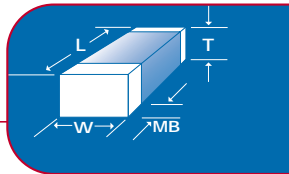
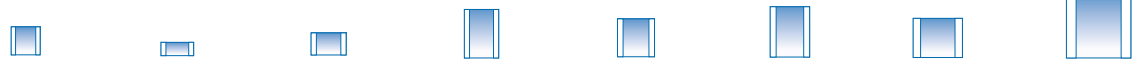


HIGH RELIABILITY RANGES

NOVACAP high voltage capacitors are available specially tested for long term reliability. The non-polar inner electrode design permits capacitors to be arrayed in stacks with no voltage gradient between units. Chips have rounded surfaces to improve structural integrity and encapsulation in use. Units may be tested to MIL-PRF-49467 and MIL-PRF-55681. Applications include aerospace, airborne and military use for radar, power supplies and voltage multiplier circuits. Other sizes and voltage ratings are available, please consult NOVACAP. Commercial versions with higher capacitance efficiency per kilovolt are also available, please refer to other NOVACAP data sheets.



➔ HIGH RELIABILITY RANGES, RATED TO 6 KV



SIZE	1515	1808	1812	1825	2020	2225	2520	3333
Min Cap(C0G/X7R)	3R0/221	100/151	150/221	390/102	390/102	390/102	390/102	390/102
LENGTH L	.150 (3.81)	.180 (4.57)	.180 (4.57)	.180 (4.57)	.200 (5.08)	.220 (5.59)	.250 (6.35)	.330 (8.38)
WIDTH W	.150 (3.81)	.080 (2.03)	.125 (3.18)	.250 (6.35)	.200 (5.08)	.250 (6.35)	.200 (5.08)	.330 (8.38)
T MAX	.130 (3.30)	.080 (2.03)	.100 (2.54)	.140 (3.56)	.180 (4.57)	.150 (3.81)	.180 (4.57)	.250 (6.35)
MB	.040 (1.02)	.038 (.965)	.038 (.965)	.038 (.965)	.045 (1.14)	.045 (1.14)	.050 (1.27)	.050 (1.27)

MAXIMUM CAPACITANCE

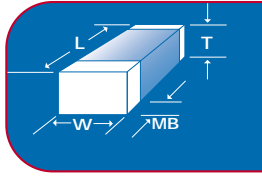
3 Digit Code: See How to Order

VOLTAGE	C0G		X7R		C0G		X7R		C0G		X7R		C0G		X7R	
	COG	X7R	COG	X7R	COG	X7R	COG	X7R	COG	X7R	COG	X7R	COG	X7R	COG	X7R
500V	562	683	332	273	822	563	153	224	123	154	183	184	183	224	473	564
600V	562	563	272	223	822	473	153	184	103	154	123	154	123	224	333	474
800V	472	393	272	153	682	333	153	124	822	104	123	104	123	154	273	474
1000V	472	273	272	123	682	273	153	104	822	823	123	823	123	104	273	334
2000V	332	472	122	182	332	392	822	153	562	123	822	123	822	183	183	563
3000V	122	222	471	821	122	182	332	682	272	562	272	562	392	682	123	273
4000V	.	.	.	.	.	.	222	332	182	272	182	332	222	392	822	153
5000V	.	.	.	.	.	.	561	182	471	152	681	152	681	222	222	822
6000V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	122	392

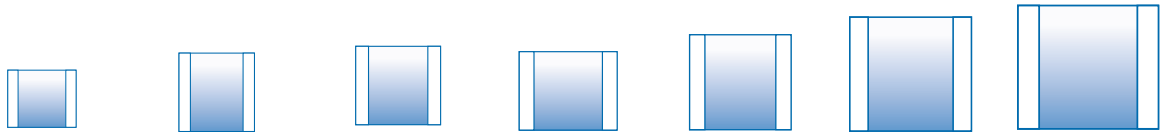
Dimensions are in inches, bracketed dimensions in millimeters. Tolerances are +/- 5% L & W, or .015" (0.38 mm), whichever is greater. MB dimensions are maximum. T Max. for chip sizes 1808, 1812, 1825 and 2225 are greater than standard EIA max. thickness for those sizes.



HIGH VOLTAGE MLC - HIGH RELIABILITY



➔ HIGH RELIABILITY RANGES, RATED TO 10KV



SIZE	3530	4040	4540	5440	5550	6560	7565
Min Cap(C0G/X7R)	390/102	390/102	390/102	390/102	390/102	560/202	101/202
LENGTH L	.350 (8.89)	.400 (10.2)	.450 (11.4)	.540 (13.7)	.550 (11.4)	.650 (16.5)	.750 (19.0)
WIDTH W	.300 (7.62)	.400 (10.2)	.400 (10.2)	.400 (10.2)	.500 (12.7)	.600 (15.2)	.650 (16.5)
T MAX	.250 (6.35)	.300 (7.62)	.300 (7.62)	.300 (7.62)	.300 (7.62)	.300 (7.62)	.400 (10.2)
MB	.050 (1.27)	.060 (1.52)	.060 (1.52)	.060 (1.52)	.060 (1.52)	.060 (1.52)	.060 (1.52)

MAXIMUM CAPACITANCE 3 Digit Code: See How to Order

	C0G	X7R	C0G	X7R	C0G	X7R	C0G	X7R	C0G	X7R	C0G	X7R	C0G	X7R
500V	473	474	823	824	104	105	104	125	124	185	224	275	274	565
1000V	223	334	393	564	473	684	563	824	823	125	124	185	154	225
2000V	153	473	273	104	333	124	393	154	563	184	823	274	104	474
3000V	103	273	223	473	223	563	273	683	393	104	563	154	683	224
4000V	562	123	153	273	183	273	223	333	273	473	393	823	563	124
5000V	182	682	392	153	472	153	562	183	822	273	123	393	183	683
6000V	122	392	272	682	272	822	332	103	472	153	562	223	103	393
7000V	102	272	182	562	222	562	272	682	392	103	472	183	822	273
8000V	•	•	182	332	182	392	222	472	332	682	392	103	682	183
9000V	•	•	•	•	182	222	222	272	332	392	332	682	562	103
10000V	•	•	•	•	821	182	102	222	152	272	222	472	562	822

V O L T A G E

Dimensions are in inches, bracketed dimensions in millimeters. Tolerances are +/- 5% L & W, or .015" (0.38 mm), whichever is greater. MB dimensions are maximum.

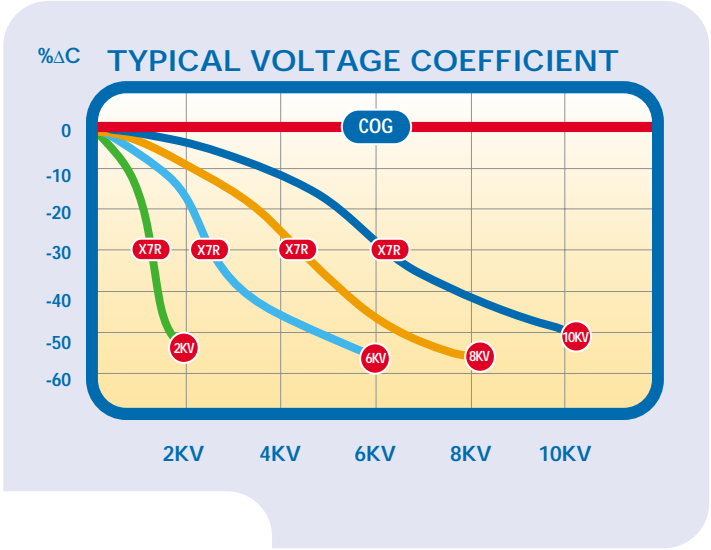


COG DIELECTRIC CHARACTERISTICS

OPERATING TEMPERATURE RANGE:	-55°C to 125°C
TEMPERATURE COEFFICIENT:	0 +/- 30 ppm/°C
DISSIPATION FACTOR:	.001 (0.1%) max @ 25°C
INSULATION RESISTANCE, 25°C	>100GΩ or >1000ΩF
125°C	>10GΩ or >100ΩF
DIELECTRIC WITHSTANDING VOLTAGE:	120% VDCW, or 750V*
*WHICHEVER IS GREATER	
AGING RATE:	0% per decade
TEST PARAMETERS:	1KHZ, 1.0 +/- 0.2 VRMS, 25°C 1MHZ for Capacitance <100pF

X7R DIELECTRIC CHARACTERISTICS

OPERATING TEMPERATURE RANGE:	-55°C to 125°C
TEMPERATURE COEFFICIENT:	+/-15%ΔC Max.
DISSIPATION FACTOR @ 25° C:	.025 (2.5%) max @ 25°C
INSULATION RESISTANCE, 25°C	>100GΩ or >1000ΩF
125°C	>10GΩ or >100ΩF
DIELECTRIC WITHSTANDING VOLTAGE:	120% VDCW, or 750V*
*WHICHEVER IS GREATER	
AGING RATE:	< 2.0% per decade
TEST PARAMETERS:	1KHZ, 1.0 +/- 0.2 VRMS, 25°C



Dielectric withstanding voltage testing requires immersion of the device in a dielectric fluid to preclude arcing over the chip surface, notably at voltages exceeding 1000 VDC. Conformal coating of chips is recommended in use to eliminate arcing.

HOW TO ORDER

SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE-VDCW	TERMINATION	THICKNESS OPTION	HIGH RELIABILITY TEST	PACKING OPTION	MARKING OPTION
4540	B	103	M	302	N	X	H	T	M
See Chart	N = COG B = X7R	Value in Picofarads Two significant figures, followed by number of zeros: 103 = 10,000 pF	J = +/- 5 % K = +/- 10 % M = +/- 20 % Z = +80%-20% P = +100%-0%	Two significant figures, followed by number of zeros: 302 = 3000V	N = Nickel Barrier (100% Sn) sizes 1515 to 4540 only P = Palladium Silver Y = Nickel Barrier (90Sn/10Pb) sizes 1515 to 4540 only	X = Non-standard thickness. Specify in Mils if non-standard is required. Standard items are any thickness to Max. shown in charts.	Specify Test	T = Reeled	M = Marked (See Marking Specifications)