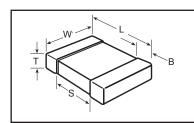
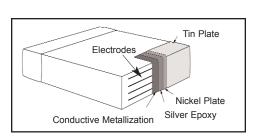


Surface Mount Ceramic Chip Capacitors / FT-CAP / Flexible Terminations

Outline Drawing

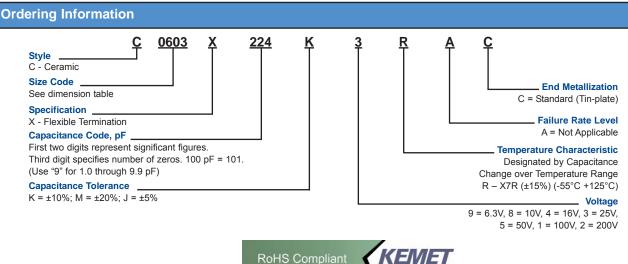




The FT-CAP is a surface mount multi-layer ceramic capacitor that incorporates a unique and flexible termination system. Integrated with KEMET's standard termination materials, a conductive epoxy is utilized between the conductive metallization and nickel barrier finish in order to establish pliability while maintaining terminal strength, solderability and electrical performance. This technology directs board flex stress away from the ceramic body and into the termination area. As a result, this termination system mitigates the risk of low-IR or short-circuit failures associated with board flex. The FT-CAP complements our current "Open Mode" and "Flexible Electrode (FE-CAP)" products by providing our customers with a complete portfolio of flex solutions.

Dimensio	Dimensions – Millimeters (Inches)									
EIA Size Code	Metric Size Code	L Length	W Width	B Bandwidth	S Separation					
0603	1608	1.6 (.063) ± 0.15 (.006)	0.8 (.032) ± 0.15 (.006)	0.35 (.014) ± 0.15 (.006)	0.70 (.028)					
0805	2012	2.0 (.079) ± 0.20 (.008)	1.25 (.049) ± 0.20 (.008)	0.05 (.02) ± 0.25 (.010)	0.75 (.030)					
1206	3216	3.2 (.126) ± 0.20 (.008)	1.6 (.063) ± 0.20 (.008)	0.50 (.02) ± .25 (.010)	N/A					
1210	3225	3.2 (.126) ± 0.20 (.008)	2.5 (.098) ± 0.20 (.008)	0.50 (.02) ± .25 (.010)	N/A					

See Capacitance Value Table next page for thickness dimension.



RoHS Compliant

X7R Capacitance Range

	<u>s \/</u>		لحجم	40				(_																						
Cap	Cap		JS/	10	ZJII	C 060	<u>, s</u>	ほど	工门	C0805						C1206						-	C1210							
pF	Code	Tol.	6.3V	10V	16V	25V	50V	100V	200V	6.3V	10V	16V	25V	50V	100V	200V	6.3V	10V	16V	25V	50V	100V	200V	6.3V	10V	16V	25V	50V	100V	200V
180	181	K,M,J	CB	СВ	СВ	СВ	СВ	СВ	СВ																					
220	221	K,M,J	CB	CB	CB	CB	CB	CB	CB	DC																				
270 330	271	K,M,J K,M,J	CB CB	CB CB	CB CB	CB CB	CB CB	CB CB	CB CB	DC DC				<u> </u>																
390	391	K,M,J	CB	CB	CB	CB	CB	CB	CB	DC																				
470		K,M,J	CB	CB	CB	CB	CB	CB	CB	DC		DC	DC	DC	DC	DC														
560	561	K,M,J	CB	СВ	СВ	СВ	СВ	СВ	СВ	DC				1																
680	681	K,M,J	CB	CB	CB	CB	CB	CB	CB	DC																				
820	821	K,M,J K,M,J	CB CB	CB CB	CB CB	CB CB	CB CB	CB CB	CB CB	DC DC	EB																			
1,000	102	K,M,J	CB	CB	CB	CB	CB	CB	CC	DC	EB																			
1,500	152	K,M,J	CB	CB	CB	CB	CB	CB	CC	DC	EB																			
1,800	182	K,M,J	СВ	CB	СВ	СВ	CB	СВ	CC	DC	EB																			
2,200	222	K,M,J	CB	CB	CB	СВ	CB	CB	CC	DC	EB	FB																		
2,700	272	K,M,J	CB	CB	CB	CB	CB	CB	CC	DC	EB	FB																		
3,300 3,900) 332) 392	K,M,J K,M,J	CB CB	CB CB	CB CB	CB CB	CB CB	CB CB	CC CC	DC DC	EB EB	FB FB																		
4,700	472	K,IVI,J K,M,J	CB	CB	CB	CB	CB	CB	CC	DC	EB	FB																		
5,600	562	K,M,J	CB	CB	CB	CB	CB	CB	CC	DC	EB	FB																		
6,800	682	K,M,J	CB	CB	СВ	СВ	CB	СВ	CC	DC	EB	FB																		
8,200	822	K,M,J	CB	CB	CB	CB	CB	CB	CC	DC	EB	FB																		
10,000	103 123	K,M,J	CB CB	CB CB	CB CB	CB CB	CB CB	CB CC	CC	DC DC	EB	EB	EB EB	EB EB	EB EB	EB EB	EB EB	FB FB	FB	FB	FB FB	FB FB	FB FB	FB FB						
12,000	123	K,M,J K,M,J	CB	CB	CB	CB	CB			DC	DC	DC	DC	DC	DD	DC	EB EB	EB EB	EB	EB	EB	EB	EB	FB	FB FB	FB FB	FB	FB	FB FB	FB
18,000	183	K,M,J	CB	CB	CB	CB	CB	CC		DC	DC	DC	DC	DC	DD	DC	EB	FB												
22,000	223	K,M,J	CB	CB	CB	CB	CB	CC		DC	DC	DC	DC	DC	DD	DC	EB	FB												
27,000	273	K,M,J	СВ	СВ	СВ	СВ	СВ	CC		DC	DC	DC	DC	DC	DD	DE	EB	FB												
33,000	333	K,M,J	CB	CB	CB	CB	CB	CC		DC	DC	DC	DC	DC	DD	DE	EB	FB												
39,000 47,000) 393) 473	K,M,J K,M,J	CB CB	CB CB	CB CB	CB CB	CB CB	CC CB		DC DC	DC DC	DC DC	DC DC	DC DC	DD DE	DE DG	EB EB	EB EB	EB EB	EB EB	EB EB	EC EC	EB ED	FB FB	FB FB	FB FB	FB FB	FB FB	FB FB	FB FC
56,000	563	K,M,J	CB	CB	CB	CB	CC		<u> </u>	DD	DD	DD	DD	DD	DE	DG	EB	EB	EB	EB	EB	EB	ED	FB	FB	FB	FB	FB	FB	FC
68,000	683	K,M,J	CB	CB	CB	CB	CC			DD	DD	DD	DD	DD	DE		EB	EB	EB	EB	EB	EB	ED	FB	FB	FB	FB	FB	FB	FC
82,000	823	K,M,J	СВ	СВ	СВ	СВ	CC			DD	DD	DD	DD	DD	DE		EB	EB	EB	EB	EB	EB	ED	FB	FB	FB	FB	FC	FC	FF
100,000	104	K,M,J	CB	CB	CB	CB	CC			DD	DD	DD	DD	DD	DE		EB	EB	EB	EB	EB	EB	EM	FB	FB	FB	FB	FB	FD	FG
120,000 150,000) 124) 154	K,M,J K,M,J	CB CB	CB CB	CB CB	<u> </u>	CD			DC DC	DC DC	DC DC	DC DC	DD DD	DG		EC EC	EC EC	EC EC	EC EC	EC EC	EC EC	EM EG	FB FC	FB FC	FB FC	FB FC	FB	FD FD	
180,000	154	K,IVI,J K,M,J	CB	CB	CB	├──		<u> </u>	<u> </u>	DC	DC	DC	DC	DD			EC	EC	EC	EC	EC	EC	EG	FC	FC	FC	FC	FC FC	FD	
220,000	224	K,M,J	CB	CB	CB	CD				DC		DC	DC	DD	DG	<u> </u>	EC	EC	EC	EC	EC	EC		FC	FC	FC	FC	FC	FD	
270,000	274	K,M,J	CB	CB	СВ					DD	DD	DD	DD				EB	EB	EB	EB	EC	EM		FC	FC	FC	FC	FC	FD	
330,000	334	K,M,J	CB	СВ	СВ					DE	DE	DE	DE				EB	EB	EB	EB	EC	EG		FD	FD	FD	FD	FD	FD	
390,000	394	K,M,J	CB	CB	CB					DG	DG	DG	DG				EB	EB	EB	EB	EG	EG		FD	FD	FD	FD	FD	ED	
470,000	474 564	K,M,J K,M,J	СВ	СВ	СВ					DG DG	DG DG	DG DG	DG DG	DE			EC ED	EC ED	EC ED	EC ED	EC EC	EG		FD FD	FD FD	FD FD	FD FD	FD FD	FD	
680,000	684	K,IVI,J K,M,J								DG	DG	DG	00	DJ			ED	EE	EE	EE	ED			FD	FD	FD	FD	FD		
820,000	824	K,M,J								DG	DG	DG					EF	EF	EF	EF				FF	FF	FF	FF	FF		
1,000,000	105	K,M,J								DG	DG	DG	DJ				EE	EE	EF	EG	ED			FH	FH	FH	FH	FH	FM	
1,200,000	125	K,M,J								DE	DE	DE					ED	ED	ED	EG				FH	FH	FH	FH	FH		
1,500,000	155	K,M,J	<u> </u>	<u> </u>		<u> </u>	L	 		DG	DG	DG			ļ		EF	EF	EF	EG				FH	FH	FH	FH	FH		<u> </u>
1,800,000) 185) 225	K,M,J K,M,J								DG DG	DG DG	DG DG					EF EG	EF EG	EF EG	EF	EH			FH	FH	FH	FH FJ	FH FG		
2,200,000	275	K,M,J								00	00	00					EN	EN	EK								10	10		
3,300,000	335	K,M,J															ED	ED	ED									FM		
3,900,000	395	K,M,J															EL	EL	EL											
4,700,000	475	K,M,J															EM	EM	EM	EH				FC	FC	FC	FG	FS		
5,600,000	565	K,M,J		<u> </u>		┣	<u> </u>	<u> </u>			┣		-	<u> </u>			EH	EH	EH	<u> </u>										<u> </u>
6,800,000 8,200,000	685 825	K,M,J K,M,J		-								-	-	-			EH EH	EH EH	EH								FM			
10,000,000		K,M,J	-	-		-	-				-	-		-			EH	EH	EH			\vdash		FH	FH	FH	FS			<u> </u>
10,000,000	100	13,1WI,J		L		L	L	L												L							10			

Thickness Code	Chip Size	Chip Thickness Range (mm)	Qty per Reel 7" Plastic	Qty per Reel 13" Plastic	Qty per Reel 7" Paper	Qty per Reel 13" Paper	Qty per Bulk Cassette				
AA	0201	.30 ± .03	N/A	N/A	15,000	N/A	N/A				
BB	0402	.50 ± .05	N/A	N/A	10,000	50,000	50,000				
CB	0603	.80 ± .07	N/A	N/A	4,000	10,000	15,000				
CC	0603	.80 ± .10	N/A	N/A	4,000	10,000	N/A				
CD	0603	.80 ± .15	N/A	N/A	4,000	10,000	N/A				
DB DC	0805 0805	.60 ± .10 .78 ± .10	N/A 4,000	N/A 10,000	N/A 4,000	N/A 10,000	10,000 N/A				
DC	0805	.78 ± .10 .90 ± .10	4,000	10,000	4,000 N/A	N/A	N/A N/A				
DE	0805	1.00 ± .10	2,500	10,000	N/A N/A	N/A	N/A				
DF	0805	1.10 ± .10	2,500	10,000	N/A	N/A	N/A				
DG	0805	1.25 ± .15	2,500	10,000	N/A	N/A	N/A				
DH	0805	1.25 ± .20	2,500	10,000	N/A	N/A	N/A				
DJ	0805	1.25 ± .20	3,000	10,000	N/A	N/A	N/A				
DK	0805	1.25 ± .15	3,000	10,000	N/A	N/A	N/A				
EB	1206	.78 ± .10	4,000	10,000	4,000	10,000	N/A				
EC	1206	.90 ± .10	4,000	10,000	N/A	N/A	N/A				
ED	1206	1.00 ± .10	2,500	10,000	N/A	N/A	N/A				
EE	1206	1.10 ± .10	2,500	10,000	N/A	N/A	N/A				
EF	1206	1.20 ± .15	2,500	10,000	N/A	N/A	N/A				
EG EH	1206 1206	$1.60 \pm .15$ $1.60 \pm .20$	2,000 2,000	8,000 8,000	N/A N/A	N/A N/A	N/A N/A				
EI	1206	1.60 ± .20 1.70 ± .20	2,000	8,000	N/A N/A	N/A N/A	N/A N/A				
EK	1206	.80 ± .10	2,000	8,000	N/A N/A	N/A N/A	N/A N/A				
EL	1200	1.15 ± .15	2,000	8,000	N/A	N/A	N/A				
EM	1200	$1.25 \pm .15$	2,500	10,000	N/A	N/A	N/A				
EN	1206	0.95 ± .10	4,000	10,000	N/A	N/A	N/A				
FB	1210	.78 ± .10	4,000	10,000	N/A	N/A	N/A				
FC	1210	.90 ± .10	4,000	10,000	N/A	N/A	N/A				
FD	1210	.95 ± .10	4,000	10,000	N/A	N/A	N/A				
FE	1210	1.00 ± .10	2,500	10,000	N/A	N/A	N/A				
FF	1210	1.10 ± .10	2,500	10,000	N/A	N/A	N/A				
FG	1210	1.25 ± .15	2,500	10,000	N/A	N/A	N/A				
FH	1210	1.55 ± .15	2,000	8,000	N/A	N/A	N/A				
FJ FK	1210 1210	1.85 ± .20	2,000	8,000	N/A N/A	N/A N/A	N/A N/A				
FL FL	1210	2.10 ± .20 1.40 ± .15	2,000 2,000	8,000 8,000	N/A N/A	N/A N/A	N/A N/A				
FM	1210	1.70 ± .20	2,000	8,000	N/A	N/A	N/A				
FN	1210	1.85 ± .20	2,000	8,000	N/A	N/A	N/A				
FO	1210	1.50 ± .20	2,000	8,000	N/A	N/A	N/A				
FP	1210	1.60 ± .20	2,000	8,000	N/A	N/A	N/A				
FQ	1210	2.5 ± .20	1,500	8,000	N/A	N/A	N/A				
FR	1210	2.25 ± .20	2,000	8,000	N/A	N/A	N/A				
FS	1210	2.50 ± .20	1,000	4,000	N/A	N/A	N/A				
FT	1210	1.90 ± .20	1,500	4,000	N/A	N/A	N/A				
GB	1812	1.00 ± .10	1,000	4,000	N/A	N/A	N/A				
GC GD	1812	1.10 ± .10	1,000	4,000	N/A	N/A	N/A				
	1812	1.25 ± .15	1,000	4,000	N/A	N/A	N/A				
GE GF	1812 1812	1.30 ± .10 1.50 ± .10	1,000	4,000 4,000	N/A N/A	N/A N/A	N/A N/A				
GG	1812	1.55 ± .10	1,000	4,000	N/A	N/A	N/A				
GH	1812	1.40 ± .15	1,000	4,000	N/A	N/A	N/A				
GJ	1812	1.70 ± .15	1,000	4,000	N/A	N/A	N/A				
GK	1812	1.60 ± .20	1,000	4,000	N/A	N/A	N/A				
GL	1812	1.90 ± .20	1,000	4,000	N/A	N/A	N/A				
GM	1812	2.00 ± .20	1,000	4,000	N/A	N/A	N/A				
GN	1812	1.70 ± .20	1,000	4,000	N/A	N/A	N/A				
HB	1825	1.10 ± .15	1,000	4,000	N/A	N/A	N/A				
HC	1825	1.15 ± .15	1,000	4,000	N/A	N/A	N/A				
	1825	1.30 ± .15	1,000	4,000	N/A	N/A	N/A				
HE HF	1825 1825	1.40 ± .15 1.50 ± .15	1,000	4,000 4,000	N/A N/A	N/A N/A	N/A N/A				
JB	2220	1.00 ± .15	1,000	4,000	N/A N/A	N/A N/A	N/A N/A				
JC	2220	1.10 ± .15	1,000	4,000	N/A	N/A	N/A				
JD	2220	1.30 ± .15	1,000	4,000	N/A	N/A	N/A				
JE	2220	1.40 ± .15	1,000	4,000	N/A	N/A	N/A				
JF	2220	1.50 ± .15	1,000	4,000	N/A	N/A	N/A				
KB	2225	1.00 ± .15	1,000	4,000	N/A	N/A	N/A				
KC	2225	1.10 ± .15	1,000	4,000	N/A	N/A	N/A				
KD	2225	1.30 ± .15	1,000	4,000	N/A	N/A	N/A				
KE	2225	1.40 ± .15	1,000	4,000	N/A	N/A	N/A				

Thickness Code Reference Chart Packaging Quantity Based on Finished Chip Thickness Specifications 查询"C0603X102J1RAC"供应商

Electrical Parameters

- Operating Range: -55°C to +125°C, with no-bias capacitance shift limited to ± 15% over that range.
- Insulation Resistance (IR) measured after 2 minutes at rated voltage @ 25°C: Limit is 500 megohm microfarads or 100,000 MΩ, whichever of the two is smaller.
- Capacitance and Dissipation Factor (DF) measured under the following conditions: 1kHz and 1 Vrms if capacitance ≤ 10μF 120Hz and 0.5 Vrms if capacitance > 10μF
- DF Limits are:

50 - 200 Volts	2.5%
16 - 25 Volts	3.5%
6.3/10 Volts	5.0%

Soldering Process

All parts incorporate the standard KEMET barrier layer of pure nickel, with an overplate of pure tin to provide excellent solderability as well as resistance to leaching. The recommended techniques are as follows:

- 1210 case size Solder Reflow
- 0603/0805/1206 case sizes Solder Wave/Solder Reflow

Marking

These chips will be supplied unmarked. If required, they can be laser-marked as an extra option. Details on the marking format are included in KEMET Surface Mount catalog F3102.

Qualification/Certification

AEC-Q200 Rev. C - Automotive RoHS 6 - 100% tin termination

In general, the information in the KEMET Surface Mount catalog F3102 applies to these capacitors. The information in this bulletin supplements that in the catalog.

