HIGH TEMPERATURE CERAMIC CHIP CAPACITORS (HT)

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.

NON-MAGNETIC PARTS

All of our capacitors can be made "Non-Magnetic" by simply selecting the correct termination (P, F or H).

ROHS COMPLIANCE — CODE "R"

This code signifies that the parts are made in compliance with the RoHS Directive.

MAIN SOLDERING/TERMINATION OPTIONS (Contact factory for other options)

Code	Description	Attachment Method Recommended Max. Temp.	Summary
NT9	Standard Ni + 90% Sn 10% Pb	Sn63 or HMP (150°C) (200°C)	Traditional 90/10 SnPb termination.
Q	Ni + 100% Sn Matte Finish	Sn96 (180°C) DO NOT USE HMP	Standard Pure Tin over Ni termination for high temperature. **Sizes 1712 and above are not compatible for all soldering processes. Customers need to run their own tests and qualifications on these parts.**
P	Pd/Ag Termination	HMP (250°C) or Epoxy	Standard Pd/Ag termination. **(NON-MAGNETIC)**
F	Polished Pd/Ag Termination	HMP (250°C) or Epoxy or Wirebond	Standard Pd/Ag termination polished for easier soldering or for wirebonding. **(NON-MAGNETIC)**
H	Thick Film Gold	Wirebond or Solder or Epoxy (500°C+)	Pure Gold termination. **(NON-MAGNETIC)**
S	Thick Film Silver	Solder or Epoxy – Silver Sintering (300°C)	Pure Silver termination. **(NON-MAGNETIC)**

Other terminations available. Contact factory.
Note: Presidio does not recommend wave soldering. Careful qualification for any wave solder process is recommended.

HOW TO ORDER HT CHIPS

HT	0805	XHT	103	K	1	Q	5	R	(F)
PREFIX	SIZE	DIELECTRIC	CAPACITANCE CODE	TOLERANCE CODE	VOLTAGE	TERMINATION CODE	PACKAGING	RoHS	DESIGN-IN CODE
HT	0402 0403 0504 0603 0805 1206 1209 1712 1725 **	NPQ* NPO NHT N2T* (175°C Max.) XHT X7R	Two significant figures followed by the number of zeros. Example: 0R1 = 0.1 pF 1R0 = 1.0 pF 100 = 10 pF 101 = 100 pF 102 = 1000 pF 103 = .01 µF 104 = .10 µF 105 = 1.0 µF	A = ± .05pF < 10pF B = ± .10pF < 10pF C = ± .25pF < 10pF D = ± .50pF < 10pF E = ± 0.5% ≥ 10pF F = ± 1% ≥ 10pF G = ± 2% ≥ 10pF J = ± 5% ≥ 10pF — NPQ* NPO NHT K = ± 10% L = -10% / +20% M = ± 20% Z = + 80% / -20% P = +100% / -0% — ALL	E = 10 VDC F = 12 VDC G = 16 VDC 1 = 25 VDC 2 = 50 VDC 3 = 100 VDC A = 150 VDC 4 = 200 VDC & = 250 VDC 5 = 300 VDC 6 = 500 VDC 7 = 600 VDC 8 = 750 VDC # = 800 VDC 9 = 1000 VDC **	NT9 = Ni/Sn/Pb Min. 4% Pb Q = 100% Sn over Ni P = Pd/Ag F = Polished Pd/Ag H = 100% Gold S = 100% Silver Other terminations available. Contact factory.	1 Reel, 7", plastic tape, unmarked 5 Waffle, unmarked A Reel, 13", plastic tape, unmarked C Reel, 7", paper, unmarked (0402 & 0603 only)	Blank = Non-RoHS R = RoHS Compliant Only compatible with Q, P, F, H, S terminations	See Page 15

±0.5% NPO Available Tolerance Code E

* **Contact factory regarding NPQ and N2T dielectric**

** **Contact factory for other sizes and voltages**

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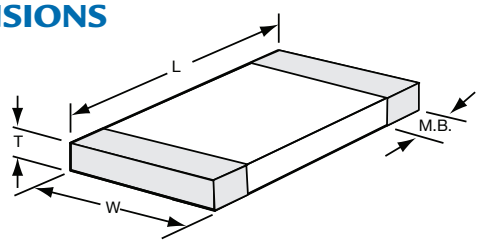
HIGH TEMPERATURE CERAMIC CHIP CAPACITORS (HT)

Consult Factory for Requirements Above 250°C

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	NHT***	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	390 pF	6800 pF	0.012 µF
					25V	120 pF	120 pF	2200 pF	4700 pF
					50V	100 pF	100 pF	1800 pF	3900 pF
					100V	39 pF	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	1200 pF	0.020 µF	0.047 µF
					25V	390 pF	390 pF	6800 pF	0.015 µF
					50V	330 pF	330 pF	5600 pF	0.012 µF
					100V	68 pF	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	2700 pF	0.068 µF	0.12 µF
					25V	1500 pF	1500 pF	0.027 µF	0.047 µF
					50V	1200 pF	1200 pF	0.020 µF	0.039 µF
					100V	180 pF	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	2200 pF	0.039 µF	0.10 µF
					25V	680 pF	680 pF	0.015 µF	0.10 µF
					50V	560 pF	560 pF	0.010 µF	0.022 µF
					100V	100 pF	100 pF	1800 pF	3300 pF
0805	0.080 (2.03) ± 0.010 (0.25)	0.050 (1.27) ± 0.010 (0.25)	0.055 (1.40)	0.020 (0.51) ± 0.010 (0.25)	10V	4700 pF	4700 pF	0.1 µF	0.22 µF
					25V	2700 pF	2700 pF	0.047 µF	0.10 µF
					50V	2200 pF	2200 pF	0.039 µF	0.10 µF
					100V	560 pF	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	0.012 µF	0.25 µF	0.56 µF
					25V	6800 pF	6800 pF	0.15 µF	0.27 µF
					50V	5600 pF	5600 pF	0.1 µF	0.22 µF
					100V	1500 pF	1500 pF	0.027 µF	0.068 µF
					200V	820 pF	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	0.018 µF	0.39 µF	1.0 µF
					25V	0.010 µF	0.010 µF	0.22 µF	0.47 µF
					50V	0.010 µF	0.010 µF	0.18 µF	0.39 µF
					100V	3900 pF	3900 pF	0.068 µF	0.15 µF
					200V	1800 pF	1800 pF	0.033 µF	0.068 µF
1712	0.175 (4.45) ± 0.015 (0.38)	0.125 (3.18) ± 0.010 (0.25)	0.065 (1.65)	0.020 (0.51) ± 0.010 (0.25)	10V	0.039 µF	0.039 µF	0.82 µF	1.8 µF
					25V	0.022 µF	0.022 µF	0.47 µF	1.0 µF
					50V	0.015 µF	0.015 µF	0.27 µF	1.0 µF
					100V	6800 pF	6800 pF	0.12 µF	0.27 µF
					200V	3300 pF	3300 pF	0.056 µF	0.12 µF
1725	0.175 (4.45) ± 0.015 (0.38)	0.250 (6.35) ± 0.018 (0.46)	0.065 (1.65)	0.020 (0.51) ± 0.010 (0.25)	10V	0.082 µF	0.082 µF	2.0 µF	3.9 µF
					25V	0.056 µF	0.056 µF	1.2 µF	2.2 µF
					50V	0.039 µF	0.039 µF	0.82 µF	1.8 µF
					100V	0.018 µF	0.018 µF	0.33 µF	0.68 µF
					200V	8200 pF	8200 pF	0.12 µF	0.27 µF

* Contact factory regarding NPQ and N2T dielectric.

** Contact factory for other voltages, sizes or special requirements.

*** NHT Max (T) equals Max (W)

PRESIDIO COMPONENTS DESIGN-IN CODES

A WORD TO THE DESIGN ENGINEER

After the design work is done, outsourcing manufacturing on a global basis is a management option. At Presidio Components, we are striving for complete customer satisfaction which includes "after" service for all of our products.

We added a "Design-In" locator code for quick traceability, if needed. Please select your location from the table below and add the appropriate code at the end of the part number. If you need assistance, please give us a call at **(858) 578-9390** or email **HT@presidiocomponents.com.**

UNITED STATES

USA	Code	USA	Code
Alabama	(G)	Nebraska	(P)
Alaska	(P)	Nevada, North	(B)
Arizona	(D)	Nevada, South	(C)
Arkansas	(P)	New Hampshire	(L)
California, North	(B)	New Jersey	(J)
California, South	(C)	New Mexico	(D)
Colorado	(E)	New York, Metro	(J)
Connecticut	(L)	New York, Upstate	(K)
Delaware	(I)	North Carolina	(G)
District of Columbia	(H)	North Dakota	(O)
Florida	(G)	Ohio	(M)
Georgia	(G)	Oklahoma	(P)
Hawaii	(P)	Oregon	(A)
Idaho	(A)	Pennsylvania	(I)
Illinois	(N)	Rhode Island	(L)
Indiana	(M)	South Carolina	(G)
Iowa	(O)	South Dakota	(O)
Kansas	(P)	Tennessee	(G)
Kentucky	(M)	Texas	(F)
Louisiana	(P)	Utah	(E)
Maine	(L)	Vermont	(L)
Maryland	(H)	Virginia	(H)
Massachusetts	(L)	Washington	(A)
Michigan	(N)	West Virginia	(P)
Minnesota	(O)	Wisconsin, East	(N)
Mississippi	(G)	Wisconsin, West	(O)
Missouri	(N)	Wyoming	(E)
Montana	(A)		

OUTSIDE THE UNITED STATES

Americas	Code
Canada	(R)
Mexico	(R)
Caribbean	(R)
Central America	(R)
South America	(R)
Pacific Rim	
Australia	(S)
China	(T)
Japan	(U)
Korea, South	(V)
Malaysia	(W)
Singapore	(X)
Other Pacific Rim Countries	(Y)

Europe	Code
Austria	(3)
Belgium	(1)
Denmark	(5)
Finland	(5)
France	(2)
Germany	(3)
Ireland	(6)
Italy	(4)
Luxembourg	(1)
Netherlands	(1)
Norway	(5)
Sweden	(5)
Switzerland	(3)
United Kingdom	(6)
Other European Countries	(7)
Other	
India	(Z)
Israel	(8)
Rest of World	(9)

PART NUMBER EXAMPLE:
HT0805XHT473K1Q5R(F)

Add Design-In Code inside the parentheses at the end of the Presidio part number as shown above.

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