



New Product Bulletin

Surface Mount Ceramic Chip Capacitors X7R Dielectric

X7R/0402 - .012 μ F (123) - .10 μ F (104) @ 6.3; 10; 16 Volts

Outline Drawing

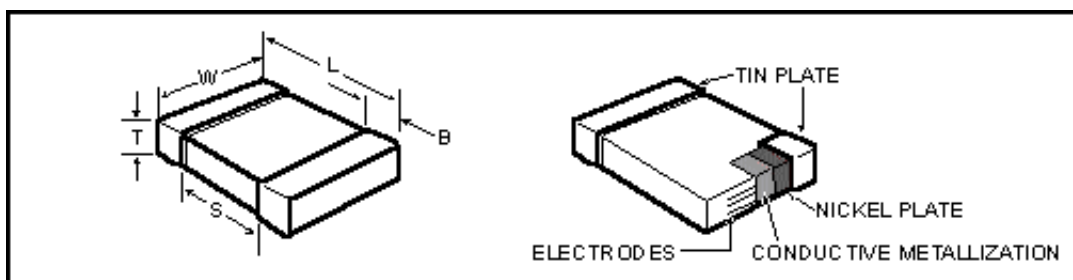


Table 1
Dimensions - Millimeters (Inches)

Metric Size Code	EIA Size Code	L - Length	W - Width	Max. T - Thickness	B - Bandwidth	Separation
1005	0402	1.0 (.04) $\pm$.05 (.002)	0.5 (.02) $\pm$.05 (.002)	See Table 2	0.20 (.008)-0.40 (.016)	0.3 (.012)

Table 2 - X7R - Capacitance Value Extensions

Capacitance Values (μ F)	KEMET Part Number	Capacitance Tolerance	Thickness mm	Qty 7" Reel	Qty 13" Reel
.012	C0402C123(1)(2)RAC	K,M	0.5 $\pm$.05	10,000	50,000
.015	C0402C153(1)(2)RAC	K,M	0.5 $\pm$.05	10,000	50,000
.018	C0402C183(1)(2)RAC	K,M	0.5 $\pm$.05	10,000	50,000
.022	C0402C223(1)(2)RAC	K,M	0.5 $\pm$.05	10,000	50,000
.027	C0402C273(1)(2)RAC	K,M	0.5 $\pm$.05	10,000	50,000
.033	C0402C333(1)(2)RAC	K,M	0.5 $\pm$.05	10,000	50,000
.039	C0402C393(1)(2)RAC	K,M	0.5 $\pm$.05	10,000	50,000
.047	C0402C473(1)(2)RAC	K,M	0.5 $\pm$.05	10,000	50,000
.056	C0402C563(1)(2)RAC	K,M	0.5 $\pm$.05	10,000	50,000
.068	C0402C683(1)(2)RAC	K,M	0.5 $\pm$.05	10,000	50,000
.082	C0402C823(1)(2)RAC	K,M	0.5 $\pm$.05	10,000	50,000
.10	C0402C104(1)(2)RAC	K,M	0.5 $\pm$.05	10,000	50,000

- (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 0402 components are suitable for reflow soldering only. 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 supplied unmarked.

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.