



STANDARD SMT CHIP P/N BREAKDOWN

1206 N 472 J 101 N X050 H T M

Case Size

Dielectric Code

Code	EIA	Class
N	COG/NP0	Ultra Stable
B	X7R	Stable
X	BX	MIL
Y	Y5V	General Purpose
Z	Z5U	General Purpose
S	X8R	High Temp up to 150°C
D	COG/NPO	High Temp up to 200°C
E	Class II (Stable)	High Temp up to 200°C

Capacitance

1st two digits are significant, third digit denotes number of zeros, R= decimal

Examples:

- 1R0 = 1.0 pF
- 120 = 12 pF
- 471 = 470 pF
- 102 = 1,000 pF
- 273 = .027 μF
- 474 = 0.47 μF
- 105 = 1.0 μF

Capacitance Tolerance

Code		COG NPO	X7R	BX	Z5U Y5V	X8R 150°C	D 200°C	E 200°C
Cap Value < 10pF	B ±0.10pF	█						
	C ±0.25pF	█						
	D ±0.50pF	█						
	F ± 1%pF		█	█			█	
	G ± 2%pF		█	█			█	█
	J ± 5%pF		█	█		█	█	█
	K ±10%pF		█	█		█	█	█
	M ±20%pF		█	█	█	█	█	█
	Z +80% -20%		█	█	█	█	█	█
	P +100%/-0%		█	█	█	█	█	█

Marking

- M = Marked
- None = Unmarked
- Marking not available on sizes 0603 and below

Packaging

- T = Tape and Reel
- W = Waffle Pack
- None = Bulk

High Reliability Testing

- H = High Reliability Testing Required
- None = Standard SMT, no High-Rel
- Consult catalog to determine MIL SPEC required.

Special Thickness

- X in the part number denotes a special thickness other than standard. Specify in mils if required. (As shown above X=.050")
- If no X in the part number then thickness is standard per Novacap catalog specifications.

Termination

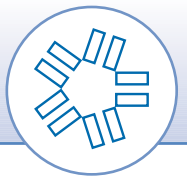
- N = Nickel Barrier (100% Tin)
- P = Palladium Silver
- Y = Nickel Barrier (90%Tin/10%Lead)
- S = Silver
- C = Polymer with Nickel Barrier (100% Tin)
- D = Polymer with Nickel Barrier (90%Tin/10%Lead)
- V = Non-Solderable Silver

Voltage

Examples:

- 160 = 16 Volts 202 = 2000 Volts
- 250 = 25 Volts 302 = 3000 Volts
- 500 = 50 Volts 402 = 4000 Volts
- 101 = 100 Volts 502 = 5000 Volts
- 251 = 250 Volts 602 = 6000 Volts
- 501 = 500 Volts 802 = 8000 Volts
- 102 = 1000 Volts 103 = 10,000 Volts

This ordering information relates to NOVACAP's standard surface mount capacitors. Please refer to the specific catalog pages for ordering information for our application specific products; ie: Stacked, Leaded, Capacitor Arrays, Pulsed Power capacitors and other specialty products.

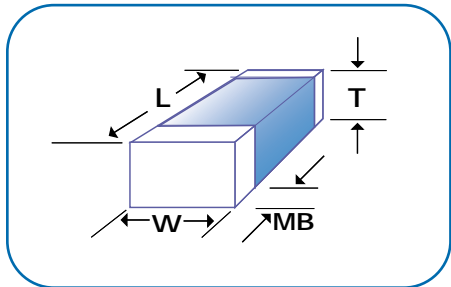


PART NUMBER PREFIX DEFINITIONS

LS = Y3 Certified Safety Capacitor	pg. 36
ES = Y2 Certified Safety Capacitor	pg. 37
AP = Arc Prevention Capacitor	pg. 50
CR = Cap-Rack Capacitor Array	pg. 40 - 41
RD = Ring Detect Capacitor	pg. 38
ST = Stacked Capacitor Assembly	pg. 48 - 49
SM = Hi-Rel Stacked Capacitor Assembly	pg. 48 - 49

CODE COMBINATIONS

Dielectric Code	Max. Temp. Rated	Terminations (allowed)
N (COG/NPO)	125°	N, P, Y, S, V
B (X7R)	125°	N, P, Y, C, D, S, V
X (BX)	125°	N, P, Y, C, D, S, V
Y (Y5V)	125°	N, Y, C, D
Z (Z5U)	125°	N, Y, C, D
D (NPO-HIGH TEMP)	200°	P, S, V
E (CLASS 11-HIGH TEMP)	200°	P, S, V
F (NPO-HIGH TEMP)	160°	N, P, Y, S, V
G (CLASS 11-HIGH TEMP)	160°	N, P, Y, S, V
S (X8R)	150°	N, P, Y, S, V
P (PULSE POWER)	125°	P
R (R2D)	200°	P



DIMENSIONS
INCHES (MM)

SIZE	0402	0504	0603	0805	0907	1005	1206	1210	1515	1808	1812	1825
LENGTH L	.040 (1.02)	.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)	.040 (1.02)	.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)