Non-Magnetic Capacitors - High Q, C0G/NP0, X7R - 16V to 7.2kV

MLC capacitors with silver/palladium (Ag/Pd) terminations have often been used in medical applications where non-magnetic components are required, for example in MRI equipment - however, conventional nickel barrier terminations are not suitable due to their magnetic properties. In addition, RoHS requirement to use lead-free solders would cause an increase in soldering temperatures and cause solder leaching problems for the Ag/Pd termination. This has meant alternatives have had to be found and one solution is to use a copper barrier instead of a nickel barrier, with a tin finish on top. This non-magnetic termination is offered with selected non-magnetic C0G/NP0, High Q and X7R dielectrics, providing a fully non-magnetic component (μr = 1.0000).

To meet high temperature 260ºC soldering reflow profiles as detailed in J-STD-020, C0G/NP0 dielectrics are supplied with FlexiCap™ or sintered termination whilst X7R dielectrics are supplied only with the FlexiCap™ termination.

Available in chip or ribbon leaded format for certain case sizes (consult sales office).

High Q, C0G/NP0 - minimum/maximum capacitance values

Chip Size	0402	0603	0505	0805	1206	1111 1210	1808	1812	2220
Min Cap	0.1pF	0.1pF	0.2pF	0.2pF	0.5pF	0.3pF	1.0pF	1.0pF	2.0pF
50V 63V	22pF	100pF	220pF	470pF	1.5nF	-	-	-	-
100V	15pF	68pF	150pF	330pF	1.0nF	2.2nF	2.2nF	4.7nF	10nF
150V	10pF	47pF	100pF	220pF	680pF	1.5nF	1.5nF	3.3nF	6.8nF
200V 250V	6.8pF	33pF	56pF	150pF	470pF	1.0nF	1.0nF	2.2nF	4.7nF
300V	-	27pF	47pF	120pF	390pF	820pF	820pF	1.8nF	3.9nF
500V				68pF	270pF	680pF	680pF	1.5nF	3.3nF
630V				-	150pF	390pF	390pF	1.0nF	2.2nF
1000V				-	82pF	220pF	220pF	680pF	1.5nF
2000V				-	18pF	68pF	68pF	150pF	470pF
3000V				-	-	-	-	68pF	150pF

Min Capacitance Tolerance
±0.05pF (<4.7pF)
0.1pF (≥4.7pF & <10pF)
±1% (≥10pF)

X7R - minimum/maximum capacitance values

Chip Size	0402	0603	0805	1206	1210	1808	1812	2220
Min Cap	47pF	100pF	330pF	680pF	1.5nF	2.2nF	3.3nF	6.8nF
16V	10nF	100nF	330nF	1.0μF	1.5μF	1.5μF	3.3μF	5.6μF
25V	6.8nF	68nF	220nF	820nF	1.2μF	1.2μF	2.2μF	4.7μF
50V 63V	4.7nF	47nF	150nF	470nF	1.0μF	680nF	1.5μF	3.3μF
100V	1.5nF	10nF	47nF	150nF	470nF	330nF	1.0μF	1.5μF
200V 250V	680pF	5.6nF	27nF	100nF	220nF	180nF	470nF	1.0μF
500V	-	1.5nF	8.2nF	33nF	100nF	100nF	270nF	560nF
630V			4.7nF	10nF	27nF	33nF	150nF	330nF
1000V			3.3nF	4.7nF	15nF	18nF	56nF	120nF
1200V			-	3.3nF	10nF	10nF	33nF	82nF
1500V			-	2.7nF	6.8nF	6.8nF	22nF	47nF
2000V			-	2.2nF	4.7nF	4.7nF	10nF	27nF

Min Capacitance Tolerance
±5%

High Q, C0G/NP0 High Power RF capacitors - minimum/maximum capacitance values

A range of ultra-low loss High Q ceramic capacitors with C0G/NP0 characteristics suitable for high power applications where minimal power loss and very low self heating is demanded.

Common applications include MRI body coils and wireless charging systems operating in the kHz and MHz frequencies.

Available in chip or ribbon leaded format.

Chip size	Case size 25 - 2225		Case size 40 - 4040	
	Min.	Max.	Min.	Max.
200V	6.2nF	10nF	16nF	27nF
500V	5.1nF	5.6nF	13nF	15nF
630V	3.9nF	4.7nF	12nF	12nF
1kV	1.2nF	3.3nF	5.6nF	10nF
2kV	510pF	1.0nF	1.6nF	5.1nF
3kV	1pF	47*/470pF	910pF	1.5nF
4kV			620pF	820pF
5kV			390pF	560pF
6kV			160pF	330pF
7.0/7.2kV			1pF	56**/150pF

*47pF max. for dual rated @2.5kVac 30MHz
**56pF max. for dual rated @5kVac 30MHz.

Can be ordered as Syfer or Voltronics parts