

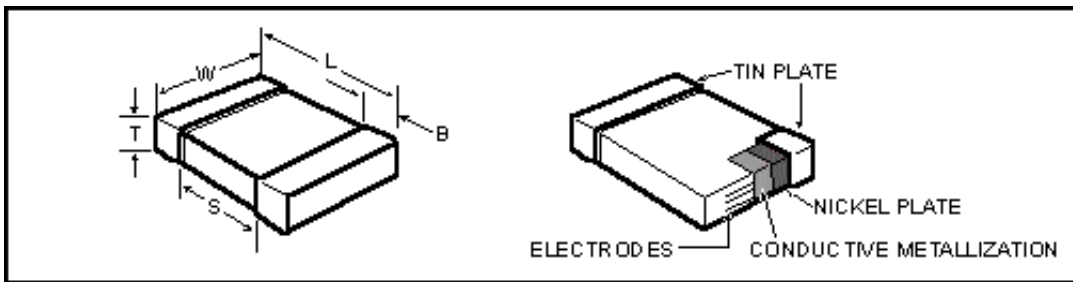


New Product Bulletin

Surface Mount Ceramic Chip Capacitors X7R Dielectric

X7R/0603 - .27 μ F (274) - .47 μ F (474) @ 6.3; 10; 16 Volts

Outline Drawing



**Table 1
Dimensions - Millimeters (Inches)**

| Metric Size Code | EIA Size Code | L - Length | W - Width | Max. T - Thickness | B - Bandwidth | Separation |
|------------------|---------------|------------------------------|------------------------------|--------------------|-------------------------------|------------|
| 1608 | 0603 | 1.6 (.063) \pm 0.15 (.006) | 0.8 (.032) \pm 0.15 (.006) | See Table 2 | 0.35 (.014) \pm 0.15 (.006) | 0.7 (.028) |

Table 2 - X7R - Capacitance Value Extensions

| Capacitance Values (μ F) | KEMET Part Number | Capacitance Tolerance | Thickness mm | Qty 7" Reel | Qty 13" Reel |
|-------------------------------|--------------------|-----------------------|---------------|-------------|--------------|
| .27 | C0603C274(1)(2)RAC | K,M | 0.8 \pm .15 | 4,000 | 10,000 |
| .33 | C0603C334(1)(2)RAC | K,M | 0.8 \pm .15 | 4,000 | 10,000 |
| .39 | C0603C394(1)(2)RAC | K,M | 0.8 \pm .15 | 4,000 | 10,000 |
| .47 | C0603C474(1)(2)RAC | K,M | 0.8 \pm .15 | 4,000 | 10,000 |

- (1) To complete KEMET part number, insert the alpha code for tolerance desired. K = \pm 10%; M = \pm 20%
 (2) To complete KEMET part number, insert the numeric code for voltage desired. 9 = 6.3 volts; 8 = 10 volts and 4 = 16 volts.



Electrical Parameters

As detailed in the KEMET Surface Mount Catalog F3102 for X7R, with following specific requirements based on room temperature (25°C) parameters:

- Operating Range: -55°C to +125°C, with no-bias capacitance shift limited to $\pm 15\%$ over that range
- Insulation Resistance (IR) measured after 2 minutes at rated voltage @ 25°C: Limit is 500 megohm-microfarads.
- Capacitance and Dissipation Factor (DF) measured at 1KHz at 1.0Vrms. DF Limit for 6.3 and 10 volts is 5.0%. DF for 16 volt is 3.5%.

Soldering Process

The 0603 components are suitable for reflow and wave soldering. All parts incorporate the standard KEMET barrier layer of pure nickel, with an overplate of pure tin to provide excellent solderability as well as resistance to leaching.

Marking

These chips are normally supplied unmarked. If required, they can be laser marked as an extra cost option. More detail on the marking format is included in our Surface Mount Catalog F3102.

In general, the information in the KEMET Surface Mount catalog F3102 applies to these capacitors. The information in this bulletin supplements that in the catalog.