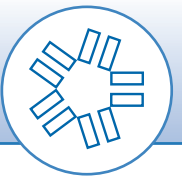


# 200°C HIGH TEMPERATURE - CLASS II



NOVACAP manufactures Class II chip capacitors designed and tested to operate from -55°C to 200°C. Product applications include harsh environments such as oil exploration and automotive/avionics engine compartment circuitry. Product is available as surface mount chips in sizes 0805 to 7565. Please refer to our Leaded encapsulated devices in sizes 1515 to 7565 for additional high temperature capacitors. Consult Novacap if your specific requirements exceed our catalog maximums (size, cap. value, and voltage).

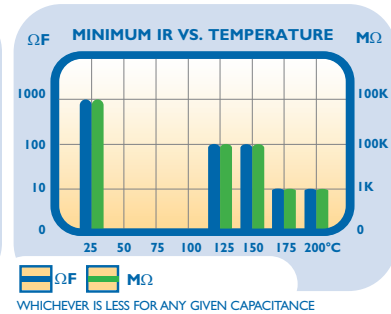
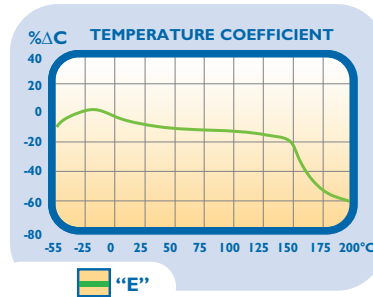
## CLASS II CAPACITANCE & VOLTAGE SELECTION

3 digit code: two significant digits, followed by number of zeros eg: 473 = 47,000 pF

SIZE	0805	1206	1210	1515	1808	1812	1825	2225	3530	4540	6560	7565	
Min Cap	121	121	121	151	151	151	471	471	102	102	222	222	
Tmax	.054	.064	.065	.130	.065	.065	.080	.080	.250	.300	.300	.300	
MAX CAP & VOLTAGE	25V	823	224	394	824	334	684	155	185	395	565	156	186
	50V	473	124	224	684	274	474	105	125	275	475	126	156
	100V	183	473	104	274	823	154	474	474	225	335	825	126
	250V	472	103	273	822	223	473	124	154	564	125	275	395
	500V	102	222	562	183	562	103	273	333	124	334	684	824
	1000V	181	391	821	272	821	152	472	562	273	683	154	224
	2000V	•	•	151	561	•	221	561	681	682	183	393	473
	3000V	•	•	•	•	•	•	•	•	272	682	153	183
	4000V	•	•	•	•	•	•	•	•	122	272	562	822

### CLASS II DIELECTRIC CHARACTERISTICS

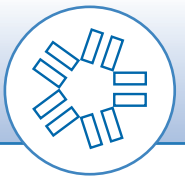
Operating Temperature Range:	-55°C to 200°C
Temperature Coefficient up to 200°C:	+15 -65% ΔC Max
Dissipation Factor @ 25°C:	.025 (2.5%) Max
Insulation Resistance at 25°C:	>100GΩ or >1000ΩF
at 200°C:	> 1GΩ or > 10ΩF
Dielectric Withstanding Voltage:	< 200V, 250%
*whichever is greater	201-500V, 150% or 500V*
	> 500V, 120% or 750V*
Aging Rate:	2% per decade
Test Parameters:	1KHz, 1.0 +/-0.2 VRMS, 25°C



### HOW TO ORDER

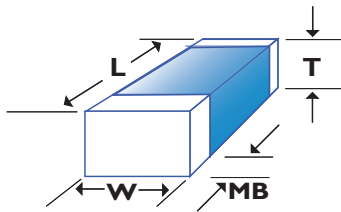
1825	E	124	K	251	P	X	H	T	M
<b>SIZE</b> See Chart	<b>DIELECTRIC</b> E = 200°C Class II G= up to 160°C Class II	<b>CAPACITANCE</b> Value in Picofarads Two significant figures, followed by number of zeros: 124 = 120,000 pF	<b>TOLERANCE</b> J = +/- 5 % K = +/- 10 % M = +/- 20 %	<b>VOLTAGE-VDCW</b> Two significant figures, followed by number of zeros: 251 = 250V	<b>TERMINATION</b> P = Palladium Silver  G Dielectric Code Only up to 160°C C=Polymer/Nickel Barrier/100% Tin D=Polymer/Nickel Barrier, 90%Tin/10% Lead N=Nickel Barrier 100% Tin Y=Nickel Barrier 90% Tin/10% Lead	<b>THICKNESS OPTION</b> X=Non-standard thickness. Specify in Mils if non-standard is required. Standard items are any thickness to Max. shown in charts.	<b>HIGH TEMP SCREENING</b> Novacap High Temp Screen	<b>PACKING OPTION</b> T=Reeled	<b>MARKING OPTION</b> M = Marked (See Marking Specification)

NOTE: REFER TO PAGE 11 FOR DIMENSIONS  
Catalog 09-08-PC



## PART NUMBER PREFIX DEFINITIONS

<b>LS</b> = Y3 Certified Safety Capacitor	pg. 38
<b>ES</b> = Y2 Certified Safety Capacitor	pg. 39
<b>AP</b> = Arc Prevention Capacitor	pg. 54
<b>CR</b> = Cap-Rack Capacitor Array	pg. 42 - 43
<b>RC</b> = Bleed Resistor	pg. 34 - 37
<b>RD</b> = Ring Detect Capacitor	pg. 40
<b>ST</b> = Stacked Capacitor Assembly	pg. 54 - 55
<b>SM</b> = Hi-Rel Stacked Capacitor Assembly	pg. 54 - 55



## CODE COMBINATIONS

Dielectric Code	Max. Temp. Rated	Terminations (allowed)
<b>N</b> (COG/NPO)	125°	N, P, Y, S, V, NG, PR
<b>B</b> (X7R)	125°	N, P, Y, C, D, S, V, NG, PR
<b>X</b> (BX)	125°	N, P, Y, C, D, S, V, NG, PR
<b>Y</b> (Y5V)	85°	N, Y, C, D
<b>Z</b> (Z5U)	85°	N, Y, C, D
<b>D</b> (NPO-HIGH TEMP)	200°	P, S, V, PR
<b>E</b> (CLASS II-HIGH TEMP)	200°	P, S, V, PR
<b>F</b> (NPO-HIGH TEMP)	160°	N, P, Y, S, V, C, D, PR
<b>G</b> (CLASS II-HIGH TEMP)	160°	N, P, Y, S, V, C, D, PR
<b>S</b> (X8R)	150°	N, P, Y, S, V, C, D, PR
<b>P</b> (PULSE POWER)	85°	P, PR
<b>R</b> (R2D)	200°	P, PR
<b>W</b> (X5R)	85°	N, Y, NG

DIMENSIONS +/- INCHES (MM)

SIZE	0402	0504	0603	0805	0907	1005	1206	1210	1515	1808	1812	1825
LENGTH L	.040 (.102)	.050 (1.27)	.060 (1.52)	.080 (2.03)	.090 (2.29)	.100 (2.54)	.125 (3.18)	.125 (3.18)	.150 (3.81)	.180 (4.57)	.180 (4.57)	.180 (4.57)
WIDTH W	.020 (.508)	.040 (1.02)	.030 (.762)	.050 (1.27)	.070 (1.78)	.050 (1.27)	.060 (1.52)	.100 (2.54)	.150 (3.81)	.080 (2.03)	.125 (3.18)	.250 (6.35)
T MAX.	.024 (.610)	.044 (1.12)	.035 (.889)	.054 (1.37)	.054 (1.37)	.054 (1.37)	.064 (1.63)	.065 (1.65)	.130 (3.30)	.065 (1.65)	.065 (1.65)	.080 (2.03)
MB	.010 (.254)	.014 (.356)	.014 (.356)	.020 (.508)	.020 (.508)	.020 (.508)	.020 (.508)	.020 (.508)	.030 (.762)	.024 (.610)	.024 (.610)	.024 (.610)
LENGTH	.004 (.102)	.006 (.152)	.006 (.152)	.008 (.203)	.008 (.203)	.008 (.203)	.008 (.203)	.008 (.203)	.015 (.381)	.012 (.305)	.012 (.305)	.012 (.305)
WIDTH	.004 (.102)	.006 (.152)	.006 (.152)	.008 (.203)	.008 (.203)	.008 (.203)	.008 (.203)	.008 (.203)	.015 (.381)	.008 (.203)	.008 (.203)	.015 (.381)
MB	.006 (.152)	.006 (.152)	.006 (.152)	.010 (.254)	.010 (.254)	.010 (.254)	.010 (.254)	.010 (.254)	.015 (.381)	.014 (.356)	.014 (.356)	.014 (.356)

DIMENSIONS +/- INCHES (MM)

SIZE	2020	2221	2225	2520	3333	3530	4040	4540	5440	5550	6560	7565
LENGTH L	.200 (5.08)	.220 (5.59)	.220 (5.59)	.250 (6.35)	.330 (8.38)	.350 (8.89)	.400 (10.2)	.450 (11.4)	.540 (13.7)	.550 (14.0)	.650 (16.5)	.750 (19.1)
WIDTH W	.200 (5.08)	.210 (5.33)	.250 (6.35)	.200 (5.08)	.330 (8.38)	.300 (7.62)	.400 (10.2)	.400 (10.2)	.400 (10.2)	.500 (12.7)	.600 (15.2)	.650 (16.5)
T MAX.	.180 (4.57)	.080 (2.03)	.080 (2.03)	.180 (4.57)	.250 (6.35)	.250 (6.35)	.300 (7.62)	.300 (7.62)	.300 (7.62)	.300 (7.62)	.300 (7.62)	.300 (7.62)
MB	.024 (.610)	.030 (.762)	.030 (.762)	.030 (.762)	.030 (.762)	.030 (.762)	.040 (1.02)	.040 (1.02)	.040 (1.02)	.040 (1.02)	.040 (1.02)	.040 (1.02)
LENGTH	.015 (.381)	.015 (.381)	.015 (.381)	.015 (.381)	.017 (.432)	.018 (.457)	.020 (.508)	.023 (.584)	.027 (.686)	.028 (.711)	.033 (.838)	.038 (.965)
WIDTH	.015 (.381)	.015 (.381)	.015 (.381)	.015 (.381)	.017 (.432)	.015 (.381)	.020 (.508)	.020 (.508)	.020 (.508)	.025 (.635)	.030 (.762)	.033 (.838)
MB	.014 (.356)	.015 (.381)	.015 (.381)	.015 (.381)	.015 (.381)	.015 (.381)	.020 (.508)	.020 (.508)	.020 (.508)	.020 (.508)	.020 (.508)	.020 (.508)

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