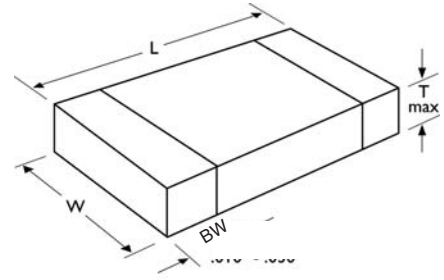


## FEATURES

1. The ceramic chip capacitors described in this section are the types used in our other high voltage ceramic multilayer product lines.
2. Types BP, BR and BZ available as described in MIL-PRF-49467.
3. Group A and B screening per MIL-PRF-49467 available.
4. Ceramic chip capacitors are extremely sensitive to thermal shock damage during installation. Wherever possible, processes involving infrared or vapor phase soldering systems should be utilized.
5. Higher voltages available upon request
6. Where nickel barrier termination is required, end band length dimensions may exceed the standard dimension listed.

## CERAMIC CHIP OUTLINE DRAWING

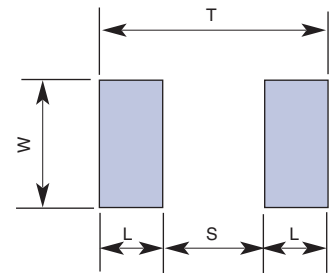


## DIMENSIONS

Style	Length (L) Inches (mm)	Width (W) Inches (mm)	Thickness (T) max Inches (mm)	Bandwidth (BW) Inches
1515	.150 ±.015 (3.81 ±.38)	.150 ±.015 (3.81 ±.38)	.140 (3.55)	.010 - .030"
1812	.180 ±.020 (4.57 ±.51)	.120 ±.015 (3.05 ±.38)	.100 (2.54)	.010 - .040"
1825	.180 ±.020 (4.57 ±.51)	.250 ±.020 (6.35 ±.51)	.160 (4.07)	.010 - .040"
2020	.200 ±.020 (5.08 ±.51)	.200 ±.020 (5.08 ±.51)	.180 (3.55)	.010 - .040"
2225	.220 ±.020 (5.59 ±.51)	.250 ±.020 (6.35 ±.51)	.200 (5.08)	.010 - .040"
2520	.250 ±.020 (6.35 ±.51)	.200 ±.020 (5.08 ±.51)	.180 (4.57)	.030 - .060"
3333	.330 ±.030 (8.38 ±.76)	.330 ±.030 (8.38 ±.76)	.220 (5.59)	.030 - .060"
3530	.350 ±.030 (8.89 ±.76)	.300 ±.030 (7.62 ±.76)	.220 (5.59)	.030 - .060"
4040	.400 ±.030 (10.2 ±.76)	.400 ±.030 (10.2 ±.76)	.220 (5.59)	.030 - .060"
4540	.450 ±.030 (11.43 ±.76)	.400 ±.030 (10.2 ±.76)	.220 (5.59)	.030 - .060"
5440	.540 ±.030 (13.7 ±.76)	.400 ±.030 (10.2 ±.76)	.220 (5.59)	.030 - .060"
5550	.550 ±.030 (14.0 ±.76)	.500 ±.030 (12.7 ±.76)	.220 (5.59)	.030 - .060"
6560	.650 ±.030 (16.5 ±.76)	.600 ±.030 (15.2 ±.76)	.220 (5.59)	.030 - .060"

## RECOMMENDED SOLDER PAD PATTERN DIMENSIONS

Chip Size	T (Total Length)		S (Separation)		W (Pad Width)		L (Pad Length)	
	mm	in.	mm	in.	mm	in.	mm	in.
1515	5.20	0.205	1.90	0.075	4.34	0.171	1.65	0.065
1812	5.90	0.232	2.30	0.091	3.70	0.146	1.80	0.071
1825	5.90	0.232	2.30	0.091	6.90	0.272	1.80	0.071
2020	6.50	0.256	2.80	0.110	5.62	0.221	1.85	0.073
2225	7.00	0.276	3.30	0.130	6.80	0.268	1.85	0.073
2520	8.68	0.342	4.98	0.196	5.62	0.221	1.85	0.073
3333	10.91	0.430	7.11	0.280	9.27	0.365	1.90	0.075
3530	11.51	0.453	7.61	0.300	8.51	0.335	1.95	0.077
4040	12.88	0.507	8.88	0.350	11.05	0.435	2.00	0.079
4540	14.21	0.559	10.15	0.400	11.05	0.435	2.03	0.080
5440	16.51	0.650	10.41	0.410	11.05	0.435	3.05	0.120
5550	18.92	0.745	12.82	0.505	13.59	0.535	3.05	0.120
6560	19.80	0.780	13.20	0.520	16.13	0.635	3.30	0.130



## PART NUMBER AND ORDERING INFORMATION

**4540 B 472 M 202 P M**

**Style**  
1515, 2020, etc.

**Dielectric**  
B or R = X7R  
N = C0G (NP0)

**Capacitance Value**  
First two digits are significant,  
last digit is number of zeros,  
i.e., 472=4700pF

**Tolerance**  
J = ±5% C0G (NP0)  
K = ±10%  
M = ±20%  
P = 0/+100%  
Z = -20%/+80%

**Group A Screening\***  
Add to part number if required  
\*MIL-PRF-49467  
(subgroup 1)  
except Corona

**Terminal Material**  
P = PdAg  
S = Ag  
E = Ag/Ni/Sn/Pb Plate  
C = Ag/Ni/Sn Plate

**Voltage**  
First two digits are significant,  
last digit is number of zeros,  
i.e., 202=2000V

**MARKING**  
Not applicable  
As required by customer only.

### COG DIELECTRIC

STYLE	COG	1515				1812				1825				2020				2225				2520				3333					3530				
Cap	L	.150 ±.015 (3.81 ±.38)				.180 ±.020(4.57 ±.51)				.180 ±.020(4.57 ±.51)				.200 ±.020(5.08 ±.51)				.220 ±.020(5.59±.51)				.250 ±.020(6.35±.51)				.330 ±.030(8.38±.76)					.350 ±.030(8.89±.76)				
	W	.150 ±.015 (3.81 ±.38)				.120 ±.015 (3.05±.38)				.250 ±.020(6.35±.51)				.200 ±.020(5.08 ±.51)				.250 ±.020(6.35±.51)				.200 ±.020(5.08 ±.51)				.330 ±.030(8.38±.76)					.300 ±.030(7.62±.76)				
	T max	.140 (3.55)				.100 (2.54)				.160 (4.07)				.180 (3.55)				.200 (5.08)				.180 (3.55)				.220 (5.59)					.220 (5.59)				
	Band Width	.010 - .030"				.010 - .040"				.010 - .040"				.010 - .040"				.010 - .040"				.030 - .060"				.030 - .060"					.030 - .060"				
Cap	pF	WVDC				WVDC				WVDC				WVDC				WVDC				WVDC				WVDC					WVDC				
		500	1k	2k	3k	500	1k	2k	3k	500	1k	2k	3k	500	1k	2k	3k	500	1k	2k	3k	500	1k	2k	3k	4k	500	1k	2k	3k	4k				
10pF	100																																		
12	120																																		
15	150																																		
18	180																																		
22	220																																		
27	270																																		
33	330																																		
39	390																																		
47	470																																		
56	560																																		
68	680																																		
82	820																																		
100	101																																		
120	121																																		
150	151																																		
180	181																																		
220	221																																		
270	271																																		
330	331																																		
390	391																																		
470	471																																		
560	561																																		
680	681																																		
820	821																																		
1000	102																																		
1200	122																																		
1500	152																																		
1800	182																																		
2200	222																																		
2700	272																																		
3300	332																																		
3900	392																																		
4700	472																																		
5600	562																																		
6800	682																																		
8200	822																																		
.010uF	103																																		
.012	123																																		
.015	153																																		
.018	183																																		
.022	223																																		
.027	273																																		
.033	333																																		
.039	393																																		
.047	473																																		
.056	563																																		
.068	683																																		
.082	823																																		
.10	104																																		

**COG DIELECTRIC**

STYLE	COG	4040					4540					5440					5550					6560						
		L					L					L					L					L						
	L	.400 ±.030(10,20±.76)					.450 ±.030(11,43±.76)					.540 ±.030(13,70±.76)					.550 ±.030(14,00±.76)					.650 ±.030(16,50±.76)						
	W	.400 ±.030(10,20±.76)					.400 ±.030(10,20±.76)					.400 ±.030(10,20±.76)					.500 ±.030(10,20±.76)					.600 ±.030(15,20±.76)						
	T max	.220 (5,59)					.220 (5,59)					.220 (5,59)					.220 (5,59)					.220 (5,59)						
	Band Width	.030 - .060"					.030 - .060"					.030 - .060"					.030 - .060"					.030 - .060"						
Cap	Cap Code pF	WVDC					WVDC					WVDC					WVDC					WVDC						
		500	1k	2k	3k	4k	500	1k	2k	3k	4k	5k	500	1k	2k	3k	4k	500	1k	2k	3k	4k	5k	500	1k	2k	3k	4k
10pF	100																											
12	120																											
15	150																											
18	180																											
22	220																											
27	270																											
33	330																											
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8200	822																											
.010uF	103																											
.012	123																											
.015	153																											
.018	183																											
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.068	683																											
.082	823																											
.10	104																											



**X7R DIELECTRIC**

STYLE X7R		4040					4540					5440					5550					6560						
Cap	L	.400 ±.030(10,20±.76)					.450 ±.030(11,43±.76)					.540 ±.030(13,70±.76)					.550 ±.030(14,00±.76)					.650 ±.030(16,50±.76)						
	W	.400 ±.030(10,20±.76)					.400 ±.030(10,20±.76)					.400 ±.030(10,20±.76)					.500 ±.030(10,20±.76)					.600 ±.030(15,20±.76)						
	T max	.220 (5,59)					.220 (5,59)					.220 (5,59)					.220 (5,59)					.220 (5,59)						
	Band Width	.030 - .060*					.030 - .060*					.030 - .060*					.030 - .060*					.030 - .060*						
Cap Code	WVDC					WVDC					WVDC					WVDC					WVDC							
pF	500	1k	2k	3k	4k	500	1k	2k	3k	4k	5k	500	1k	2k	3k	4k	500	1k	2k	3k	4k	5k	500	1k	2k	3k	4k	5k
220pF	221																											
270	271																											
330	331																											
390	391																											
470	471																											
560	561																											
680	681																											
820	821																											
1000	102																											
1200	122																											
1500	152																											
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2200	222																											
2700	272																											
3300	332																											
3900	392																											
4700	472																											
5600	562																											
6800	682																											
8200	822																											
.010uF	103																											
.012	123																											
.015	153																											
.018	183																											
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.33	334																											
.39	394																											
.47	474																											
.56	564																											
.68	684																											
.82	824																											
1.0	105																											
1.2	125																											
1.5	155																											
1.8	185																											
2.2	225																											