C0G Dielectric, 10VDC-200VDC (Automotive Grade)

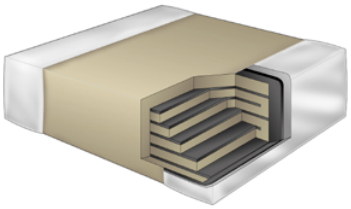
Overview

KEMET's Automotive Grade Series surface mount capacitors in C0G dielectric are suited for a variety of applications requiring reliable operation. Whether under-hood or in-cabin, these devices emphasize the vital and robust nature of capacitors required for mission and safety critical automotive circuits. Stricter testing protocal and inspection criteria have been established for automotive grade products in recognition of potentially harsh environmental conditions . KEMET automotive grade series capacitors meet the demanding Automotive Electronics Council's AEC-Q200 qualification requirements and are manufactured in state of the art ISO/TS 16949:2002 certified facilities.

C0G dielectric features a 125°C maximum operating temperature and is considered "stable." The Electronics Components, Assemblies & Materials Association (EIA) characterizes C0G dielectric as a Class I material. Components of this classification are temperature compensating and are suited for resonant circuit applications or those where Q and stability of capacitance characteristics are required. C0G exhibits no change in capacitance with respect to time and voltage and boasts a negligible change in capacitance with reference to ambient temperature. Capacitance change is limited to ±30ppm/ºC from -55°C to +125°C.

Benefits

- AEC-Q200 automotive qualified
- -55°C to +125°C operating temperature range
- RoHS compliant
- EIA 0402, 0603, 0805, 1206, 1210, 1812 and 2220 case sizes
- DC voltage ratings of 10V, 16V, 25V, 50V, 100V and 200V
- Capacitance offerings ranging from 0.5pF up to 0.47µF
- Available capacitance tolerances of ±0.25pF, ±0.5pF, ±1%, ±2%, ±5%, ±10% and ±20%
- No piezoelectric noise
- 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
- Negligible capacitance change with respect to temperature from -55°C to +125°C
- No capacitance decay with time
- Non-polar device, minimizing installation concerns
- 100% pure matte tin-plated termination finish allowing for excellent solderability
- SnPb plated termination finish option available upon request (5% min)



Ordering Information

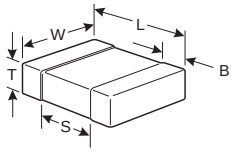
C	1206	C	104	J	3	G	A	C	AUTO
Ceramic	Case Size (L" x W")	Specification/ Series	Capacitance Code (pF)	Capacitance Tolerance[1]	Voltage	Dielectric	Failure Rate/ Design	Termination Finish[2]	Packaging/Grade (C-Spec)[3]
	0402 0603 0805 1206 1210 1812 2220	C = Standard	2 Sig. Digits + Number of Zeros Use 9 for 1.0 - 9.9pF Use 8 for 0.5 - .99pF ex. 2.2pF = 229 ex. 0.5pF = 508	C = ±0.25pF D = ±0.5pF F = ±1% G = ±2% J = ±5% K = ±10% M = ±20%	8 = 10V 4 = 16V 3 = 25V 5 = 50V 1 = 100V 2 = 200V	G = C0G	A = N/A	C = 100% Matte Sn	AUTO = Automotive Grade 7" Reel Unmarked

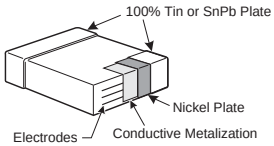
[1] *Additional capacitance tolerance offerings may be available. Contact KEMET for details.*

[2] *Additional termination finish options may be available. Contact KEMET for details*

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

Dimensions – Millimeters (Inches)





EIA Size Code	Metric Size Code	L Length	W Width	T Thickness	B Bandwidth	S Separation Min.	Mounting Technique
0402	1005	1.00 (.040) ± 0.05 (.002)	0.50 (.020) ± 0.05 (.002)	See Table 2 for Thickness	0.30 (.012) ± 0.10 (.004)	0.30 (.012)	Solder Reflow Only
0603	1608	1.60 (.063) ± 0.15 (.006)	0.80 (.032) ± 0.15 (.006)		0.35 (.014) ± 0.15 (.006)	0.70 (.028)	Solder Wave or Solder Reflow
0805	2012	2.00 (.079) ± 0.20 (.008)	1.25 (.049) ± 0.20 (.008)		0.50 (0.02) ± 0.25 (.010)	0.75 (.030)	
1206	3216	3.20 (.126) ± 0.20 (.008)	1.60 (.063) ± 0.20 (.008)		0.50 (0.02) ± 0.25 (.010)	N/A	
1210	3225	3.20 (.126) ± 0.20 (.008)	2.50 (.098) ± 0.20 (.008)		0.50 (0.02) ± 0.25 (.010)		Solder Reflow Only
1812	4532	4.50 (.177) ± 0.30 (.012)	3.20 (.126) ± 0.30 (.012)		0.60 (.024) ± 0.35 (.014)		
2220	5650	5.70 (.224) ± 0.40 (.016)	5.00 (.197) ± 0.40 (.016)		0.60 (.024) ± 0.35 (.014)		

Applications

Typical applications include critical timing, tuning, circuits requiring low loss, circuits with pulse, high current, decoupling, bypass, filtering, transient voltage suppression, blocking and energy storage.

Qualification/Certification

Automotive grade products meet or exceed the requirements outlined by the Automotive Electronics Council. Details regarding test methods and conditions are referenced in document AEC-Q200, Stress Test Qualification for Passive Components. For additional information regarding the Automotive Electronics Council and AEC-Q200, please visit their website @www.aecouncil.com.

Environmental Compliance

RoHS compliant

Electrical Parameters/Characteristics

Item	Parameters/Characteristics
Operating Temperature Range	-55°C to +125°C
Capacitance Change with Reference to +25°C and 0 Vdc Applied (TCC)	±30PPM/°C
Aging Rate (Max % Cap Loss/Decade Hour)	0%
Dielectric Withstanding Voltage	250% of rated voltage (5 ± 1 seconds and charge/discharge not exceeding 50mA)
Dissipation Factor (DF) Maximum Limit @ 25°C	0.1%
Insulation Resistance (IR) Limit @ 25°C	1000 megohm microfarads or 100GΩ (Rated voltage applied for 120 ± 5 secs @ 25°C)

To obtain IR limit, divide MΩ-μF value by the capacitance and compare to GΩ limit. Select the lower of the two limits.
Capacitance and Dissipation Factor (DF) measured under the following conditions:

1MHz ± 100kHz and 1.0Vrms ± 0.2V if capacitance ≤1000pF

1kHz ± 50Hz and 1.0Vrms ± 0.2V if capacitance >1000pF

Note: When measuring capacitance it is important to ensure the set voltage level is held constant. The HP4284 & Agilent E4980 have a feature known as Automatic Level Control (ALC). The ALC feature should be switched to "ON".

Post Environmental Limits

High Temperature Life, Biased Humidity, Moisture Resistance					
Dielectric	Rated DC Voltage	Capacitance Value	DF (%)	Cap Shift	IR
C0G	All	All	0.5	0.3% or ± 0.25 pF	10% of Initial Limit

Table 1A – AUTO C0G Dielectric, (0402 - 1206 Case Sizes)

Cap	Cap Code	Series							C0402						C0603						C0805						C1206					
		Voltage Code							8	4	3	5	1	2	8	4	3	5	1	2	8	4	3	5	1	2	8	4	3	5	1	2
		Voltage DC							10	16	25	50	100	200	10	16	25	50	100	200	10	16	25	50	100	200	10	16	25	50	100	200
		Cap Tolerance							**Product Availability and Chip Thickness Codes - See Table 2 for Chip Thickness Dimensions**																							
0.5-0.75 pF	508-758	C	D						BB	BB	BB	BB			CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC						
1.0-2.4 pF	109-249	C	D						BB	BB	BB	BB			CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
2.7-5.1 pF	279-519	C	D				K	M	BB	BB	BB	BB			CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
5.6-9.1 pF	569-919	C	D			J	K	M	BB	BB	BB	BB			CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
10-13 pF	100-130	C	D			J	K	M	BB	BB	BB	BB			CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
15-36 pF	150-360	C	D		G	J	K	M	BB	BB	BB	BB			CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
27-51 pF	270-510		D		G	J	K	M	BB	BB	BB	BB			CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
39-51 pF	390-510		D	F	G	J	K	M	BB	BB	BB	BB			CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
56 pF	560			F	G	J	K	M	BB	BB	BB	BB			CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
62 pF	620			F	G	J	K	M	BB	BB	BB	BB			CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
68 pF	680			F	G	J	K	M	BB	BB	BB	BB			CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
75 pF	750			F	G	J	K	M	BB	BB	BB	BB			CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
82 pF	820			F	G	J	K	M	BB	BB	BB	BB			CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
91 pF	910			F	G	J	K	M	BB	BB	BB	BB			CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
100 pF	101			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
110 pF	111			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
120 pF	121			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
130 pF	131			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
150 pF	151			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
160 pF	161			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
180 pF	181			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB	CB	DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
200 pF	201			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
220 pF	221			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
240 pF	241			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
270 pF	271			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
300 pF	301			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
330 pF	331			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
360 pF	361			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
390 pF	391			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
430 pF	431			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
470 pF	471			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DC	DD	EB	EB	EB	EB	EB	EB
510 pF	511			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
560 pF	561			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
620 pF	621			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
680 pF	681			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
750 pF	751			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
820 pF	821			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DC	DC	EB	EB	EB	EB	EB	EB
910 pF	911			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DD	DD	EB	EB	EB	EB	EB	EB
1,000 pF	102			F	G	J	K	M	BB	BB	BB	BB	BB		CB	CB	CB	CB	CB		DC	DC	DC	DC	DD	DD	EB	EB	EB	EB	EB	EE
1,100 pF	112			F	G	J	K	M	BB	BB	BB	BB			CB	CB	CB	CB	CB		DC	DC	DC	DC	DC		EB	EB	EB	EB	EB	EB
1,200 pF	122			F	G	J	K	M	BB	BB	BB	BB			CB	CB	CB	CB	CB		DC	DC	DC	DC	DC		EB	EB	EB	EB	EB	EB
1,300 pF	132			F	G	J	K	M	BB	BB	BB	BB			CB	CB	CB	CB	CB		DD	DD	DD	DD	DD		EB	EB	EB	EB	EC	EC
1,500 pF	152			F	G	J	K	M	BB	BB	BB	BB			CB	CB	CB	CB	CB		DD	DD	DD	DD	DD		EB	EB	EB	EB	ED	EC
1,600 pF	162			F	G	J	K	M	BB	BB	BB				CB	CB	CB	CB	CB		DD	DD	DD	DD	DD		EB	EB	EB	EB	ED	ED
1,800 pF	182			F	G	J	K	M	BB	BB	BB				CB	CB	CB	CB	CB		DD	DD	DD	DD	DD		EB	EB	EB	EB	ED	ED
2,000 pF	202			F	G	J	K	M	BB	BB	BB				CB	CB	CB	CB	CB		DC	DC	DC	DC	DC		EB	EB	EB	EB	ED	ED
2,200 pF	222			F	G	J	K	M	BB	BB	BB				CB	CB	CB	CB	CB		DC	DC	DC	DC	DC		EB	EB	EB	EB	EE	ED
2,400 pF	242			F	G	J	K	M							CB	CB	CB	CB	CB		DC	DC	DC	DC	DC		EB	EB	EB	EB	EC	EC
2,700 pF	272			F	G	J	K	M							CB	CB	CB	CB	CB		DC	DC	DC	DC	DC		EB	EB	EB	EB	EC	EC
3,000 pF	302			F	G	J	K	M							CB	CB	CB	CB	CB		DD	DD	DD	DD	DC		EC	EC	EC	EC	EC	
3,300 pF	332			F	G	J	K	M							CB	CB	CB	CB	CB		DD	DD	DD	DD	DC		EC	EC	EC	EC	EE	
3,600 pF	362			F	G	J	K	M							CB	CB	CB	CB	CB		DD	DD	DD	DD	DC		EC	EC	EC	EC	EE	
3,900 pF	392			F	G	J	K	M							CB	CB	CB	CB	CB		DE	DE	DE	DE	DC		EC	EC	EC	EC	EF	
Cap	**Cap Code**	Voltage DC							10	16	25	50	100	200	10	16	25	50	100	200	10	16	25	50	100	200	10	16	25	50	100	200
		Voltage Code							8	4	3	5	1	2	8	4	3	5	1	2	8	4	3	5	1	2	8	4	3	5	1	2
		Series							**C0402**						**C0603**						**C0805**						**C1206**					

KEMET reserves the right to substitute product with an improved temperature characteristic, tighter capacitance tolerance and/or higher voltage capability within the same form factor (configuration and dimensions).

These products are protected under US Patents 7,172,985 & 7,670,981, other patents pending, and any foreign counterparts.

Table 1A – AUTO C0G Dielectric, (0402 - 1206 Case Sizes) con't

Cap	Cap Code	Series	C0402						C0603						C0805						C1206					
		Voltage Code	8	4	3	5	1	2	8	4	3	5	1	2	8	4	3	5	1	2	8	4	3	5	1	2
		Voltage DC	10	16	25	50	100	200	10	16	25	50	100	200	10	16	25	50	100	200	10	16	25	50	100	200
		Cap Tolerance	Product Availability and Chip Thickness Codes - See Table 2 for Chip Thickness Dimensions																							
4,300 pF	432	F G J K M							CB	CB	CB	CB	CB		DE	DE	DE	DE	DC		EC	EC	EC	EC	EC	
4,700 pF	472	F G J K M							CB	CB	CB	CB	CB		DE	DE	DE	DE	DC		EC	EC	EC	EC	EC	
5,100 pF	512	F G J K M							CB	CB	CB	CB			DE	DE	DE	DE	DC		ED	ED	ED	ED	ED	
5,600 pF	562	F G J K M							CB	CB	CB	CB			DC	DC	DC	DC	DC		ED	ED	ED	ED	ED	
6,200 pF	622	F G J K M							CB	CB	CB	CB			DC	DC	DC	DC	DC		EB	EB	EB	EB	EB	
6,800 pF	682	F G J K M							CB	CB	CB	CB			DC	DC	DC	DC	DC		EB	EB	EB	EB	EB	
7,500 pF	752	F G J K M							CB	CB	CB				DC	DC	DC	DC	DC		EB	EB	EB	EB	EB	
8,200 pF	822	F G J K M							CB	CB	CB				DC	DC	DC	DC	DC		EC	EC	EC	EC	EB	
9,100 pF	912	F G J K M							CB	CB	CB				DC	DC	DC	DC	DC		EC	EC	EC	EC	EB	
10,000 pF	103	F G J K M							CB	CB	CB				DC	DC	DC	DC	DD		ED	ED	ED	ED	EB	
12,000 pF	123	F G J K M							CB	CB	CB				DC	DC	DC	DC	DE		EB	EB	EB	EB	EB	
15,000 pF	153	F G J K M							CB	CB	CB				DC	DC	DC	DD	DG		EB	EB	EB	EB	EB	
18,000 pF	183	F G J K M													DC	DC	DC	DD			EB	EB	EB	EB	EB	
22,000 pF	223	F G J K M													DD	DD	DD	DF			EB	EB	EB	EB	EC	
27,000 pF	273	F G J K M													DF	DF	DF				EB	EB	EB	EB	EE	
33,000 pF	333	F G J K M													DG	DG	DG				EB	EB	EB	EB	EE	
47,000 pF	473	F G J K M													DG	DG	DG				EC	EC	EC	EE	EH	
56,000 pF	563	F G J K M																			ED	ED	ED	EF		
68,000 pF	683	F G J K M																			EF	EF	EF	EH		
82,000 pF	823	F G J K M																			EH	EH	EH	EH		
0.10 µF	104	F G J K M																			EH	EH	EH			
Cap	Cap Code	Voltage DC	10	16	25	50	100	200	10	16	25	50	100	200	10	16	25	50	100	200	10	16	25	50	100	200
		Voltage Code	8	4	3	5	1	2	8	4	3	5	1	2	8	4	3	5	1	2	8	4	3	5	1	2
		Series	C0402						C0603						C0805						C1206					

Table 1B – (1210 - 2220 Case Sizes)

Cap	Cap Code	Series	C1210						C1812			C2220		
		Voltage Code	8	4	3	5	1	2	5	1	2	3	1	2
		Voltage DC	10	16	25	50	100	200	50	100	200	50	100	200
		Cap Tolerance	Product Availability and Chip Thickness Codes - See Table 2 for Chip Thickness Dimensions											
0.5-0.75 pF	508-758	C D												
1.0-2.4 pF	109-249	C D	FB	FB	FB	FB	FB	FB						
2.7-5.1 pF	279-519	C D K M	FB	FB	FB	FB	FB	FB						
5.6-9.1 pF	569-919	C D J K M	FB	FB	FB	FB	FB	FB						
10-13 pF	100-130	C D J K M	FB	FB	FB	FB	FB	FB						
15-24 pF	150-240	C D G J K M	FB	FB	FB	FB	FB	FB						
27-36 pF	270-360	D G J K M	FB	FB	FB	FB	FB	FB						
39-51 pF	390-510	D F G J K M	FB	FB	FB	FB	FB	FB						
56-82 pF	560-820	F G J K M	FB	FB	FB	FB	FB	FB						
91-180 pF	910-181	F G J K M	FB	FB	FB	FB	FB	FB						
200-360 pF	201-361	F G J K M	FB	FB	FB	FB	FB	FB						
390 pF	391	F G J K M	FB	FB	FB	FB	FB	FB						
430 pF	431	F G J K M	FB	FB	FB	FB	FB	FB						
470 pF	471	F G J K M	FB	FB	FB	FB	FB	FB	GB	GB	GB			
510 pF	511	F G J K M	FB	FB	FB	FB	FB	FB	GB	GB	GB			
560 pF	561	F G J K M	FB	FB	FB	FB	FB	FB	GB	GB	GB			
620 pF	621	F G J K M	FB	FB	FB	FB	FB	FB	GB	GB	GB			
Cap	Cap Code	Voltage DC	10	16	25	50	100	200	50	100	200	50	100	200
		Voltage Code	8	4	3	5	1	2	5	1	2	3	1	2
		Series	C1210						C1812			C2220		

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Table 1B – AUTO C0G Dielectric, (1210 - 2220 Case Sizes) con't

Cap	Cap Code	Series							C1210						C1812			C2220		
		Voltage Code							8	4	3	5	1	2	5	1	2	3	1	2
		Voltage DC							10	16	25	50	100	200	50	100	200	50	100	200
		Cap Tolerance							Product Availability and Chip Thickness Codes - See Table 2 for Chip Thickness Dimensions											
680 pF	681			F	G	J	K	M	FB	FB	FB	FB	FB	FB	GB	GB	GB			
750 pF	751			F	G	J	K	M	FB	FB	FB	FB	FB	FB	GB	GB	GB			
820 pF	821			F	G	J	K	M	FB	FB	FB	FB	FB	FB	GB	GB	GB			
910 pF	911			F	G	J	K	M	FB	FB	FB	FB	FB	FB	GB	GB	GB			
1,000 pF	102			F	G	J	K	M	FB	FB	FB	FB	FB	FB	GB	GB	GB			
1,100 pF	112			F	G	J	K	M	FB	FB	FB	FB	FB	FB	GB	GB	GB			
1,200 pF	122			F	G	J	K	M	FB	FB	FB	FB	FB	FB	GB	GB	GB			
1,300 pF	132			F	G	J	K	M	FB	FB	FB	FB	FB	FC	GB	GB	GB			
1,500 pF	152			F	G	J	K	M	FB	FB	FB	FB	FB	FE	GB	GB	GB			
1,600 pF	162			F	G	J	K	M	FB	FB	FB	FB	FB	FE	GB	GB	GB			
1,800 pF	182			F	G	J	K	M	FB	FB	FB	FB	FB	FE	GB	GB	GB			
2,000 pF	202			F	G	J	K	M	FB	FB	FB	FB	FC	FE	GB	GB	GB			
2,200 pF	222			F	G	J	K	M	FB	FB	FB	FB	FC	FG	GB	GB	GB			
2,400 pF	242			F	G	J	K	M	FB	FB	FB	FB	FC	FC						
2,700 pF	272			F	G	J	K	M	FB	FB	FB	FB	FC	FC	GB	GB	GB			
3,000 pF	302			F	G	J	K	M	FB	FB	FB	FB	FC	FF						
3,300 pF	332			F	G	J	K	M	FB	FB	FB	FB	FF	FF	GB	GB	GB			
3,600 pF	362			F	G	J	K	M	FB	FB	FB	FB	FF	FF						
3,900 pF	392			F	G	J	K	M	FB	FB	FB	FB	FF	FF	GB	GB	GB			
4,300 pF	432			F	G	J	K	M	FB	FB	FB	FB	FF	FG						
4,700 pF	472			F	G	J	K	M	FF	FF	FF	FF	FG	FG	GB	GB	GD			
5,100 pF	512			F	G	J	K	M	FB	FB	FB	FB	FG	FG						
5,600 pF	562			F	G	J	K	M	FB	FB	FB	FB	FG		GB	GB	GH			
6,200 pF	622			F	G	J	K	M	FB	FB	FB	FB	FG							
6,800 pF	682			F	G	J	K	M	FB	FB	FB	FB	FG		GB	GB	GJ	JB	JB	
7,500 pF	752			F	G	J	K	M	FC	FC	FC	FC	FC							
8,200 pF	822			F	G	J	K	M	FC	FC	FC	FC	FC		GB	GH		JB	JB	
9,100 pF	912			F	G	J	K	M	FE	FE	FE	FE	FE							
10,000 pF	103			F	G	J	K	M	FF	FF	FF	FF	FF		GB	GH		JB	JB	
12,000 pF	123			F	G	J	K	M	FG	FG	FG	FG	FB		GB	GG		JB	JB	
15,000 pF	153			F	G	J	K	M	FG	FG	FG	FG	FB		GB	GB		JB	JB	
18,000 pF	183			F	G	J	K	M	FB	FB	FB	FB	FB		GB	GB		JB	JB	
22,000 pF	223			F	G	J	K	M	FB	FB	FB	FB	FB		GB	GB		JB	JB	
27,000 pF	273			F	G	J	K	M	FB	FB	FB	FB	FB		GB	GB		JB	JB	
33,000 pF	333			F	G	J	K	M	FB	FB	FB	FB	FB		GB	GB		JB	JB	
47,000 pF	473			F	G	J	K	M	FB	FB	FB	FB	FE		GB	GB		JB	JB	
56,000 pF	563			F	G	J	K	M	FB	FB	FB	FB	FF		GB	GB		JB	JB	
68,000 pF	683			F	G	J	K	M	FB	FB	FB	FC	FG		GB	GB		JB	JB	
82,000 pF	823			F	G	J	K	M	FC	FC	FC	FF	FH		GB	GB		JB	JB	
0.10 µF	104			F	G	J	K	M	FE	FE	FE	FG	FM		GB	GD		JB	JB	
0.12 µF	124			F	G	J	K	M	FG	FG	FG	FH			GB	GH		JB	JB	
0.15 µF	154			F	G	J	K	M	FH	FH	FH	FM			GD	GN		JB	JB	
0.18 µF	184			F	G	J	K	M	FJ	FJ	FJ				GH			JB	JD	
0.22 µF	224			F	G	J	K	M	FK	FK	FK				GK			JB	JD	
0.27 µF	274			F	G	J	K	M										JB	JF	
0.33 µF	334			F	G	J	K	M										JD	JG	
0.47 µF	474			F	G	J	K	M										JG		
Cap	**Cap Code**	Voltage DC							10	16	25	50	100	200	50	100	200	50	100	200
		Voltage Code							8	4	3	5	1	2	5	1	2	3	1	2
		Series							**C1210**						**C1812**			**C2220**		

KEMET reserves the right to substitute product with an improved temperature characteristic, tighter capacitance tolerance and/or higher voltage capability within the same form factor (configuration and dimensions).
These products are protected under US Patents 7,172,985 & 7,670,981, other patents pending, and any foreign counterparts.