



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

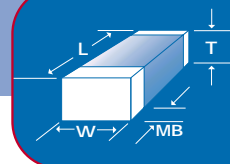
SIZE	0402	0504	0603	0805	1005	1206	1210	1808	1812	1825	2221	2225
Min Cap	0R1	0R1	0R1	0R1	1R0	1R0	5R0	100	100	270	270	270
25V	121	681	331	222	472	822	183	223	333	823	823	104
50V	121	681	331	222	472	822	153	223	333	823	823	104
100V	680	391	181	122	222	472	103	123	183	563	563	683
250V	330	151	101	821	122	182	392	472	682	223	223	273
500V				471	681	102	222	222	392	123	123	153

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	332	183	183	822	822	563	563	104	104	184	184	394	394	474	474	824	824	185	185	155	155	185	185
50V	272	122	153	562	682	272	473	273	823	393	154	683	334	154	394	224	684	334	185	824	155	824	185	105
100V	222	471	123	472	562	272	393	123	683	183	104	393	224	683	274	823	564	124	125	334	105	334	125	394
250V	471		272	681	182	331	123	182	183	332	273	682	563	123	563	153	104	273	274	683	224	683	274	823
500V							392	561	562	102	103	182	223	332	223	392	393	682	124	183	124	183	154	223

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	VOLTAGE CONDITIONING 168 HRS, 2X VDCW, 125 C	DWV
VISUAL INSPECTION	VISUAL & MECH. INSPECTION	VOLTAGE CONDITIONING 96 HRS, VDCW, 125 C
VOLTAGE CONDITIONING 100 HRS, 2X VDCW, 125 C	DPA	PARTIAL DISCHARGE
DWV, IR, HOT IR, CAP, DF TEST	DWV, IR, CAP, DF TEST	CAP, DF, DWV, IR TESTING
VISUAL & MECH. INSPECTION		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 90/10 Sn/Pb P = Silver Palladium	THICKNESS OPTION X = Non standard thickness. Specify in Mils if Non EIA thickness is required.	HI REL TESTING Specify Test Criteria	PACKING OPTION T = Reeled	MARKING OPTION M = Marked (See Marking Specifications)