

ATC GENERAL PURPOSE CAPACITORS: X7R DIELECTRIC

ELECTRICAL CHARACTERISTICS

CAPACITANCE RANGE: 220 pF to 2.2 μ F.

TEMPERATURE CHARACTERISTIC: $\pm 15\%$ with 0 Vdc applied.

OPERATING TEMPERATURE RANGE: -55°C to $+125^{\circ}\text{C}$.

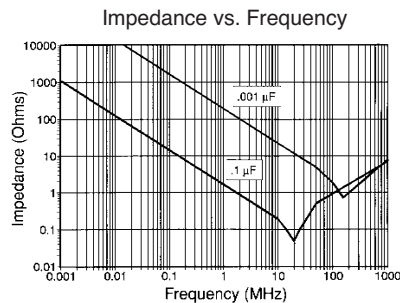
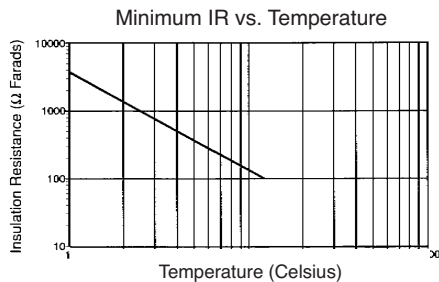
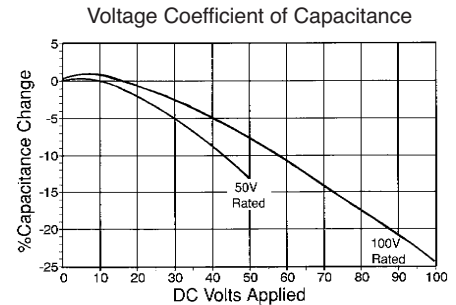
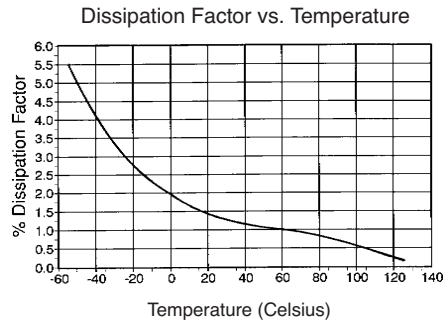
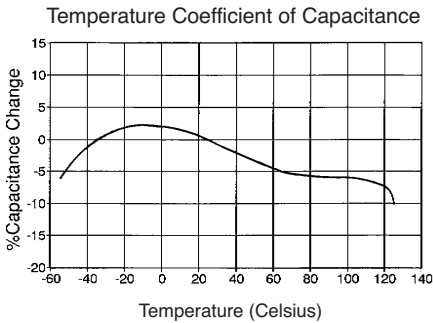
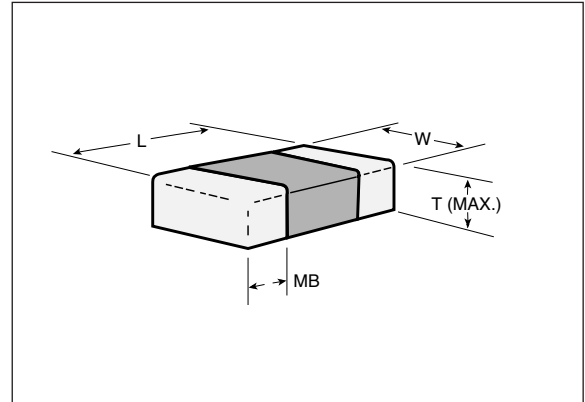
DISSIPATION FACTOR: 2.5% (max.) @ 25°C ,
@1 MHz ≤ 1000 pF; @1 KHz >1000 pF

INSULATION RESISTANCE @ $+25^{\circ}\text{C}$ and rated Vdc:
100,000 megohms (min.) or 1000 ohm-farads (min.), whichever is less.

DIELECTRIC WITHSTANDING VOLTAGE: 250% of rated voltage
for 5 ± 1 seconds, 50 milliamps (max.).

AGING RATE: 1% (maximum) per decade.

Unless otherwise specified all test data is at $+25^{\circ}\text{C}$.



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SIZE	0402	0504	0603	0805	1206	1210	1812	2225*
Length (L)	.040 (1.02)	.050 (1.27)	.063 (1.60)	.079 (2.00)	.126 (3.20)	.126 (3.20)	.177 (4.50)	.220 (5.59)
Width (W)	.020 (0.51)	.040 (1.02)	.031 (0.80)	.049 (1.25)	.063 (1.60)	.098 (2.50)	.126 (3.20)	.250 (6.35)
Tol. L & W	±.004 (0.10)	±.006 (.152)	±.005 (0.12)	±.008 (0.2)	±.008 (0.2)	±.008 (0.2)	±.010 (0.25)	±.015 (0.38)
T Max.	.025 (0.64)	.044 (1.12)	.035 (0.89)	.051 (1.30)	.051 (1.30)	.067 (1.70)	.067 (1.70)	.070 (1.78)
Term. (MB) Min.	.004 (.10)	.005 (.12)	.005 (.12)	.010 (.25)	.010 (.25)	.010 (.25)	.010 (.25)	.010 (.25)
Max.	.012 (.30)	.015 (.38)	.015 (.38)	.028 (.71)	.028 (.71)	.028 (.71)	.030 (.76)	.030 (.76)
Min. Cap.	121	221	331	471	102	102	122	183
Max. Cap. (code) & WVDC								
10V				475				
16V	104	393	224	335	334	684	125	225
25V	273	273	104	474	274	564	105	185
50V	103	273	104	224	474	105	225	335
100V	272	153	103	563	154	105	105	225
200V	182	103	682	333	823	184	334	105
500V				103	273	563	104	334
1000V				272	682	153	273	124
2000V					102	222	392	183
5000V								

Dimensions shown in inches (mm)

* IR and Vapor Phase soldering only recommended.

PART NUMBER CODE

Size Code: 0805 X7R 10 2 K I 2 A I

Temperature Characteristic: X7R

Capacitance Code: First 2 Significant Digits For Capacity. 10 2

Indicates number of zeros following digits of capacitance in picofarads. 10 2

Termination Code: I 2 A I

Marking: A=No mark
*S=EIA Code - *Special Order

WVDC Code	A	7	1	2	3	4	5	6	8	9
WVDC	10	16	25	50	100*	200*	500*	1000*	*2000	*5000

*Special Order - Consult Factory

Termination Code
T = Tin plated over Nickel Barrier (Standard), RoHS Compliant
W = Tin/Lead, Solder Plated over Nickel Barrier**
C = Palladium Silver, (non-magnetic), RoHS Compliant**
**Consult ATC for availability

CAPACITANCE TOLERANCE		
Code	*J	K
Tol.	±5	±10

*Tighter tolerances available.

STANDARD EIA CAPACITANCE VALUES REFERENCE TABLE

Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF
0R5	0.5	6R8	6.8	560	56	471	470	392	3900	273	.027	224	.22	185	1.8
1R0	1.0	8R2	8.2	680	68	561	560	472	4700	333	.033	274	.27	225	2.2
1R2	1.2	100	10	820	82	681	680	562	5600	393	.039	334	.33	275	2.7
1R5	1.5	120	12	101	100	821	820	682	6800	473	.047	394	.39	335	3.3
1R8	1.8	150	15	121	120	102	1000	822	8200	563	.056	474	.47	395	3.9
2R2	2.2	180	18	151	150	122	1200	Cap. Code Cap. pF		683	.068	564	.56	475	4.7
2R7	2.7	220	22	181	180	152	1500	103	.010	823	.082	684	.68	565	5.6
3R3	3.3	270	27	221	220	182	1800	123	.012	104	.10	824	.82	685	6.8
3R9	3.9	330	33	271	270	222	2200	153	.015	124	.12	105	1.0	825	8.2
4R7	4.7	390	39	331	330	272	2700	183	.018	154	.15	125	1.2	106	10.0
5R6	5.6	470	47	391	390	332	3300	223	.022	184	.18	155	1.5	126	12.0
														156	15.0

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