HIGH TEMPERATURE SMT

NOVACAP manufactures chip capacitors designed to operate to 200 C in both COG and X7R dielectrics, for use in harsh environments, such as oil exploration and engine compartment circuitry. Product is available as surface mount chips in sizes 0805 to 7565, or as leaded encapsulated devices in sizes 1515 to 7565, rated to 500 volts (see additional data sheet). Consult NOVACAP for your specific requirements.

CAPACITANCE SELECTION

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

SIZE	0805	1206	1210	1812	1825	2225	4540	7565
LENGTH L	.080 (2.03)	.125 (3.18)	.125 (3.18)	.180 (4.57)	.180 (4.57)	.220 (5.59)	.450 (11.4)	.750 (19.0)
WIDTH W	.050 (1.27)	.060 (1.52)	.100 (2.54)	.125 (3.18)	.250 (6.35)	.250 (6.35)	.400 (10.2)	.650 (16.5)
T MAX.	.054 (1.37)	.064 (1.63)	.065 (1.65)	.065 (1.65)	.080 (2.03)	.080 (2.03)	.300 (7.62)	.400 (10.2)
MB	.020 (.508)	.020 (.508)	.020 (.508)	.024 (.610)	.024 (.610)	.030 (.760)	.060 (1.52)	.060 (1.52)

200 C - COG DIELECTRIC

Min Cap	0R5	1R0	5R0	220	560	680	221	102
25V	222	682	123	223	473	563	224	474
50V	152	562	123	183	393	473	154	474
100V	821	272	472	822	223	273	124	474
250V	561	182	392	562	183	223	124	274
500V	331	821	182	272	822	103	563	184

200 C - X7R DIELECTRIC

Min Cap	121	221	331	331	471	471	102	103
25V	563	184	334	684	125	155	565	186
50V	473	124	274	474	684	684	395	126
100V	333	823	184	394	394	394	275	106
250V	153	393	823	154	184	224	225	685
500V	332	822	183	393	563	563	824	335

DIMENSIONAL TOLERANCES +/- INCHES (MM)

LENGTH L	.008 (.203)	.008 (.203)	.008 (.203)	.012 (.305)	.012 (.305)	.015 (.380)	.015 (.380)	.015 (.380)
WIDTH W	.008 (.203)	.008 (.203)	.008 (.203)	.008 (.203)	.015 (.380)	.015 (.380)	.015 (.380)	.015 (.380)
MB	.010 (.254)	.010 (.254)	.010 (.254)	.014 (.355)	.014 (.355)	.015 (.380)	.015 (.380)	.015 (.380)

MAX CAP @ VOLTAGE

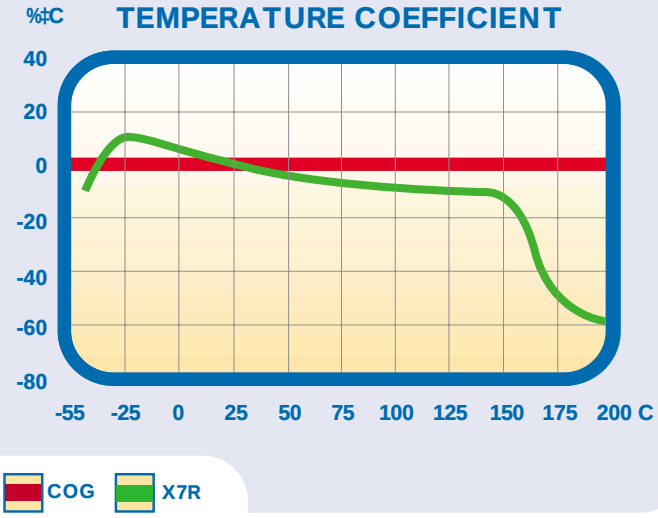
COG D CHARACTERISTICS

OPERATING TEMPERATURE RANGE:	-55 C to 200 C
TEMPERATURE COEFFICIENT UP TO 125 C:	0 +/- 30 ppm/ C
DISSIPATION FACTOR @ 25 C:	.001 (0.1%) max
INSULATION RESISTANCE, 25 C 125 C	> 100G or >1000 F > 10G or >100 F
DIELECTRIC WITHSTANDING VOLTAGE: * WHICHEVER IS GREATER	< 200V, 250% 201-500V,150% or 500V* > 500V, 120%, or 750V*
AGING RATE:	0% per decade
TEST PARAMETERS:	1KHz, 1.0 +/- 0.2 VRMS, 25 C 1MHZ for Capacitance <100pF

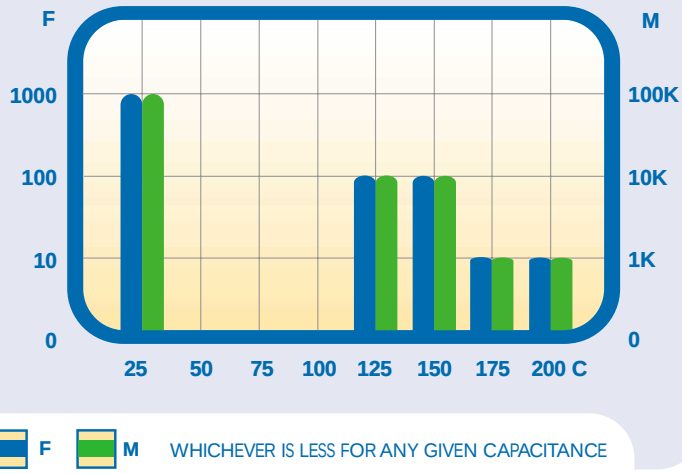
X7R E DIELECTRIC CHARACTERISTICS

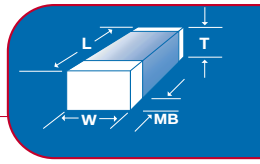
OPERATING TEMPERATURE RANGE:	-55 C to 200 C
TEMPERATURE COEFFICIENT UP TO 125 C:	See TC Graph below.
DISSIPATION FACTOR @ 25 C:	2.5% max @ >25V, 3.5% max 25V
INSULATION RESISTANCE, 25 C 125 C	>100G or >1000 F >10G or >100 F
DIELECTRIC WITHSTANDING VOLTAGE: * WHICHEVER IS GREATER	< 200V, 250% 201-500V,150% or 500V* > 500V, 120%, or 750V*
AGING RATE:	< 2.0% per decade
TEST PARAMETERS:	1KHz, 1.0 +/- 0.2 VRMS, 25 C

TEMPERATURE COEFFICIENT



MINIMUM IR VS. TEMPERATURE





HOW TO ORDER

1210	E	104	M	250	P	X	H	T	M
SIZE See Chart	**DIELECTRIC** D = 200 C COG E = 200 C 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** P= Silver Palladium N= Nickel Barrier, for less than 160 C operation	**THICKNESS OPTION** X = Non standard thickness. Specify in Mils if Non EIA thickness is required.	**HI REL TESTING** Ref: MIL-PRF-55681	**PACKING OPTION** T = Reeled	**MARKING OPTION** M = Marked (See Marking Specifications)