

HIGH TEMPERATURE CERAMIC CHIP CAPACITORS

HIGH TEMPERATURE DESIGNATION

Code “HT”: This code signifies that the parts are designed for high temperature use, and have followed the Group A testing program of the “HR” type listed in our catalog. Temperatures of 250°C are acceptable for these capacitors, in terms of the inherent capability of the ceramic and depending on the voltage applied. Presidio’s HT product line features many proprietary design elements, in both materials and construction, that have been shown to work well in the down-hole environment. Consult factory for higher temperature requirements.

ROHS COMPLIANCE

Code “R” This code signifies that the parts are made in compliance with the RoHS Directive.

SOLDERING/TERMINATION OPTIONS

Code	Description	Application Solder	Summary
NT9	Standard Ni + 90%Sn 10%Pb	HMP or Sn63 (for use up to 150°C)	This is our traditional 90/10 SnPb termination.
Q	Ni + 100% Sn	Sn96 (for use up to 180°C)	Ni barrier with 100% matte Sn
T	Standard Ni + 100%Sn	Sn96 (for use up to 150°C)	Our standard Ni barrier with 100% matte Sn
NP8	Standard Ni + 15%Sn 85%Pb	HMP Solder (for use up to 200°C)	This is our high temperature termination for HMP soldering.
NG	Standard Ni + Gold	Wirebond (for use up to 200°C)	This is our Ni/Au termination for wirebond applications.
P	Pd/Ag Termination	HMP (for use up to 240°C)	This is our standard Pd/Ag termination.
F	Polished Pd/Ag Termination	HMP (for use up to 240°C)	This is our standard Pd/Ag termination that has been polished for easier soldering.

HOW TO ORDER

HT	0805	XHT	104	K	1	Q	5	R
PREFIX	SIZE	DIELECTRIC	CAPACITANCE CODE	TOLERANCE CODE	VOLTAGE CODE	TERMINATION CODE	MARKING & PACKAGING	RoHS
HT	0402 0403 0504 0603 0805 1206 1209 1712	NPQ* NPO XHT X7R	Two significant figures followed by the number of zeros. Example: 100 = 10 pF 101 = 100 pF 102 = 1000 pF 104 = .01 μF 105 = 1.0 μF	B = ± .10pF <10pF C = ± .25pF <10pF D = ± .50pF <10pF F = ± 1% G = ± 2% J = ± 5% K = ± 10% M = ± 20%	10V = 10 VDC 12V = 12 VDC 16V = 16 VDC 1 = 25 VDC 2 = 50 VDC 3 = 100 VDC 4 = 200 VDC 5 = 300 VDC 6 = 500 VDC 7 = 600 VDC 8 = 750 VDC 9 = 1000 VDC	NG = Au over Ni NP8 = 15/85 Sn/Pb over Ni NT9 = 90/10 Sn/Pb over Ni Q = 100% Sn over Ni P = Pd/Ag F = Polished Pd/Ag T = 100% Sn over Std. Ni.	1. Reel, 7", plastic tape, unmarked 2. Reel, 7", plastic tape, marked 3. Bulk, unmarked 4. Bulk, marked 5. Waffle, unmarked 6. Waffle, marked A. Reel, 13", plastic tape, unmarked B. Reel, 13", plastic tape, marked C. Reel, 7", paper, unmarked (0402 & 0603 only) D. Reel, 13", paper, marked (0402 & 0603 only)	R = RoHS Compliant Note: Only compatible with Q, P, F termination

* Consult Factory regarding NPQ Dielectric
** B, C, D, F and G tolerances are available for NPO parts only



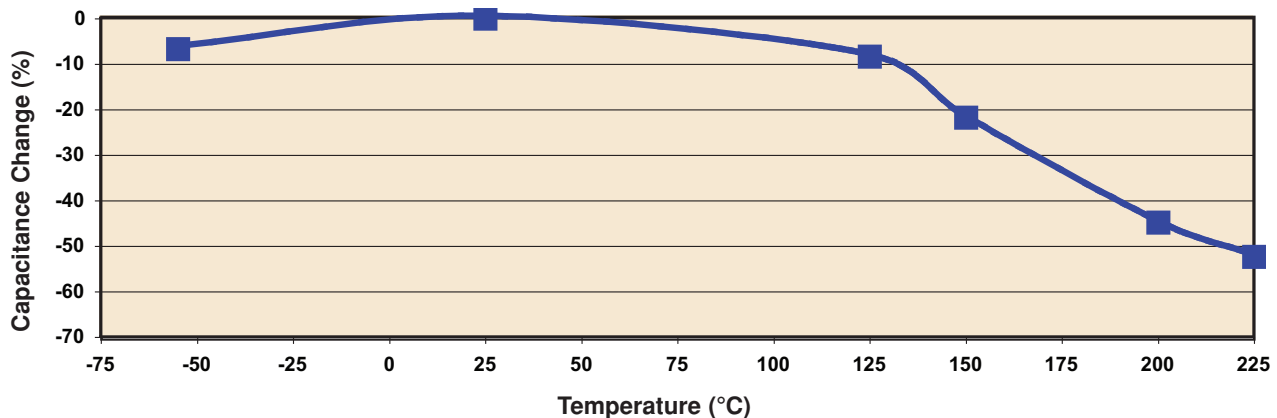
HIGH TEMPERATURE (225°C) CERAMIC CHIP CAPACITORS

Consult factory for requirements above 225°C

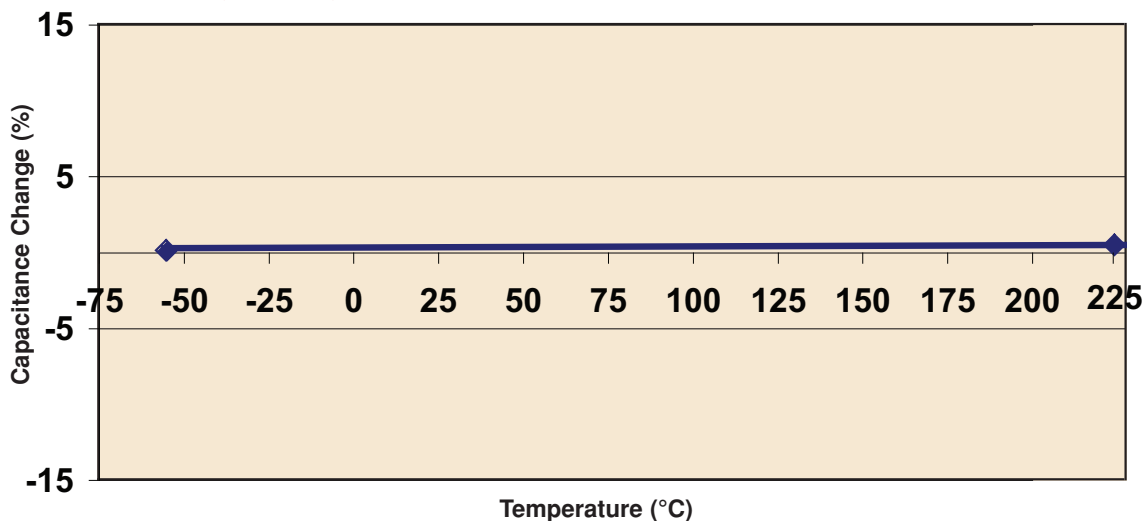
DIELECTRIC CHARACTERISTICS

CHARACTERISTICS	NPO DIELECTRIC	XHT (225°C) DIELECTRIC
Operating Temperature Range	-55°C to 200°C	-55°C to 225°C
Temperature Coefficient up to 225°C	0 ± 30 ppm/°C	+15 - 65% Δ °C Max
Dissipation Factor @ 25°C	.001(0.1%) Max	.025 (2.5%) Max
Insulation Resistance, 25°C 200°C	>100GΩ or >1000ΩF >1GΩ or >10 ΩF	>100 GΩ or >1000 ΩF >1 GΩ or >10 ΩF
Dielectric Withstanding Voltage:	DWV will be tested at 250% of rated voltage except for 500V rated parts which will be tested at 150% of rated voltage.	DWV will be tested at 250% of rated voltage except for 500V rated parts which will be tested at 150% of rated voltage.

TYPICAL (225°C) XHT DIELECTRIC TEMPERATURE COEFFICIENT



TYPICAL (200°C) NPO DIELECTRIC TEMPERATURE COEFFICIENT



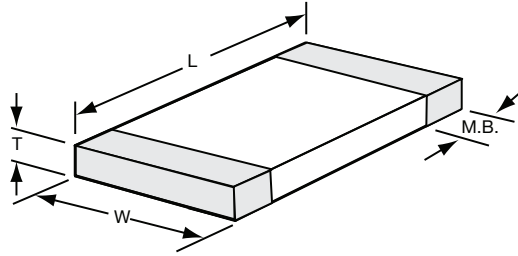
PRESIDIO COMPONENTS, INC.

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DIMENSIONS



AVAILABLE CAPACITANCE VALUES

The following values are the traditional designs that Presidio has supplied to the downhole industry for over 10 years.

SIZE	L (Inches)	W (Inches)	Thickness Max (T) (Inches)	Metalization Band (M.B.) (Inches)	WVDC	DIELECTRIC (Maximum Capacitance)		
						NPO	XHT	X7R
0402	0.040 ± 0.004	0.020 ± 0.004	0.024	0.004 min. band 0.015 min. space	25V	120 pF	2200 pF	4700 pF
					50V	100 pF	1800 pF	3900 pF
					100V	39 pF	680 pF	1200 pF
0403	0.040 ± 0.010	0.030 ± 0.010	0.030	0.004 min. band 0.015 min. space	25V	390 pF	6800 pF	0.015 µF
					50V	330 pF	5600 pF	0.012 µF
					100V	68 pF	1000 pF	2200 pF
0504	0.050 ± 0.010	0.040 ± 0.010	0.040	0.005 min. band 0.015 min. space	25V	1500 pF	0.027 µF	0.047 µF
					50V	1200 pF	0.020 µF	0.039 µF
					100V	180 pF	2700 pF	6800 pF
0603	0.063 ± 0.006	0.032 ± 0.006	0.035	0.005 min. band 0.025 min. space	25V	680 pF	0.015 µF	0.027 µF
					50V	560 pF	0.010 µF	0.022 µF
					100V	100 pF	1800 pF	3300 pF
0805	0.080 ± 0.010	0.050 ± 0.010	0.050	0.020 ± 0.010	25V	2700 pF	0.047 µF	0.10 µF
					50V	2200 pF	0.039 µF	0.10 µF
					100V	560 pF	8200 pF	0.022 µF
1206	0.126 ± 0.008	0.063 ± 0.008	0.059	0.020 ± 0.010	25V	6800 pF	0.15 µF	0.27 µF
					50V	5600 pF	0.1 µF	0.22 µF
					100V	1500 pF	0.027 µF	0.068 µF
					200V	820 pF	0.012 µF	0.027 µF
1209	0.125 ± 0.010	0.095 ± 0.010	0.065	0.020 ± 0.010	25V	0.010 µF	0.22 µF	0.47 µF
					50V	8200 pF	0.18 µF	0.39 µF
					100V	3900 pF	0.068 µF	0.15 µF
					200V	1800 pF	0.033 µF	0.068 µF
1712	0.175 ± 0.013	0.125 ± 0.010	0.065	0.020 ± 0.010	25V	0.022 µF	0.47 µF	1.0 µF
					50V	0.015 µF	0.27 µF	0.68 µF
					100V	6800 pF	0.12 µF	0.27 µF
					200V	3300 pF	0.056 µF	0.12 µF



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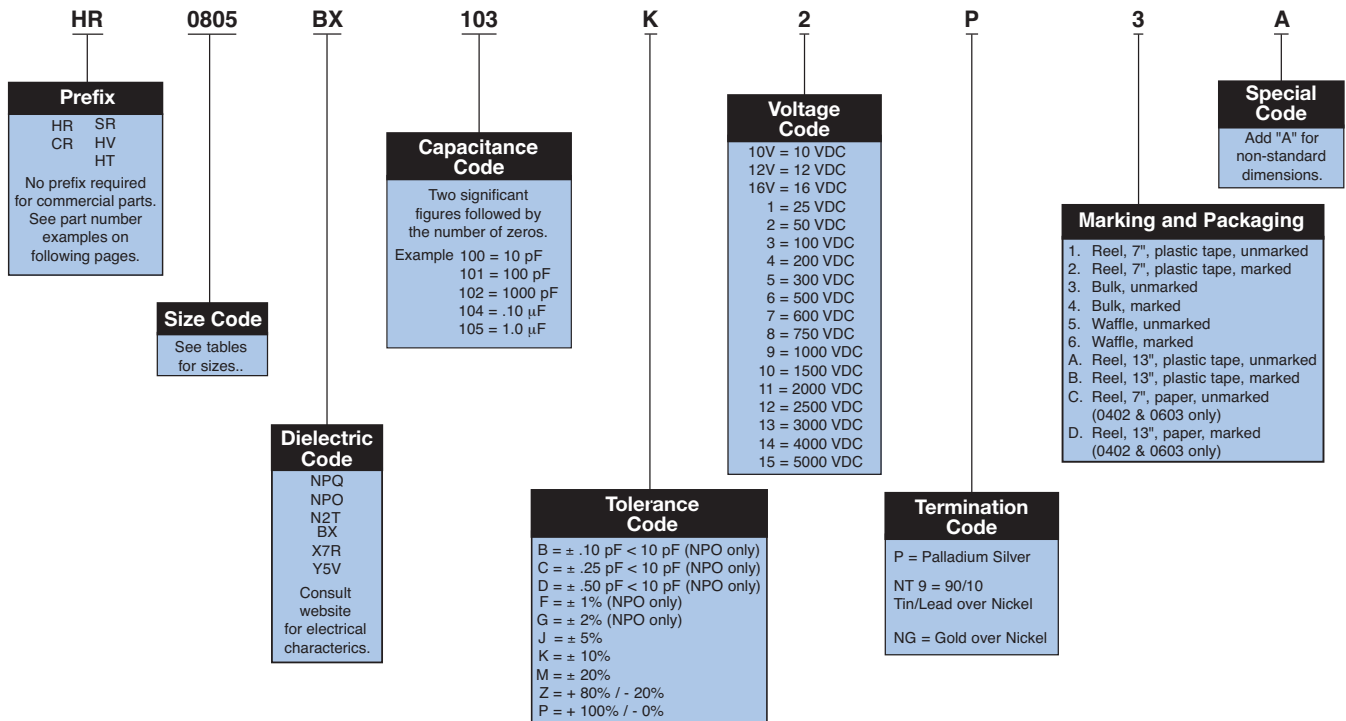
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HOW TO ORDER A STANDARD PART

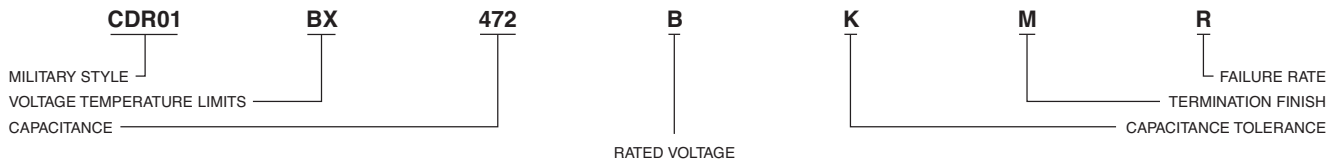
EXAMPLE: HR0805BX103K2P3A



Consult factory for other voltages, capacitance options and parts outside a given range.

HOW TO ORDER A MILITARY PART

EXAMPLE: CDR01BX472BKMR



See MIL-PRF-55681 on pages 14-15 for details.



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