



Multilayer Ceramic Capacitors

Ultra-High Capacitance COG Surface Mount



Why Choose KEMET

KEMET Electronics Corporation is a leading global supplier of electronic components. We offer our customers the broadest selection of capacitor technologies in the industry, along with an expanding range of electromechanical devices, electromagnetic compatibility solutions and supercapacitors. Our vision is to be the preferred supplier of electronic component solutions for customers demanding the highest standards of quality, delivery and service.

Features & Benefits

- Industry-leading capacitance values
- No piezoelectric properties
- Extremely low ESR and ESL
- High thermal stability
- High ripple current capability
- Preferred capacitance solution at line frequencies and into the MHz range
- No capacitance change with respect to applied rated DC voltage
- No capacitance change with respect to temperature from -55° to +125°C
- No capacitance decay with time
- 100% Pb-free
- Non-polar device
- Lead-free solder process capability (260°C)
- Automotive Grade available
- Sn/Pb and Au termination options

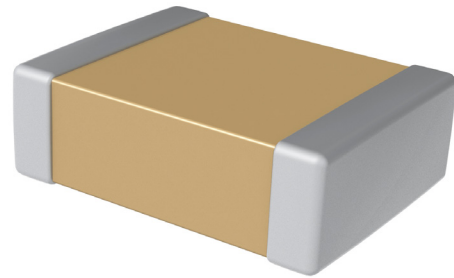
Product Checklist

- Does your application require the stability of a Class 1 dielectric?
- Do you require a surface mount replacement for a film capacitor?
- Do you require a low-loss solution?
- Would you like to downsize your current COG footprint?

For more information, samples and engineering kits, please visit us at www.kemet.com or call 1.877.myKEMET.

Programs Supported

- Automotive
- Consumer
- Industrial
- Medical
- Telecom
- Critical timing
- Tuning
- Circuits requiring low loss
- Circuits with pulse
- High current



Electrical/Physical Characteristics

Case Size	Tolerances	Dielectric Options	Temperature Range	Voltage Options	Capacitance Values
0402	± 0.10 pF	COG (NPO)	-55°C to +125°C	10 VDC – 3,000 VDC	Up to 0.47 µF
0603	± 0.25 pF				
0805	± 0.5 pF				
1206	± 1%				
1210	± 2%				
1808	± 5%				
1812	± 10%				
1825	± 20%				
2220					
2225					
2824					
3040					
3640					
4540					

COG Dielectric SMD MLCC – Ultra High Capacitance Part Number and Ordering Information

C	1206	C	104	J	3	G	A	C	TU
Ceramic	Case Size (L"xW")	Specification/ Series	Capacitance Code (pF)	Capacitance Tolerance ¹	Rated Voltage (VDC)	Dielectric	Failure Rate/ Design	Termination Finish ²	Packaging/ Grade (C-Spec) ³
	0402	C = Standard	2 Sig. Digits + Number of Zeros. Use 9 for 1.0 - 9.9 pF Use 8 for 0.5 - .99 pF ex. 2.2 pF = 229 ex. 0.5 pF = 508	B = ±0.10 pF	8 = 10	G = COG	A = N/A	C = 100% Matte Sn L = SnPb (5% min)	Blank = Bulk TU = 7" Reel Unmarked AUTO = Automotive Grade 7" Reel Unmarked
	0603			C = ±0.25 pF	4 = 16				
	0805			D = ±0.5 pF	3 = 25				
	1206			F = ±1%	5 = 50				
	1210			G = ±2%	1 = 100				
	1808			J = ±5%	2 = 200				
	1812			K = ±10%	A = 250				
	1825			M = ±20%	C = 500				
	2220				B = 630				
	2225				D = 1,000				
	2824				Z = 2,500				
	3040				H = 3,000				
	3640								
	4540								

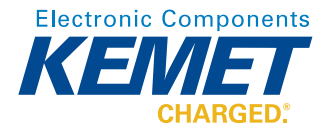
^{1,2} Additional capacitance tolerance and termination finish options may be available. Contact KEMET for details.

³ Additional reeling or packaging options may be available. Contact KEMET for details.



Multilayer Ceramic Capacitors

Ultra-High Capacitance COG Surface Mount



Maximum Available Capacitance (Capacitance Code) By Voltage Rating

Case Size		COG 125°C													
Inches	Metric	Capacitance Code ¹													
		10 V	16 V	25 V	50 V	100 V	200 V	250 V	500 V	630 V	1,000 V	1,500 V	2,000 V	2,500 V	3,000 V
01005	0402														
0201	0603	101	101	101											
0402	1005	222	222	222	152	102	331	331							
0603	1608	153	153	153	682	472	222	222							
0805	2012	473	473	473	223	153	822	822	821	561	271				
1206	3216	104	104	104	823	473	223	223	272	182	102	561	271		
1210	3225	224	224	224	154	104	473	473	822	562	272	122	681		
1808	4520				472	472	272		682	472	272	152	681	391	181
1812	4532	224	224	224	224	154	104	104	153	103	562	272	152	681	391
1825	4564				273	273	123		333	183	103	562	302	162	681
2220	5650	474	474	474	474	334	224	224	333	273	123	682	392	182	102
2225	5664				333	273	153		393	273	153	682	392	222	102
2824	7260								563	393	223	822	562		
3040	7610								104	683	393	153	103		
3640	9210								124	683	473	183	153		
4540									154	104	683	273	183		

¹ The capacitance code represents capacitance in picofarads. The first two digits are significant. The last digit represents the number of zeroes to follow the first two significant digits. For example, 100 would indicate a 10 pF capacitance value and 102 would indicate a 1,000 pF capacitor.