630, 1KV, 2KV, 3KV
Dissipation Factor (tan $\delta$ )	50V-2.5% Max; 25V-3.0% Max; 16V-3.5% Max; 10V-5.05% Max
Insulation Resistance (IR) @25	Lesser of 10G or 1000M $\mu$ F
Aging Rate	-1.5% per Decade hour
Dielectric Strength	200V-2.5Ra; 250V-2.0Ra; 500V/630V-1.5Ra; 1KV-1.25Ra (Ra: Rated Voltage)
Testing Parameters	1KHz $\pm$ 50Hz, 1.0Vrms $\pm$ 0.2Vrms @ 25 $^{\circ}$ C, 0 Volts Bias



**X7R DIELECTRIC****Typical Characteristic Curves and Capacitance Chart****Typical Characteristic Curves :****Capacitance Chart (X7R) :**

Case Size	Rated Voltage	Temp. Chart.	Capacitance		Dimension (mm)				
			Range (pF)	Tolerance	L	W	T (max)	MB (min)	G (min)
0402	N/B=10/16V	±15 %	8200 ~ 33000	K, M	1.0±0.05	0.5±0.05	0.5±0.05	0.10	0.30
	T=25V		4700 ~ 6800						
	U=50V		220 ~ 3900						
0603	N/B=10/16V		18000 ~ 100000		1.6±0.10	0.8±0.10	0.8±0.10	0.20	0.40
	T=25V		10000 ~ 47000						
	U=50V		180 ~ 47000						
	A=100V		100 ~ 10000						
	G/H=200/250V		100 ~ 5600						
0805	N/B=10/16V		10000 ~ 100000		2.0±0.20	1.25±0.1	1.40	0.25	0.70
	T=25V		10000 ~ 150000						
	U=50V		150 ~ 100000						
	A=100V		100 ~ 47000						
	G/H=200/250V		100 ~ 27000						
1206	N/B=10/16V		330 ~ 1000000		3.0±0.20	1.6±0.20	1.52	0.25	1.40
	T=25V		330 ~ 330000						
	U=50V		330 ~ 150000						
	A=100V		100 ~ 150000						
	G/H=200/250V		100 ~ 100000						
	C=500V		180 ~ 15000						
	D=630V		180 ~ 6800						
	M=1000V		100 ~ 2200						
	A=100V		1000 ~ 3300						
1210	G/H=200/250V		10000 ~ 180000		3.2±0.30	2.5±0.30	1.80	0.25	1.40
	C=500V		390 ~ 39000						
	D=630V		390 ~ 18000						
	M=1000V		180 ~ 5600						
1808	D=630V		390 ~ 22000		4.5±0.35	2.0±0.30	2.00	0.25	2.15
	M=1000V		220 ~ 1800						
	M2=2000V		220 ~ 1800						
1812	M3=3000V		100 ~ 680		4.5±0.35	3.2±0.30	1.80	0.25	2.15
	A=100V		3900 ~ 680000						
	G/H=200/250V		3900 ~ 470000						
	C=500V		390 ~ 120000						
	D=630V		390 ~ 100000						
	M=1000V		390 ~ 22000						
	M2=2000V		390 ~ 4700						
2220	M3=3000V		100 ~ 1500		5.7±0.40	5.0±0.40	1.80	0.25	3.30
	A=100V		10000 ~ 1000000						
	G/H=200/250V		10000 ~ 820000						
	C=500V		1000 ~ 270000						
	D=630V		1000 ~ 220000						
	M=1000V		390 ~ 56000						
	M2=2000V		390 ~ 12000						
2225	M3=3000V		180 ~ 2700		5.7±0.40	6.3±0.40	1.80	0.25	3.30
	A=100V		18000 ~ 1500000						
	G/H=200/250V		18000 ~ 1000000						
	C=500V		15000 ~ 330000						
	D=630V		15000 ~ 220000						
	M=1000V		390 ~ 56000						
	M2=2000V		390 ~ 15000						
	M3=3000V		180 ~ 3300						

- When Ordering, please use the Pan Overseas Part number as indicated on page no. 1.

