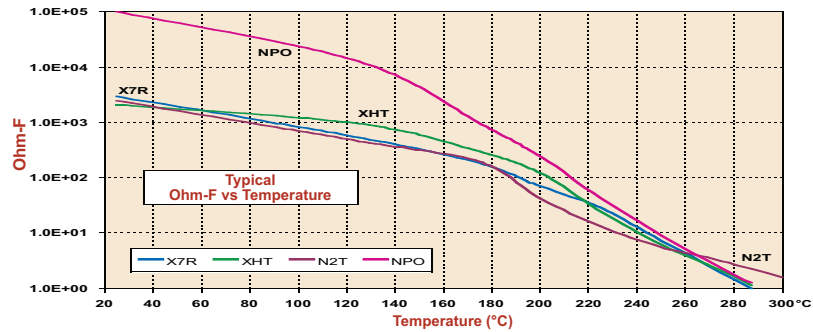
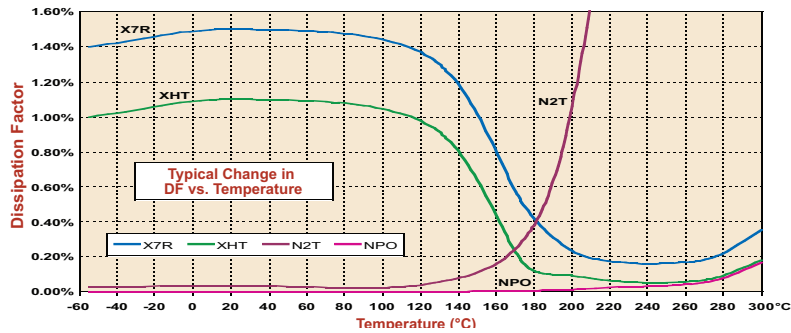
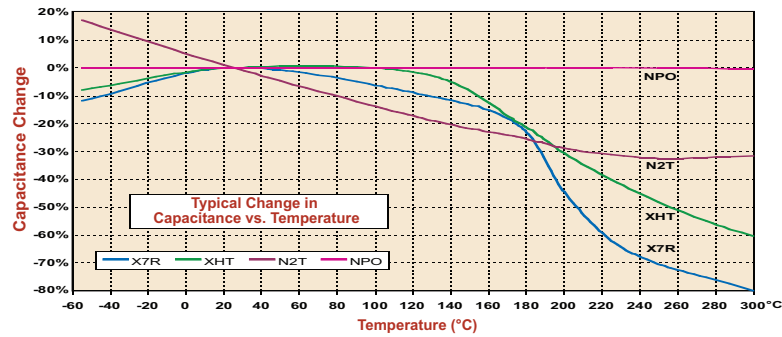
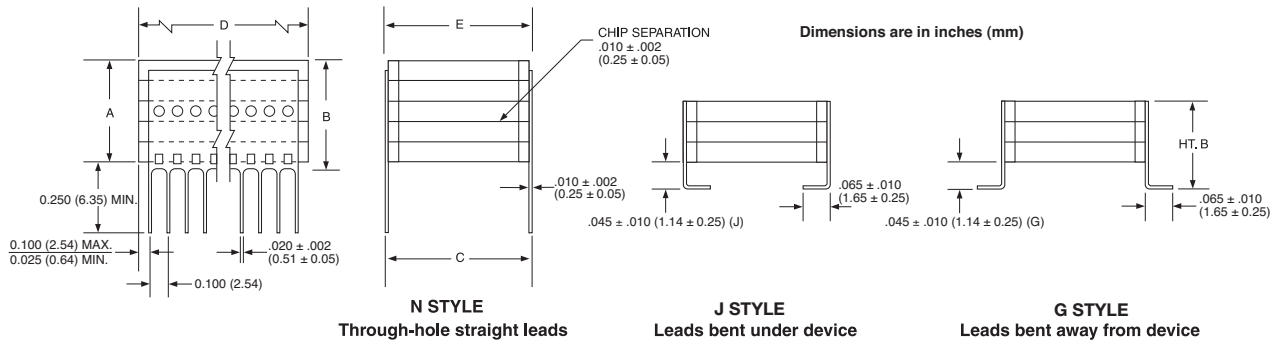


HIGH TEMPERATURE SMPS STACKED CAPACITORS (HTS)

Consult factory for requirements above 250°C

DIMENSIONS



HOW TO ORDER HTS STACKS

HT	S	4	05	X7R	804	K	2	J	4	Y
TESTING	CONFIGURATION STACKED	NO. OF CAPS	CASE CODE	DIELECTRIC	CAPACITANCE CODE	TOLERANCE CODE	VOLTAGE CODE	LEAD STYLE	NO. OF LEADS PER SIDE	SPECIAL CODE
HT	Capacitor Assembly	No. of chips per stack	See Table	NPQ* NPO X7R XHT	Two significant figures followed by the number of zeros. Example: 100 = 10 pF 101 = 100 pF 102 = 1000 pF 103 = .01 μF	F = ± 1% ≥ 10pF G = ± 2% ≥ 10pF J = ± 5% ≥ 10pF K = ± 10% M = ± 20% Z = +80% / -20% P = +100% / -0%	1 = 25 VDC 2 = 50 VDC 3 = 100 VDC 4 = 200 VDC 5 = 300 VDC 6 = 500 VDC	J = Leads formed under G = Leads formed out N = Through-hole * = Soft-leaded Consult Factory for more information	See Above	Y = Sn96 compatible leads (Does not contain lead)

* Contact factory regarding NPQ dielectric

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HIGH TEMPERATURE SMPS STACKED CAPACITORS (HTS)

X7R, XHT, and NPO DIELECTRIC

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PRESIDIO CASE SIZE														
Case Code*	08			01			05			13			"B" Ht. Max. (inches)	No. Caps per Stack
Dielectric	X7R	XHT	NPO	X7R	XHT	NPO	X7R	XHT	NPO	X7R	XHT	NPO		
WVDC** 25V (Voltage Code = 1)	1.4	.82	.036	2.5	1.5	.065	7.0	4.0	.16	20	14	.50	.150	1
	2.8	1.6	.072	5.0	3.0	.13	14	8.0	.32	40	28	1.0	.200	2
	4.2	2.4	.11	7.5	4.5	.19	21	12	.48	60	42	1.5	.275	3
	-	-	-	10	6.0	.26	28	16	.64	80	56	2.0	.350	4
	-	-	-	12	7.5	.32	35	20	.80	100	70	2.5	.425	5
	-	-	-	15	9.0	.39	42	24	.96	120	84	3.0	.500	6
WVDC** 50V (Voltage Code = 2)	1.2	.6	.030	2.1	1.0	.055	5.6	3.0	.14	18	10	.40	.150	1
	2.4	1.2	.060	4.2	2.0	.11	11	6.0	.28	36	20	.80	.220	2
	3.6	1.8	.090	6.3	3.0	.16	17	9.0	.42	54	30	1.2	.310	3
	-	-	-	8.4	4.0	.22	22	12	.56	72	40	1.6	.400	4
	-	-	-	10	5.0	.27	28	15	.70	90	50	2.0	.490	5
	-	-	-	12	6.0	.33	33	18	.84	110	60	2.4	.580	6
WVDC** 100V (Voltage Code = 3)	.75	.34	.020	1.4	.70	.040	4.0	1.8	.10	12	6.0	.30	.160	1
	1.5	.68	.040	2.8	1.4	.080	8.0	3.6	.20	24	12	.60	.280	2
	-	-	-	4.2	2.1	.12	12	5.4	.30	36	18	.90	.400	3
	-	-	-	5.6	2.8	.16	16	7.2	.40	48	24	1.2	.520	4
	-	-	-	7.0	3.5	.20	20	9.0	.50	60	30	1.5	.640	5
	-	-	-	-	-	-	-	-	-	72	36	1.8	.760	6
WVDC** 200V (Voltage Code = 4)	.22	.14	.012	.42	.25	.022	1.2	.70	.056	3.5	2.2	.18	.160	1
	.44	.28	.024	.84	.50	.044	2.4	1.4	.11	7.0	4.4	.36	.280	2
	-	-	-	1.2	.75	.066	3.6	2.1	.17	10	6.6	.54	.400	3
	-	-	-	1.7	1.0	.088	4.8	2.8	.22	14	8.8	.72	.520	4
	-	-	-	2.1	1.2	.11	6.0	3.5	.28	17	11	.90	.650	5
	-	-	-	-	-	-	-	-	-	21	13	1.1	.760	6
WVDC** 500V (Voltage Code = 6)	.11	.07	.006	.19	.13	.011	.55	.39	.028	1.6	1.2	.080	.160	1
	.22	.14	.012	.38	.26	.022	1.1	.75	.056	3.2	2.4	.16	.280	2
	-	-	-	.57	.39	.033	1.6	1.1	.084	4.8	3.6	.24	.400	3
	-	-	-	.76	.52	.044	2.2	1.5	.11	6.4	4.8	.32	.520	4
	-	-	-	.95	.65	.055	2.7	1.9	.14	8.0	6.0	.40	.640	5
	-	-	-	-	-	-	-	-	-	9.6	7.2	.48	.760	6
Dimensions	0.215			0.275			0.4			0.45			C ± (.025)	
	0.215			0.275			0.425			1.075			D (Max) Width	
	0.25			0.3			0.44			0.5			E (Max) Length	
Leads Per Side	2			3			4			10				
Chip Size	2018			2627			3941			4399				

* Contact factory regarding NPQ dielectric, additional case sizes, or custom shapes

** WVDC = Working Voltage Direct Current



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HIGH TEMPERATURE SMPS STACKED CAPACITORS (HTS)

Consult factory for requirements above 250°C

SOLDERING AND LEAD COATING RECOMMENDATIONS

Special Code	Description	Application Solder	Summary
Blank	Standard 60%Sn 40% Pb coated lead frames	Sn63 or HMP	These stacked capacitors are made with our traditional 60/40 SnPb coated lead frames.
Y	Sn96 Compatible Leads that does not contain lead. (May not be fully RoHS Compliant)	Sn96 or HMP	These stacked capacitors are made with Sn96 compatible lead frames that do not contain lead, but may not be RoHS compliant.
R	Sn96 Compatible Leads that does not contain lead. (RoHS Compliant)	Sn96 (DO NOT USE HMP)	These stacked capacitors are made with Sn96 compatible lead frames that do not contain lead and are fully RoHS compliant.

GENERAL RECOMMENDATIONS FOR SOLDERING CERAMIC STACKED CAPACITORS

In general, Presidio recommends against hand soldering for this type of large ceramic device. However, if the customer cannot avoid hand soldering, it should be done with care to avoid thermally cracking the parts. Soldering of these parts to the circuit board, if done in a careless manner, can be the most likely source of reliability problems.

Preheating and Mounting. For reflow, the parts should be preheated to within 50° C to 60° C to the reflow temperature, or as close as is practical. A convection-style reflow oven with nitrogen is ideal. During reflow, the heat-up and cool-down rates (dT/dt) should be kept well under 4°C/sec, and preferably under 2°C/sec.

Hand Soldering. If hand soldering must be used, preheat the parts as recommended above. A hot-air gun is an ideal tool for this procedure. When hand soldering, avoid excessive heat, and keep the tip of the solder iron as far away from the ceramic as possible. As an example, for through-hole leaded parts, solder from the backside of the board. This will minimize the risk of thermally cracking the ceramic. After soldering, allow the parts to air cool to room temperature before cleaning.

Leads. The leads do not need to be pre-tinned as they have already been tinned with Sn63 as part of our process. For special code 'Y', leads are coated with silver.

In addition to the above, the following rules apply:

1. Never dip the stacked capacitors into a solder pot (for pre-tinning, for example).
2. Never allow an operator to touch-up a solder joint with a soldering iron.

IN ACCORDANCE WITH MIL-PRF-49470 — The following precaution should be followed —

“Precautionary Note: Capacitors covered by this specification sheet are very susceptible to thermal shock damage due their large ceramic mass. Temperature profiles used should provide adequate temperature rise and cool-down time to prevent damage from thermal shock.”



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