

# X38 SERIES — X7R DIELECTRIC

## OPERATING TEMPERATURE RANGE —55° C to +200° C

### HI-TEMP CERAMIC CAPACITORS

### RECTANGULAR — PRECISION EPOXY CASE — RADIAL LEADS SPECIFICATIONS

#### PART NUMBER AND ORDERING INFORMATION



- MATERIAL:** X = X7R
- SERIES:** 38 = 200° C  
Rectangular - Radial Leads
- WORKING VOLTAGE DC:**  
A = 100 VDC  
C = 50 VDC  
D = 25 VDC
- CAPACITANCE IN PICO FARADS:**  
102 = 1000 pF  
First two digits are significant,  
last digit signifies number of zeros.
- TOLERANCE:**  
J = ± 5%  
K = ± 10%  
M = ± 20%



**LEAD MATERIAL:**  
.025" dia Tinned Nickel  
per MIL-STD-1276 N-3  
WELDABLE AND SOLDERABLE

**WORKING VOLTAGE:** 25/50/100 VDC @ 200° C  
50/100/200 VDC @ 150° C  
**TEMPERATURE COEFFICIENT:** X7R ± 15% Change  
—55° C through +125° C  
See Figure 2.

**DISSIPATION FACTOR:** 2.5% Max @ 1kHz, 1 VRMS 25° C  
See Figure 4.

**INSULATION RESISTANCE:** 100,000 Megohms or 1000 Megohms-Microfarads, whichever is less at 25° C and Rated Voltage. 5000 Megohms or 5 Megohm-Microfarads, whichever is less at 200° C and Rated Voltage. See Figure 5.

**DIELECTRIC STRENGTH:** 250% Rated Voltage for 5 ± 1 Second with 100 MA maximum charging current.

**OPERATING TEMPERATURE RANGE:** —55° C through +200° C

**LIFE TEST:** In excess of 250 hours at Rated Voltage at 200° C.

**MARKING:** As size permits, the following markings will be used (listed in order of preference):

- Capacitance
- Mfg. Identification
- Tolerance
- Voltage
- Lot Code

CAP	25 VDC				50 VDC				100 VDC			
	L	W	T	S	L	W	T	S	L	W	T	S
1000 pF	.200	.200	.100	.200	.200	.200	.100	.200	.200	.200	.100	.200
1200	.200	.200	.100	.200	.200	.200	.100	.200	.200	.200	.100	.200
1500	.200	.200	.100	.200	.200	.200	.100	.200	.200	.200	.100	.200
1800	.200	.200	.100	.200	.200	.200	.100	.200	.200	.200	.100	.200
2200	.200	.200	.100	.200	.200	.200	.100	.200	.200	.200	.100	.200
2700	.200	.200	.100	.200	.200	.200	.100	.200	.200	.200	.100	.200
3300	.200	.200	.100	.200	.200	.200	.100	.200	.200	.200	.100	.200
3900	.200	.200	.100	.200	.200	.200	.100	.200	.200	.200	.100	.200
4700	.200	.200	.100	.200	.200	.200	.100	.200	.200	.200	.100	.200
5600	.200	.200	.100	.200	.200	.200	.100	.200	.200	.200	.100	.200
6800	.200	.200	.100	.200	.200	.200	.100	.200	.200	.200	.100	.200
8200	.200	.200	.100	.200	.200	.200	.100	.200	.200	.200	.100	.200
.010 Mfd	.200	.200	.100	.200	.200	.200	.100	.200	.300	.300	.100	.200
.012	.200	.200	.100	.200	.200	.200	.100	.200	.300	.300	.100	.200
.015	.200	.200	.100	.200	.200	.200	.100	.200	.300	.300	.100	.200
.018	.200	.200	.100	.200	.200	.200	.100	.200	.300	.300	.100	.200
.022	.200	.200	.100	.200	.200	.200	.100	.200	.300	.300	.100	.200
.025	.200	.200	.100	.200	.200	.200	.100	.200	.300	.300	.100	.200
.027	.200	.200	.100	.200	.200	.200	.100	.200	.300	.300	.100	.200
.033	.200	.200	.100	.200	.200	.200	.100	.200	.300	.300	.100	.200
.039	.200	.200	.100	.200	.200	.200	.100	.200	.300	.300	.100	.200
.047	.200	.200	.100	.200	.200	.200	.100	.200	.300	.300	.100	.200
.050	.200	.200	.100	.200	.200	.200	.100	.200	.300	.300	.100	.200
.056	.200	.200	.100	.200	.200	.200	.100	.200	.300	.300	.100	.200
.068	.200	.200	.100	.200	.200	.200	.100	.200	.300	.300	.100	.200
.082	.300	.300	.100	.200	.300	.300	.100	.200	.500	.500	.100	.400
.10	.300	.300	.100	.200	.300	.300	.100	.200	.500	.500	.100	.400
.12	.300	.300	.100	.200	.300	.300	.100	.200	.500	.500	.100	.400
.15	.300	.300	.100	.200	.300	.300	.100	.200	.500	.500	.100	.400
.18	.300	.300	.100	.200	.300	.300	.100	.200	.500	.500	.100	.400
.22	.300	.300	.100	.200	.300	.300	.100	.200	.500	.500	.100	.400
.25	.300	.300	.100	.200	.300	.300	.100	.200	.500	.500	.100	.400
.27	.300	.300	.100	.200	.300	.300	.100	.200	.500	.500	.100	.400
.33	.300	.300	.100	.200	.300	.300	.100	.200	.500	.500	.100	.400
.39	.300	.300	.100	.200	.300	.300	.100	.200	.500	.500	.100	.400
.47	.300	.300	.100	.200	.300	.300	.100	.200	.500	.500	.100	.400
.50	.300	.300	.100	.200	.300	.300	.100	.200	.500	.500	.100	.400
.56	.300	.300	.100	.200	.300	.300	.100	.200	.500	.500	.100	.400
.68	.300	.300	.100	.200	.300	.300	.100	.200	.500	.500	.100	.400
.82	.500	.500	.100	.400	.500	.500	.100	.400	.700	.700	.100	.400
1.0	.500	.500	.100	.400	.500	.500	.100	.400	.700	.700	.100	.400
1.5	.500	.500	.100	.400	.500	.500	.100	.400	.700	.700	.100	.400
2.0	.500	.500	.100	.400	.500	.500	.100	.400	.700	.700	.100	.400
2.5	.500	.500	.100	.400	.500	.500	.100	.400	.700	.700	.100	.400
3.0	.500	.500	.100	.400	.500	.500	.100	.400	.700	.700	.100	.400
4.0	.400	.700	.350	.600	.400	.700	.350	.600	.400	.700	.350	.600
5.0	.400	.700	.350	.600	.400	.700	.350	.600	.400	.700	.350	.600
6.0	.400	.700	.350	.600	.400	.700	.350	.600	.400	.700	.350	.600
8.0	.400	.700	.350	.600	.400	.700	.350	.600	.400	.700	.350	.600
10.0	.400	.700	.350	.600	.400	.700	.350	.600	.400	.700	.350	.600