

- C0G (NP0), X7R, X5R, Z5U and Y5V Dielectrics
- 10, 16, 25, 50, 100 and 200 Volts
- Standard End Metalization: Tin-plate over nickel barrier
- Available Capacitance Tolerances: ± 0.10 pF; ± 0.25 pF; ± 0.5 pF; $\pm 1\%$; $\pm 2\%$; $\pm 5\%$; $\pm 10\%$; $\pm 20\%$; and $+80\%$ - 20%

CAP. PF	CAP CODE	CAP. TOL.	C1210*			C1812*			C1825*			C2220			C2225		
			50V	100V	200V	50V	100V	200V	50V	100V	200V	50V	100V	200V	50V	100V	200V
10	100	.D	J,K,M	FB	FB	FB											
12	120	.D	J,K,M	FB	FB	FB											
15	150	.D	G,J,K,M	FB	FB	FB											
18	180	.D	G,J,K,M	FB	FB	FB											
22	220	.D	G,J,K,M	FB	FB	FB											
27	270		D,F,G,J,K,M	FB	FB	FB											
33	330		D,F,G,J,K,M	FB	FB	FB											
39	390		D,F,G,J,K,M	FB	FB	FB											
47	470		D,F,G,J,K,M	FB	FB	FB											
56	560		F,G,J,K,M	FB	FB	FB											
68	680		F,G,J,K,M	FB	FB	FB											
82	820		F,G,J,K,M	FB	FB	FB											
100	101		F,G,J,K,M	FB	FB	FB											
120	121		F,G,J,K,M	FB	FB	FB											
150	151		F,G,J,K,M	FB	FB	FB											
180	181		F,G,J,K,M	FB	FB	FB											
220	221		F,G,J,K,M	FB	FB	FB											
270	271		F,G,J,K,M	FB	FB	FB											
330	331		F,G,J,K,M	FB	FB	FB											
390	391		F,G,J,K,M	FB	FB	FB											
470	471		F,G,J,K,M	FB	FB	FB	GB	GB	GB								
560	561		F,G,J,K,M	FB	FB	FB	GB	GB	GB								
680	681		F,G,J,K,M	FB	FB	FB	GB	GB	GB								
820	821		F,G,J,K,M	FB	FB	FB	GB	GB	GB								
1000	102		F,G,J,K,M	FB	FB	FB	GB	GB	GB								
1200	122		F,G,J,K,M	FB	FB	FB	GB	GB	GB								
1500	152		F,G,J,K,M	FB	FB	FE	GB	GB	GB								
1800	182		F,G,J,K,M	FB	FB	FE	GB	GB	GB								
2200	222		F,G,J,K,M	FB	FC	FG	GB	GB	GB								
2700	272		F,G,J,K,M	FB	FC	FG	GB	GB	GB								
3300	332		F,G,J,K,M	FB	FF	FF	GB	GB	GB								
3900	392		F,G,J,K,M	FB	FF	FF	GB	GB	GB	HB	HB	HB					
4700	472		F,G,J,K,M	FF	FF	FF	GB	GB	GD	HB	HB	HB					
5600	562		F,G,J,K,M	FB	FF	FF	GB	GB	GF	HB	HB	HB					
6800	682		F,G,J,K,M	FB	FG	FG	GB	GB	GJ	HB	HB	HB					
8200	822		F,G,J,K,M	FC	FF	FF	GB	GB		HB	HB	HB					
10,000	103		F,G,J,K,M	FF	FF	FF	GB	GB	GD	HE	HB	HB					
12,000	123		F,G,J,K,M	FF	FF	FF	HB	HB		HE	JB	JB					
15,000	153		F,G,J,K,M				HB	HB			JB	JB					
18,000	183		F,G,J,K,M				HB	HB			JB	JB					

XTR CAPACITANCE RANGE - 0.402, 0.603, 0.805, 1.200																													
CAP PF	CAP CODE	CAP. TOL.	C0402*					C0603*							C0805*							C1206*							
			6.3V	10V	16V	25V	50V	6.3V	10V	16V	25V	50V	100V	200V	6.3V	10V	16V	25V	50V	100V	200V	6.3V	10V	16V	25V	50V	100V	200V	
150	151	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
180	181	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
220	221	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
270	271	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
330	331	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
390	391	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
470	471	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
560	561	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
680	681	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
820	821	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
1000	102	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
1200	122	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
1500	152	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
1800	182	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
2200	222	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
2700	272	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
3300	332	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
3900	392	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
4700	472	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
5600	562	K,M,J	BB	BB	BB	BB	BB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	
6800	682	K,M,J	BB	BB	BB	BB	BB	CB</																					

See page 54 for Thickness Code Reference Chart.

X7R CAPACITANCE RANGE – 1210, 1812, 1825, 2220, 2225

CAP. PF	CAP CODE	CAP. TOL.	C1210*							C1812*			C1825*			C2220			C2225		
			6.3V	10V	16V	25V	50V	100V	200V	50V	100V	200V	50V	100V	200V	50V	100V	200V	50V	100V	200V
2200	222	K,M,J	FB	FB	FB	FB	FB	FB	FB												
2700	272	K,M,J	FB	FB	FB	FB	FB	FB	FB												
3300	332	K,M,J	FB	FB	FB	FB	FB	FB	FB												
3900	392	K,M,J	FB	FB	FB	FB	FB	FB	FB												
4700	472	K,M,J	FB	FB	FB	FB	FB	FB	FB												
5600	562	K,M,J	FB	FB	FB	FB	FB	FB	FB												
6800	682	K,M,J	FB	FB	FB	FB	FB	FB	FB	GB	GB	GB									
8200	822	K,M,J	FB	FB	FB	FB	FB	FB	FB	GB	GB	GB									
10,000	103	K,M,J	FB	FB	FB	FB	FB	FB	FB	GB	GB	GB									
12,000	123	K,M,J	FB	FB	FB	FB	FB	FB	FB	GB	GB	GB									
15,000	153	K,M,J	FB	FB	FB	FB	FB	FB	FB	GB	GB	GB									
18,000	183	K,M,J	FB	FB	FB	FB	FB	FB	FB	GB	GB	GB									
22,000	223	K,M,J	FB	FB	FB	FB	FB	FB	FB	GB	GB	GB	HB	HB	HB						
27,000	273	K,M,J	FB	FB	FB	FB	FB	FB	FB	GB	GB	GB	HB	HB	HB						
33,000	333	K,M,J	FB	FB	FB	FB	FB	FB	FB	GB	GB	GB	HB	HB	HB						
39,000	393	K,M,J	FB	FB	FB	FB	FB	FB	FB	GB	GB	GB	HB	HB	HB						
47,000	473	K,M,J	FB	FB	FB	FB	FB	FB	FC	GB	GB	GB	HB	HB	HB				KC	KC	KC
56,000	563	K,M,J	FB	FB	FB	FB	FB	FB	FC	GB	GB	GB	HB	HB	HB				KC	KC	KC
68,000	683	K,M,J	FB	FB	FB	FB	FB	FB	FC	GB	GB	GB	HB	HB	HB				KC	KC	KC
82,000	823	K,M,J	FB	FB	FB	FB	FC	FC	FF	GB	GB	GB	HB	HB	HB				KC	KC	KC
100,000	104	K,M,J	FB	FB	FB	FB	FD	FD	FG	GB	GB	GB	HB	HB	HB				KC	KC	KC
120,000	124	K,M,J	FB	FB	FB	FB	FD	FD		GB	GB	GB	HB	HB	HB				KC	KC	KC
150,000	154	K,M,J	FC	FC	FC	FC	FD	FD		GB	GB	GE	HB	HB	HB				KC	KC	KC
180,000	184	K,M,J	FC	FC	FC	FC	FD	FD		GB	GB	GG	HB	HB	HB				KC	KC	KC
220,000	224	K,M,J	FC	FC	FC	FC	FD	FD		GB	GB		HB	HB	HB				KC	KC	KC
270,000	274	K,M,J	FC	FC	FC	FC#	FD#	FD#		GB	GH		HB	HB	HB	JC	JC	JC	KB	KC	KC
330,000	334	K,M,J	FD	FD	FD	FD#	FD#	FD#		GB	GH		HB	HB	HB	JC	JC	JC	KB	KC	KC
390,000	394	K,M,J	FD	FD	FD	FD#	FD#	FD#		GB			HB	HB	HD	JC	JC	JC	KB	KC	KC
470,000	474	K,M,J	FD	FD	FD	FD#	FD#	FD#		GB			HB	HB		JC	JC	JC	KB	KC	KD
560,000	564	K,M,J	FD	FD	FD	FD#	FD#	FD#		GC			HB	HD		JC	JC	JC	KB	KC	
680,000	684	K,M,J	FD	FD	FD	FD#	FD#	FD#		GC			HB	HD		JC	JD		KB	KC	
820,000	824	K,M,J	FF	FF	FF	FF#	FF#	FF#		GE			HB			JC	JF		KB	KC	
1,000,000	105	K,M,J	FH	FH	FH	FH	FH#	FH#		GE			HB			JC			KB	KD	
1,200,000	125	K,M,J	FH	FH	FH	FH							HB			JC			KB		
1,500,000	155	K,M,J	FH	FH	FH	FH							HB			JC			KC		
1,800,000	185	K,M,J	FH	FH	FH	FH							HD			JD			KD		
2,200,000	225	K,M,J	FJ	FJ	FJ	FJ							HF			JF			KD		

* Indicates EIA preferred chip sizes.

NOTE: For non-standard capacitance values or voltages, contact your local KEMET sales representative.

50 Volt Ceramic Chips can be used for 63 volt applications.

Extended Range Values — Cap and DF measured @ 0.5 Vrms.

X5R CAPACITANCE RANGE

CAP. pF	CAP CODE	CAP. TOL.	C0402*		C0603*		C0805*		C1206*				C1210*				
			6.3V	10V	6.3V	10V	6.3V	10V	6.3V	10V	16V	25V	6.3V	10V	16V	25V	50V
12,000	123	K,M	BB	BB													
15,000	153	K,M	BB	BB													
18,000	183	K,M	BB	BB													
22,000	223	K,M	BB	BB													
27,000	273	K,M	BB	BB													
33,000	333	K,M	BB	BB													
39,000	393	K,M	BB	BB													
47,000	473	K,M	BB	BB													
56,000	563	K,M	BB	BB													
68,000	683	K,M	BB	BB													
82,000	823	K,M	BB	BB													
100,000	104	K,M	BB	BB								EB					
120,000	124	K,M										EC					
150,000	154	K,M										EC					
180,000	184	K,M										EC					
220,000	224	K,M										EC					
270,000	274	K,M										EB					
330,000	334	K,M			CC	CC						EB					
390,000	394	K,M			CC	CC						EB					
470,000	474	K,M			CC	CC						EC					
560,000	564	K,M			CC	CC						EE					
680,000	684	K,M			CC	CC						EF					
820,000	824	K,M			CC	CC						EF					
1,000,000	105	K,M			CC	CC			DD	DD		EH			FH+	FH+	FH+
1,200,000	125	K,M			CC	CC			DE	DE	EC	EC			FD+	FD+	
1,500,000	155	K,M			CC	CC			DE	DE	EC	EC			FD+	FD+	
1,800,000	185	K,M			CC	CC			DH	DH	EC	EC			FD+	FD+	
2,200,000	225	K,M			CC	CC			DH	DH	EE	EE			FG+	FG+	
2,700,000	275	K,M							DD	DD	EF	EF			FG+	FG+	
3,300,000	335	K,M							DE	DE	EH	EH			FH+	FH+	
4,700,000	475	K,M							DH	DH	EH	EH			FK+	FK+	
6,800,000	685	K,M							DH	DH	EH	EH			FJ+	FJ+	
8,200,000	825	K,M							DH	DH	EH	EH			FK+	FK+	
10,000,000	106	K,M							DH	DH	EH	EH			FK+	FK+	
12,000,000	126	K,M									EH				FF+	FJ+	
15,000,000	156	K,M									EH				FF+	FJ+	
18,000,000	186	K,M									EH				FG+	FK+	
22,000,000	226	K,M									EH				FG+	FK+	

NOTE: For non-standard capacitance values or voltages, contact your local KEMET sales representative.

+ Reflow only

See page 54 for Thickness Code Reference Chart.

THICKNESS CODE REFERENCE CHART
PACKAGING QTY BASED ON FINISHED CHIP THICKNESS SPECIFICATIONS

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
DB	0805	.60 ± .10	N/A	N/A	N/A	N/A	10,000
DC	0805	.78 ± .10	4,000	10,000	4,000	10,000	N/A
DD	0805	.90 ± .10	4,000	10,000	N/A	N/A	N/A
DE	0805	1.00 ± .10	2,500	10,000	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
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	1206	1.60 ± .15	2,000	8,000	N/A	N/A	N/A
EH	1206	1.60 ± .20	2,000	8,000	N/A	N/A	N/A
EJ	1206	1.70 ± .20	2,000	8,000	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	1210	1.85 ± .15	2,000	8,000	N/A	N/A	N/A
FK	1210	2.10 ± .20	2,000	8,000	N/A	N/A	N/A
GB	1812	1.00 ± .10	1,000	4,000	N/A	N/A	N/A
GC	1812	1.10 ± .10	1,000	4,000	N/A	N/A	N/A
GD	1812	1.25 ± .15	1,000	4,000	N/A	N/A	N/A
GE	1812	1.30 ± .10	1,000	4,000	N/A	N/A	N/A
GF	1812	1.50 ± .10	1,000	4,000	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
HB	1825	1.10 ± .15	1,000	4,000	N/A	N/A	N/A
HD	1825	1.30 ± .15	1,000	4,000	N/A	N/A	N/A
HE	1825	1.40 ± .15	1,000	4,000	N/A	N/A	N/A
HF	1825	1.50 ± .15	1,000	4,000	N/A	N/A	N/A
JB	2220	1.00 ± .15	1,000	4,000	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

This chart refers to ceramic chip thickness codes on pages 50-53.

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