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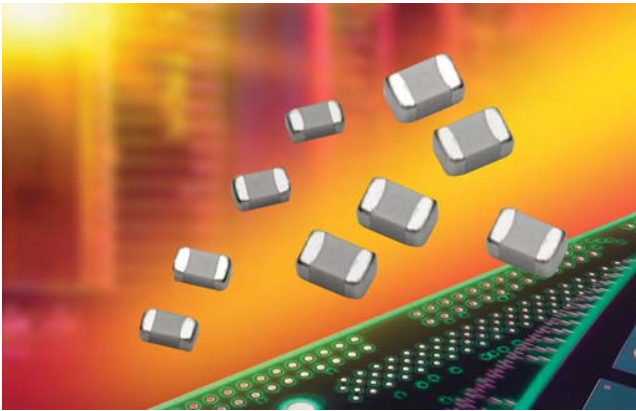
[AVX Corporation](#)
[MK03V73R3BAT2A](#)

For any questions, you can email us directly:

sales@integrated-circuit.com

MK Series Capacitors

Ultra Low ESR, C0G (NP0) Chip Capacitors

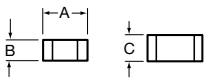


GENERAL INFORMATION

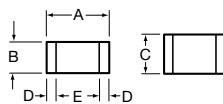
Capacitors are C0G (NP0) chip capacitors specially designed for "Ultra" low ESR for applications in the communications market. Max ESR and effective capacitance are met on each value producing lot to lot uniformity. Sizes available are EIA chip sizes 0402, 0603, 0805, and 1210.

DIMENSIONS: inches (millimeters)

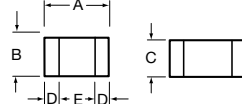
0402



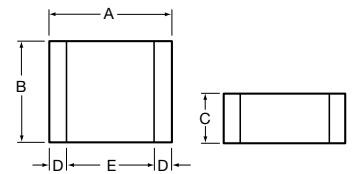
0603



0805



1210



inches (mm)

Size	A	B	C	D	E
0402	0.039±0.004 (1.00±0.1)	0.020±0.004 (0.50±0.1)	0.024 (0.6) max	N/A	N/A
0603	0.060±0.010 (1.52±0.25)	0.030±0.010 (0.76±0.25)	0.036 (0.91) max	0.010±0.005 (0.25±0.13)	0.030 (0.76) min
0805	0.079±0.008 (2.01±0.2)	0.049±0.008 (1.25±0.2)	0.040±0.005 (1.02±0.127)	0.020±0.010 (0.51±0.254)	0.020 (0.51) min
1210	0.126±0.008 (3.2±0.2)	0.098±0.008 (2.49±0.2)	0.050±0.005 (1.27±0.127)	0.025±0.015 (0.635±0.381)	0.040 (1.02) min

HOW TO ORDER

MK05

Case Size
 MK02 = 0402
 MK03 = 0603
 MK05 = 0805
 MK10 = 1210

V

Voltage Code
 3 = 25V
 5 = 50V
 1 = 100V
 2 = 200V
 V = 250V
 7 = 500V

7

Dielectric = Ultra Low ESR

100

Capacitance

EIA Capacitance Code in pF.
 First two digits = significant figures or "R" for decimal place.
 Third digit = number of zeros or after "R" significant figures.

J

Capacitance Tolerance Code

B = ±0.1pF
 C = ±0.25pF
 D = ±0.5pF
 F = ±1%
 G = ±2%
 J = ±5%
 K = ±10%
 M = ±20%

A

Failure Rate Code
 A = Not Applicable

T

Termination
 T = 100% Tin

2

Packaging Code
 2 = 7" Reel
 4 = 13" Reel
 9 = Bulk

A

Special Code
 A = Standard



MK Series Capacitors



Ultra Low ESR, C0G (NP0) Chip Capacitors

ELECTRICAL CHARACTERISTICS

Capacitance Values and Tolerances:

- Size MK02 - 0.2 pF to 30 pF @ 1 MHz
- Size MK03 - 0.2 pF to 120 pF @ 1 MHz
- Size MK05 - 1.0 pF to 160 pF @ 1 MHz
- Size MK10 - 1.0 pF to 1000 pF @ 1 MHz

Temperature Coefficient of Capacitance (TC):

0±30 ppm/°C (-55° to +125°C)

Insulation Resistance (IR):

- 10¹² Ω min. @ 25°C and rated WVDC
- 10¹¹ Ω min. @ 125°C and rated WVDC

Working Voltage (WVDC):

- Size Working Voltage
- MK02 - 50, 25 WVDC
- MK03 - 250, 200, 100, 50 WVDC
- MK05 - 250 WVDC
- MK10 - 500, 200, 100 WVDC

Dielectric Working Voltage (DWV):

250% of rated WVDC

Equivalent Series Resistance Typical (ESR):

- MK02 - See Performance Curve, page 203
- MK03 - See Performance Curve, page 203
- MK05 - See Performance Curve, page 203
- MK10 - See Performance Curve, page 203

MILITARY SPECIFICATIONS

Meets or exceeds the requirements of MIL-C-55681

CAPACITANCE RANGE

Cap (pF)	Available Tolerance	Size			
		MK02	MK03	MK05	MK10
0.2	B,C	50V	250V	N/A	N/A
0.3	↓	↓	↓	↓	↓
0.4	↓	↓	↓	↓	↓
0.5	B,C	↓	↓	↓	↓
0.6	B,C,D	↓	↓	↓	↓
0.7	↓	↓	↓	↓	↓
0.8	↓	↓	↓	↓	↓
0.9	B,C,D	↓	↓	↓	↓

Cap (pF)	Available Tolerance	Size			
		MK02	MK03	MK05	MK10
1.0	B,C,D	50V	250V	250V	500V
1.1	↓	↓	↓	↓	↓
1.2	↓	↓	↓	↓	↓
1.3	↓	↓	↓	↓	↓
1.4	↓	↓	↓	↓	↓
1.5	↓	↓	↓	↓	↓
1.6	↓	↓	↓	↓	↓
1.7	↓	↓	↓	↓	↓
1.8	↓	↓	↓	↓	↓
1.9	↓	↓	↓	↓	↓
2.0	↓	↓	↓	↓	↓
2.1	↓	↓	↓	↓	↓
2.2	↓	↓	↓	↓	↓
2.4	↓	↓	↓	↓	↓
2.7	↓	↓	↓	↓	↓
3.0	↓	↓	↓	↓	↓
3.3	↓	↓	↓	↓	↓
3.6	↓	↓	↓	↓	↓
3.9	↓	↓	↓	↓	↓
4.3	↓	↓	↓	↓	↓
4.7	↓	↓	↓	↓	↓
5.1	↓	↓	↓	↓	↓
5.6	B,C,D	↓	↓	↓	↓
6.2	B,C,J,K,M	↓	↓	↓	↓
6.8	B,C,J,K,M	↓	↓	↓	↓

Cap (pF)	Available Tolerance	Size			
		MK02	MK03	MK05	MK10
7.5	B,C,J,K,M	50V	250V	250V	500V
8.2	↓	↓	↓	↓	↓
9.1	B,C,J,K,M	↓	↓	↓	↓
10	F,G,J,K,M	↓	↓	↓	↓
11	↓	↓	↓	↓	↓
12	↓	↓	↓	↓	↓
13	↓	↓	↓	↓	↓
15	↓	↓	↓	↓	↓
18	↓	↓	↓	↓	↓
20	↓	↓	↓	↓	↓
22	↓	↓	↓	↓	↓
24	↓	↓	↓	↓	↓
27	↓	↓	↓	↓	↓
30	↓	↓	↓	↓	↓
33	↓	N/A	↓	↓	↓
36	↓	↓	↓	↓	↓
39	↓	↓	↓	↓	↓
43	↓	↓	↓	↓	↓
47	↓	↓	↓	↓	↓
51	↓	↓	↓	↓	↓
56	↓	↓	↓	↓	↓
68	↓	↓	100V	↓	↓
75	↓	↓	↓	↓	↓
82	↓	↓	↓	↓	↓
91	↓	↓	↓	↓	↓

Cap (pF)	Available Tolerance	Size			
		MK02	MK03	MK05	MK10
100	F,G,J,K,M	N/A	100V	250V	500V
110	↓	↓	50V	↓	↓
120	↓	↓	50V	↓	↓
130	↓	↓	50V	↓	↓
140	↓	↓	N/A	↓	↓
150	↓	↓	↓	↓	↓
160	↓	↓	↓	↓	↓
180	↓	↓	↓	N/A	↓
200	↓	↓	↓	↓	200
220	↓	↓	↓	↓	↓
270	↓	↓	↓	↓	↓
300	↓	↓	↓	↓	↓
330	↓	↓	↓	↓	↓
360	↓	↓	↓	↓	↓
390	↓	↓	↓	↓	↓
430	↓	↓	↓	↓	↓
470	↓	↓	↓	↓	↓
510	↓	↓	↓	↓	100V
560	↓	↓	↓	↓	↓
620	↓	↓	↓	↓	↓
680	↓	↓	↓	↓	↓
750	↓	↓	↓	↓	↓
820	↓	↓	↓	↓	↓
910	↓	↓	↓	↓	↓
1000	F,G,J,K,M	↓	↓	↓	↓



LEAD-FREE
LEAD-FREE COMPATIBLE COMPONENT



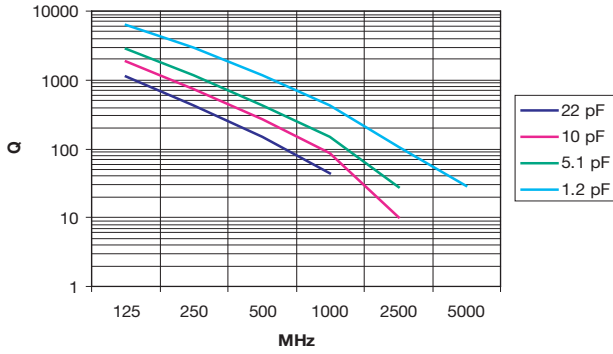
RoHS
COMPLIANT

MK Series Capacitors

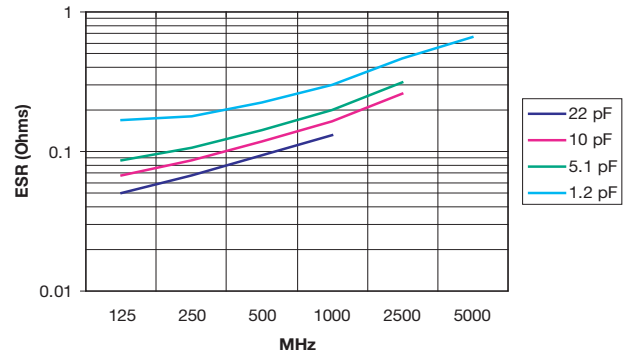
Ultra Low ESR, C0G (NP0) Chip Capacitors



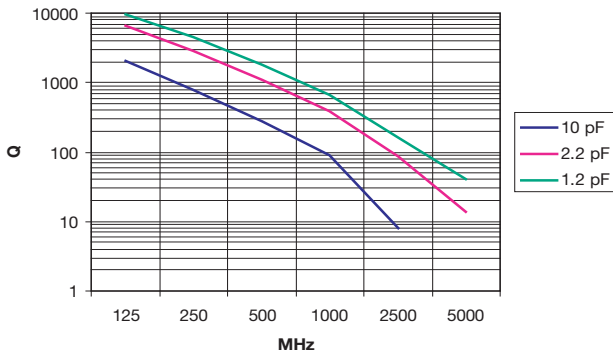
MK02 Q vs Frequency
0402



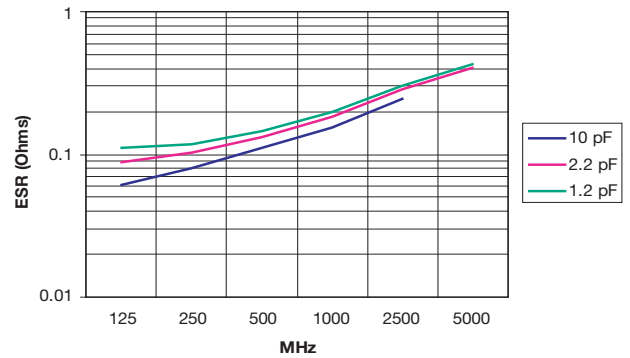
MK02 ESR vs Frequency
0402



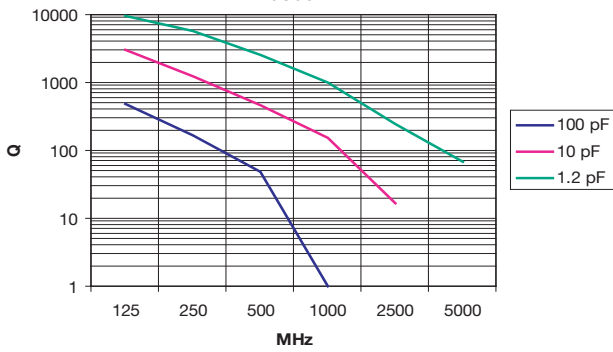
MK03 Q vs Frequency
0603



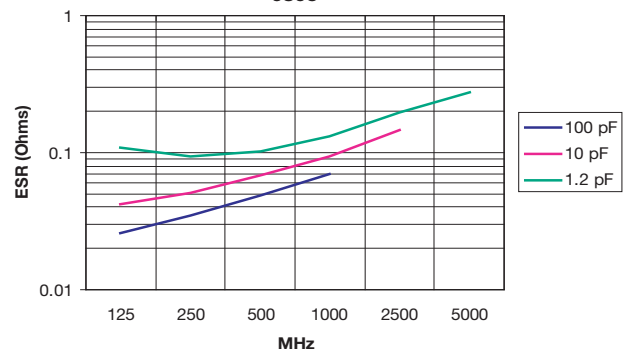
MK03 ESR vs Frequency
0603



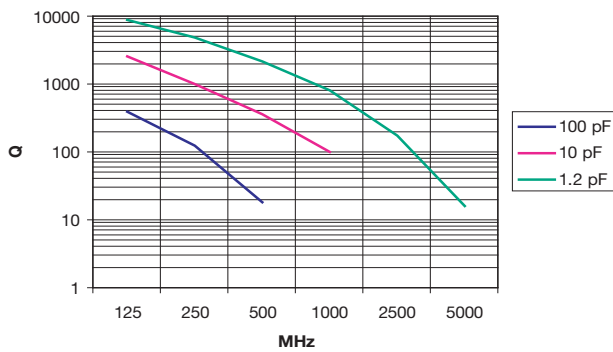
MK05 Q vs Frequency
0805



MK05 ESR vs Frequency
0805



MK10 Q vs Frequency
1210



MK10 ESR vs Frequency
1210

