

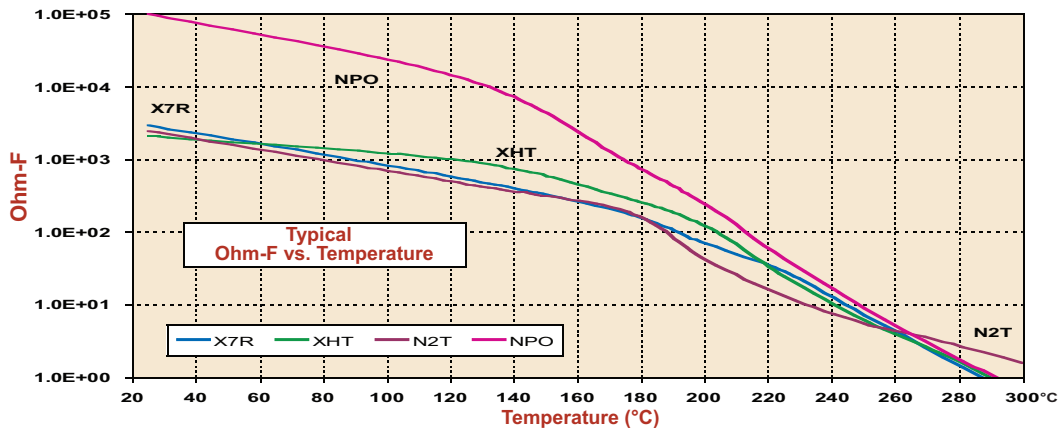
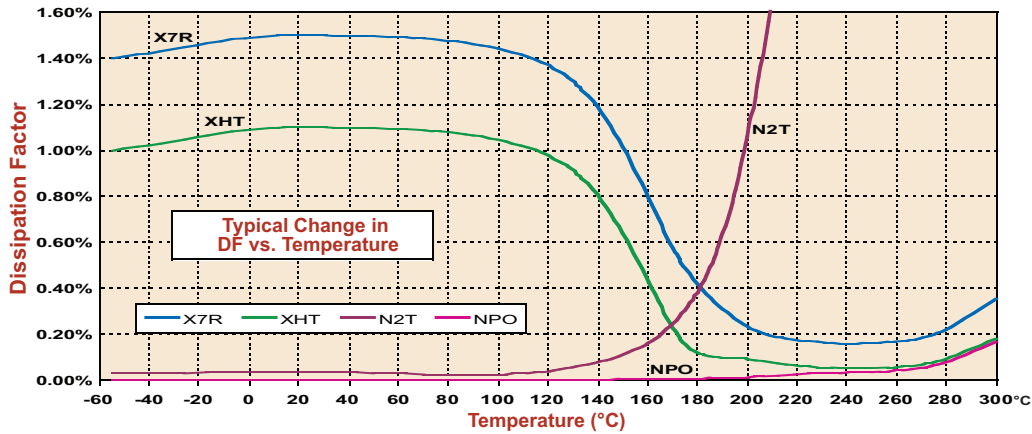
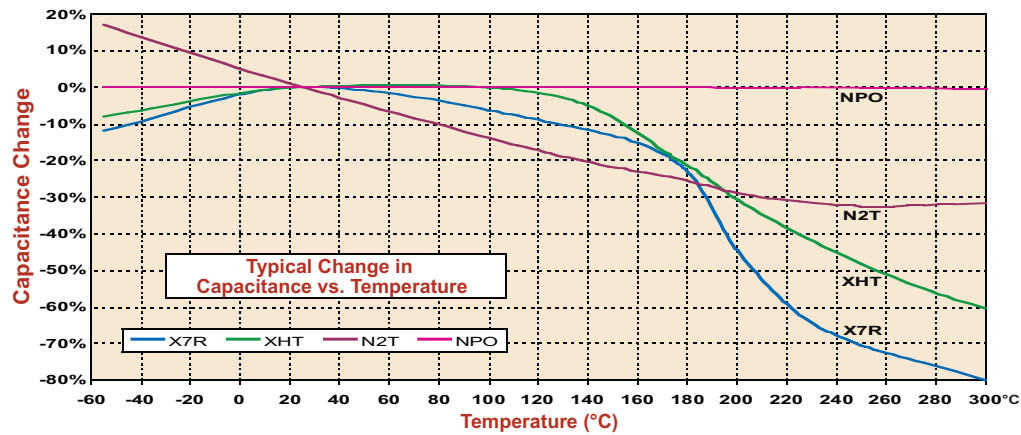
HIGH TEMPERATURE CERAMIC CHIP CAPACITORS (HT)

Consult factory for requirements above 250°C

DIELECTRIC CHARACTERISTICS

* Contact factory regarding NPQ dielectric

CHARACTERISTICS	NPO/NPQ* DIELECTRIC	XHT DIELECTRIC	X7R DIELECTRIC
Operating Temperature Range	-55°C to 250°C	-55°C to 250°C	-55°C to 250°C
Temperature Coefficient up to 200°C	0 ± 30 ppm/°C	+15 - 32% Δ °C Typical	+15 - 45% Δ °C Typical
Dissipation Factor @ 25°C	.001(0.1%) Max	.025 (2.5%) 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	>100 GΩ or >1000 ΩF >1 GΩ or >10 ΩF
Dielectric Withstanding Voltage:	DWV will be tested at 250% rated voltage except for 500V rated parts which are tested at 150% rated voltage.	DWV will be tested at 250% rated voltage except for 500V rated parts which are tested at 150% rated voltage.	DWV will be tested at 250% rated voltage except for 500V rated parts which are tested at 150% rated voltage.



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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 downhole environments. 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 (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 250°C)	This is our standard Pd/Ag termination.
F	Polished Pd/Ag Termination	HMP (for use up to 250°C)	This is our standard Pd/Ag termination that has been polished for easier soldering.

HOW TO ORDER HT CHIPS

HT	0805	XHT	473	K	1	Q	5	R
PREFIX	SIZE	DIELECTRIC	CAPACITANCE CODE	TOLERANCE CODE	VOLTAGE CODE	TERMINATION CODE	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 103 = .01 μF 104 = .10 μF 105 = 1.0 μF	B = ± .10pF <10pF C = ± .25pF <10pF D = ± .50pF <10pF F = ± 1% ≥ 10pF G = ± 2% ≥ 10pF J = ± 5% ≥ 10pF K = ± 10% M = ± 20% Z = +80% / -20% P = +100% / -0%	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 3 Bulk, unmarked 5 Waffle, unmarked A Reel, 13", plastic tape, unmarked C Reel, 7", paper, unmarked (0402 & 0603 only)	R = RoHS Compliant Only compatible with Q, P, F, NG terminations

* Contact factory regarding NPQ dielectric

For special requirements contact factory



PRESIDIO COMPONENTS, INC.

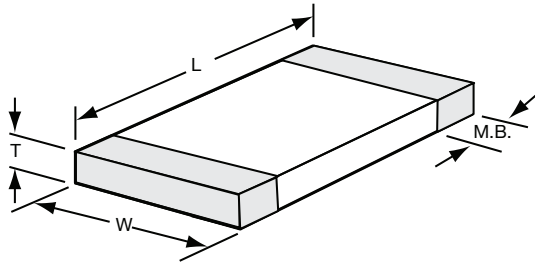
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DIMENSIONS



VOLTAGE DERATING

For high operating temperatures follow your voltage derating rules or contact Presidio for assistance.

Example: At 175°C a 50V part is not to be used at full rated voltage.

AVAILABLE CAPACITANCE VALUES

SIZE*	L Inches (mm)	W Inches (mm)	Thickness Max (T) Inches (mm)	Metalization Band (M.B.) Inches (mm)	WVDC**	DIELECTRIC* (Maximum Capacitance)		
						NPO	XHT	X7R
0402	0.040 (1.02) ± 0.004 (0.10)	0.020 (0.51) ± 0.004 (0.10)	0.024 (0.61)	0.004 (0.10) min. band 0.015 (0.38) min. space	10V	390 pF	6800 pF	0.012 µF
					25V	120 pF	2200 pF	4700 pF
					50V	100 pF	1800 pF	3900 pF
					100V	39 pF	680 pF	1200 pF
0403	0.040 (1.02) ± 0.010 (0.25)	0.030 (0.76) ± 0.010 (0.25)	0.030 (0.76)	0.004 (0.10) min. band 0.015 (0.38) min. space	10V	1200 pF	0.020 µF	0.047 µF
					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 (1.27) ± 0.010 (0.25)	0.040 (1.02) ± 0.010 (0.25)	0.040 (1.02)	0.005 (0.13) min. band 0.015 (0.38) min. space	10V	2700 pF	0.068 µF	0.12 µF
					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 (1.60) ± 0.006 (0.15)	0.032 (0.81) ± 0.006 (0.15)	0.035 (0.89)	0.005 (0.13) min. band 0.025 (0.64) min. space	10V	2200 pF	0.039 µF	0.10 µF
					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 (2.03) ± 0.010 (0.25)	0.050 (1.27) ± 0.010 (0.25)	0.050 (1.27)	0.020 (0.51) ± 0.010 (0.25)	10V	4700 pF	0.1 µF	0.22 µF
					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 (3.20) ± 0.008 (0.20)	0.063 (1.60) ± 0.008 (0.20)	0.059 (1.50)	0.020 (0.51) ± 0.010 (0.25)	10V	0.012 µF	0.25 µF	0.56 µF
					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 (3.18) ± 0.010 (0.25)	0.095 (2.41) ± 0.010 (0.25)	0.065 (1.65)	0.020 (0.51) ± 0.010 (0.25)	10V	0.018 µF	0.39 µF	1.0 µF
					25V	0.010 µF	0.22 µF	0.47 µF
					50V	0.010 µF	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 (4.45) ± 0.013 (0.33)	0.125 (3.18) ± 0.010 (0.25)	0.065 (1.65)	0.020 (0.51) ± 0.010 (0.25)	10V	0.039 µF	0.82 µF	1.8 µF
					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

* Contact factory regarding NPQ dielectric, additional case sizes or special requirements

** WVDC = Working Voltage Direct Current

