



HIGH RELIABILITY SMT CHIPS



NOVACAP manufactures and tests COG, BX and X7R chips

in accordance with MIL-PRF-55681, MIL-PRF-123, MIL-PRF-49467, HALT, or customer SCD. Product is designed for optimum reliability, burned in at elevated voltage and temperature, and 100% physically and electrically inspected to ascertain conformance to strict performance criteria. Voltage ratings from 25 VDC to 500 VDC are available on standard EIA case sizes. Applications for High Reliability products include medical implanted devices, aerospace, airborne and various military applications, and consumer uses requiring safety margins not attainable with conventional product. High voltage conditioning up to 20 KV for specialty devices is also available, please refer to other NOVACAP product offerings.



CAPACITANCE SELECTION FOR FR-P

PARTS MEETING FR-R AND FR-S ARE ALSO AVAILABLE

3 digit code: two significant digits, followed by number of zeros eg: 183 = 18,000 pF

COG DIELECTRIC

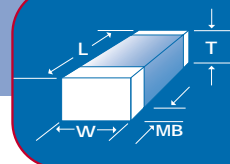
SIZE	0402	0504	0603	0805	1005	1206	1210	1808	1812	1825	2221	2225
Min Cap	0R1	0R1	0R1	0R1	1R0	1R0	5R0	100	100	270	270	270
25V	121	152	102	392	562	123	223	223	473	823	104	124
50V	121	152	102	392	562	123	223	223	473	823	104	124
100V	680	821	561	222	332	682	123	123	223	563	683	823
250V	270	331	221	102	152	272	562	562	103	273	273	333
500V	•	•	•	471	471	122	272	272	562	123	123	103

MAX CAP & VOLTAGE

X7R/BX DIELECTRIC

SIZE	0402		0504		0603		0805		1005		1206		1210		1808		1812		1825		2221		2225	
Min Cap	121		121		121		121		121		121		121		151		271		471		561		681	
	X7R	BX	X7R	BX	X7R	BX	X7R	BX	X7R	BX	X7R	BX	X7R	BX	X7R	BX	X7R	BX	X7R	BX	X7R	BX	X7R	BX
25V	332	182	333	223	223	153	104	683	104	683	184	154	394	394	394	334	684	564	155	155	155	155	185	185
50V	332	152	333	153	223	123	104	473	683	563	154	124	334	274	334	274	564	394	155	125	155	125	185	155
100V	182	331	183	392	123	272	563	123	563	123	104	273	224	683	224	683	394	104	105	334	105	274	105	394
250V	471	•	472	681	332	561	153	222	153	222	223	472	563	123	563	123	104	223	224	473	274	473	334	563
500V	•	•	•	•	•	•	332	391	332	471	822	122	153	222	223	222	393	392	124	123	104	123	104	153

MAX CAP & VOLTAGE



DIMENSIONS +/- INCHES (MM)

SIZE	0402	0504	0603	0805	1005	1206	1210	1808	1812	1825	2221	2225
LENGTH L	.040 (1.02)	.050 (1.27)	.060 (1.52)	.080 (2.03)	.100 (2.54)	.125 (3.18)	.125 (3.18)	.180 (4.57)	.180 (4.57)	.180 (4.57)	.220 (5.59)	.220 (5.59)
WIDTH W	.020 (.508)	.040 (1.02)	.030 (.760)	.050 (1.27)	.050 (1.27)	.060 (1.52)	.100 (2.54)	.080 (2.03)	.125 (3.18)	.250 (6.35)	.210 (5.33)	.250 (6.35)
T MAX.	.024 (.610)	.044 (1.12)	.035 (.889)	.054 (1.37)	.054 (1.37)	.064 (1.63)	.065 (1.65)	.065 (1.65)	.065 (1.65)	.080 (2.03)	.080 (2.03)	.080 (2.03)
MB	.010 (.254)	.014 (.355)	.014 (.355)	.020 (.508)	.020 (.508)	.020 (.508)	.020 (.508)	.024 (.610)	.024 (.610)	.024 (.610)	.030 (.760)	.030 (.760)

TOLERANCES +/- INCHES (MM)

LENGTH	.004 (.102)	.006 (.152)	.006 (.152)	.008 (.203)	.008 (.203)	.008 (.203)	.008 (.203)	.012 (.305)	.012 (.305)	.012 (.305)	.015 (.380)	.015 (.380)
WIDTH	.004 (.102)	.006 (.152)	.006 (.152)	.008 (.203)	.008 (.203)	.008 (.203)	.008 (.203)	.008 (.203)	.008 (.203)	.015 (.380)	.015 (.380)	.015 (.380)
MB	.006 (.152)	.006 (.152)	.006 (.152)	.010 (.254)	.010 (.254)	.010 (.254)	.010 (.254)	.014 (.355)	.014 (.355)	.014 (.355)	.015 (.380)	.015 (.380)

MIL-PRF SCREENING FLOWCHARTS

MIL-PRF-55681 (GROUP A)	MIL-PRF-123 (GROUP A)	MIL-PRF-49467 (GROUP A)
100% ELECTRICALS	THERMAL SHOCK	THERMAL SHOCK
DPA		DWV
VISUAL INSPECTION	VOLTAGE CONDITIONING 168 HRS, 2X VDCW, 125°C	VOLTAGE CONDITIONING 96 HRS, VDCW, 125°C
VOLTAGE CONDITIONING 100 HRS, 2X VDCW, 125°C	VISUAL & MECH. INSPECTION	PARTIAL DISCHARGE
DWV, IR, HOT IR, CAP, DF TEST	DPA	CAP, DF, DWV, IR TESTING
VISUAL & MECH. INSPECTION	DWV, IR, CAP, DF TEST	VISUAL & MECH. INSPECTION
SOLDERABILITY		SOLDERABILITY
B & C ENVIRONMENTAL & LIFE TEST	B & C ENVIRONMENTAL & LIFE TEST	B & C ENVIRONMENTAL & LIFE TEST

HOW TO ORDER

	1210	X	104	M	250	N	X	H	T	M
SIZE	See Chart									
DIELECTRIC	N = NPO X = BX B = X7R									
CAPACITANCE	Value in Picofarads Two significant figures, followed by number of zeros: 104 = 100,000pF									
TOLERANCE	F = +/- 1% G = +/- 2% COG only J = +/- 5% K = +/- 10% M = +/- 20%									
VOLTAGE-VDCW	Two significant figures, followed by number of zeros: 250 = 25V									
TERMINATION	N = Nickel Barrier (100% Sn) P = Palladium Silver Y = Nickel Barrier (90Sn/10Pb)									
THICKNESS OPTION	X = Non-standard thickness. Specify in Mils if non-standard is required. Standard items are any thickness to Max. shown in charts.									
HI REL TESTING	Specify Test Criteria									
PACKING OPTION	T = Reeled									
MARKING OPTION	M = Marked (See Marking Specifications)									