

High Q (COG/NPO) High Power RF Range and Assemblies

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

Supplied as standard in non-magnetic format common applications include MRI body coils, Semiconductor Manufacturing Equipment, RF Power Amplifiers and Matching Networks, and Broadcast equipment.

The High Q High Power RF range is available in surface mount, ribbon leaved or as a custom assembly.



HIGH Q (COG/NPO) HIGH POWER RF RANGE – PME (SURFACE MOUNT AND RIBBON LEADED)

Chip Size	0505		1111		2225		4040	
	Min Cap Tolerance							
	Min	Max	Min	Max	Min	Max	Min	Max
50V	820pF	820pF	-	-	-	-	-	-
100V	680pF	680pF	1.6nF	2.2nF	-	-	-	-
150V	470pF	560pF	1.1nF	1.5nF	-	-	-	-
200V	330pF	390pF	-	-	6.2nF	10nF	16nF	27nF
250V	240pF	270pF	750pF	1nF	6.2nF	10nF	16nF	27nF
300V	120pF	220pF	620pF	680pF	-	-	-	-
500V	0.2pF	100pF	510pF	560pF	5.1nF	5.6nF	13nF	15nF
630V	-	-	240pF	470pF	3.6nF	4.7nF	11nF	12nF
1kV	-	-	110pF	220pF	2.7nF	3.3nF	9.1nF	10nF
1.5kV	-	-	75pF	100pF	1.1nF	2.4nF	5.6nF	8.2nF
2kV	-	-	0.4pF* 2.2pF	68pF	910pF	1.0nF	2.4nF	5.1nF
2.5kV	-	-	-	-	510pF	820pF	1.6nF	2.2nF
3kV	-	-	-	-	110pF	470pF	910pF	1.5nF
3.6kV	-	-	-	-	1pF	47pF** /100pF	-	-
4kV	-	-	-	-	-	-	620pF	820pF
5kV	-	-	-	-	-	-	360pF	560pF
6kV	-	-	-	-	-	-	160pF	330pF
7kV / 7.2kV	-	-	-	-	-	-	1pF	56pF*** /150pF

*1111 2kV: Min value is 0.4pF for surface mount part and 2.2pF for ribbon leaved part

**2225 3.6kV: Values up to 47pF max. are dual rated 3.6kVdc and 2.5kVac @ 30MHz

***4040 7kV/7.2kV: Values up to 56pF max. are dual rated 7kV/7.2kVdc and 5kVac @ 30MHz

MINIMUM/MAXIMUM CAPACITANCE VALUES (CONTINUED)

Chip Size	6040		7065		7274		7676		A3A3	
Min Cap Tolerance	±0.10pF (<10pF) and ±1% (≥10pF)									
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1kV	11nF	15nF	16nF	22nF	27nF	33nF	27nF	33nF	75nF	120nF
2kV	6.2nF	10nF	9.1nF	15nF	16nF	24nF	16nF	24nF	36nF	68nF
3kV	2.4nF	5.6nF	3.6nF	8.2nF	5.6nF	15nF	5.6nF	15nF	13nF	33nF
5kV	510pF	2.2nF	910pF	3.3nF	1.1nF	5.1nF	1.1nF	5.1nF	3.6nF	12nF
8kV	300pF	470pF	620pF	820pF	750pF	1.0nF	1.0nF	1.0nF	3.3nF	3.3nF
10kV	100pF	270pF	100pF	560pF	100pF	680pF	680pF	680pF	200pF	2.7nF

***A3A3 only available with ribbon leads

High Q (COG/NPO) High Power RF Range and Assemblies

NON-MAGNETIC CAPACITORS – SURFACE MOUNT - HIGH Q HIGH POWER RF RANGE

4040	2	7K0	0470	G	Q	B	AF9
Chip Size	Termination	Rated Voltage	Capacitance in Pico farads (pF)	Capacitance Tolerance	Dielectric Codes	Packaging	Suffix Code
0505 1111 2225 4040 6040 7065 7274 7676	2 = Sintered silver base with copper barrier (100% matte tin plating). RoHS compliant.	100 = 100V 150 = 150V 200 = 200V 250 = 250V 300 = 300V 500 = 500V 630 = 630V 1K0 = 1kV 1K5 = 1.5kV 2K0 = 2kV 3K0 = 3kV 3K6 = 3.6kV 4K0 = 4kV 5K0 = 5kV 6K0 = 6kV 7K0 = 7kV / 7.2kV 8K0 = 8kV 10K = 10kV	<10pF Insert a P for the decimal point as the second character. e.g., P300 = 0.3pF 8P20 = 8.2pF ≥10pF First digit is 0. Second and third digits are significant figures of capacitance code. The fourth digit is the number of zeros following. e.g., 0103 = 10000 pF Values <1pF in 0.1pF steps, above this values are E24 series	<10pF H: ± 0.05pF B: ± 0.10pF C: ± 0.25pF D: ± 0.5pF ≥10pF F: ± 1% G: ± 2% J: ± 5% K: ± 10% M: ± 20%	H = High Q (COG/NPO) – BME Q = High Q (COG/NPO) - PME	T = 178mm (7") reel - horizontal (chip sizes 1111 and 2225 only) V = 178mm (7") reel - vertical (chip size 1111 only) R = 330mm (13") reel B = Bulk pack – tubs or trays	AF9 = SM standard AF9LM = SM standard with optional marking Also used for specific customer requirements

NON-MAGNETIC CAPACITORS – RIBBON LEADED - HIGH Q HIGH POWER RF RANGE

2225	V	3K0	6P80	G	Q	B	R	-
Chip Size	Termination	Rated Voltage	Capacitance in Pico farads (pF)	Capacitance Tolerance	Dielectric Codes	Packaging	Lead Option	Suffix Code
1111 2225 4040 6040 7065 7274 7676 A3A3	B = Uncoated V = Coated with modified silicone lacquer	100 = 100V 150 = 150V 200 = 200V 250 = 250V 300 = 300V 500 = 500V 630 = 630V 1K0 = 1kV 1K5 = 1.5kV 2K0 = 2kV 3K0 = 3kV 3K6 = 3.6kV 4K0 = 4kV 5K0 = 5kV 6K0 = 6kV 7K0 = 7kV / 7.2kV 8K0 = 8kV 10K = 10kV	<10pF Insert a P for the decimal point as the second character. e.g., P300 = 0.3pF 8P20 = 8.2pF ≥10pF First digit is 0. Second and third digits are significant figures of capacitance code. The fourth digit is the number of zeros following. e.g., 0103 = 10000 pF Values <1pF in 0.1pF steps, above this values are E24 series	<10pF H: ± 0.05pF B: ± 0.10pF C: ± 0.25pF D: ± 0.5pF ≥10pF F: ± 1% G: ± 2% J: ± 5% K: ± 10% M: ± 20%	Q = High Q (COG/NPO) - PME	B = Bulk pack – tubs or trays	R = Ribbon Lead	W211 = leaded and marked W221 = leaded / not marked (standard) Also used for specific customer requirements

CUSTOM ASSEMBLIES

For higher capacitance, voltage and power requirements these capacitors can be combined in series and parallel combinations with lead and other custom metalwork. With in house machining and plating capabilities, along with a multitude of soldering and attachment technologies, we are able to consider any project. Please reach out to us to discuss your custom requirements at appengcap@knowles.com. We are also able to accommodate assemblies using other MLCC types from our standard ranges.

