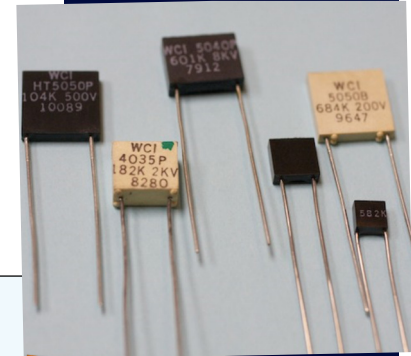
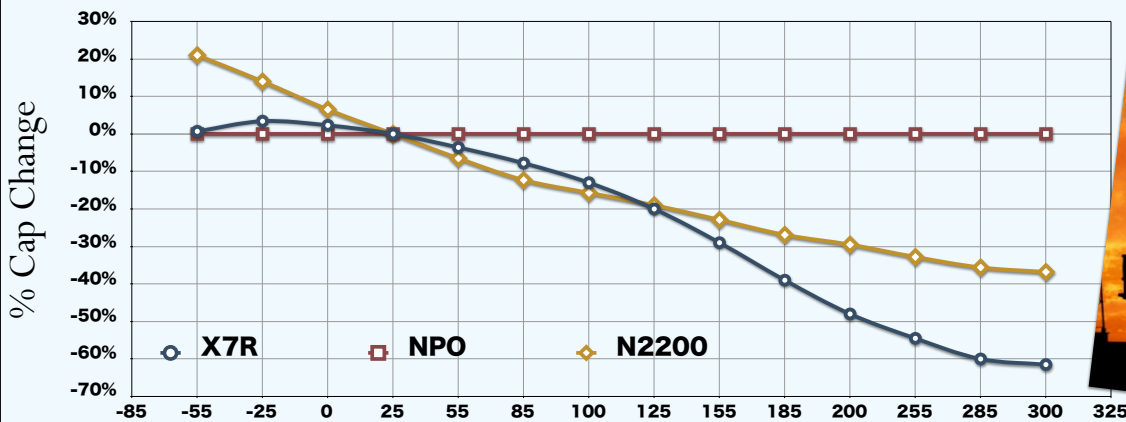


High Temperature Capacitors

Wright Capacitors, Inc's Class I NPO, N2200 and Class II dielectrics are all suitable for 200°C and beyond. WCI provides custom capacitors for high temperature industrial applications such as downhole, high-end automotive, missile systems and aerospace. Devices can be ordered in any number of configurations to suit your application and temperature requirements. From single-chips and stacks to leaded and potted devices through to custom assemblies. Please consult the factory for your specific needs.

Typical Temperature Coefficient (1kHz 1.0Vrms)



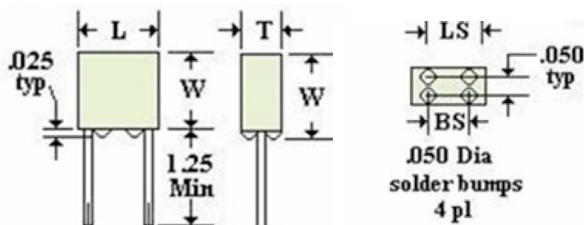
Dielectric Characteristics

	NPO	N2200	X7R
TC -55°C to 200°C	±30ppm / °C	±2200ppm / °C	+15% / -45% max
DF (25°C)	0.15% Max	0.15% Max	2.5% Max
IR (25°C / 200°C)	>100GΩ / >1GΩ	>100GΩ / >1GΩ	>100GΩ / >1GΩ

WCI has a new high temperature coating to add to our existing product line. This is a high voltage arc prevention coating that operates up to 200°C and can be applied to any of our MLCC dielectrics. Our stacked and leaded devices use HMP solder suitable for step-soldering and applications up to 200°C. However, solders with melting points exceeding 300°C are available.



Case Sizes for High Temperature Potted Shells



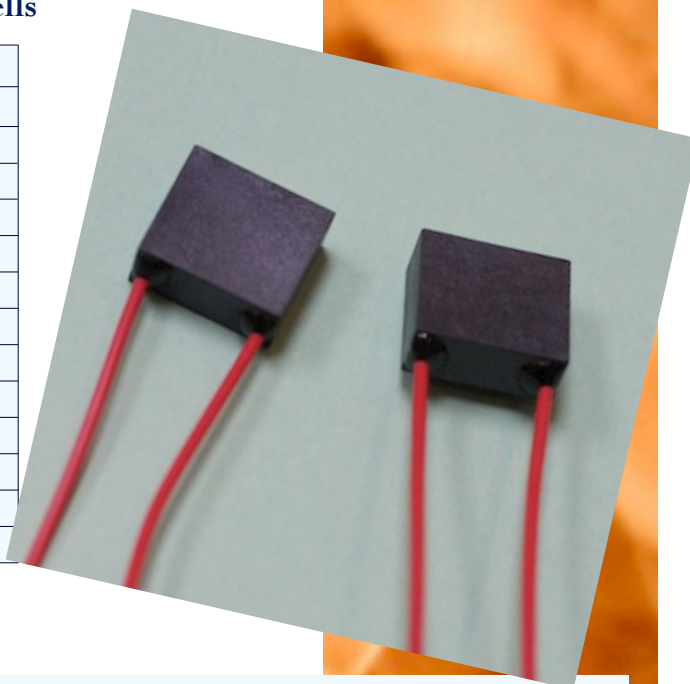
HT2020 is not available with solder bumps.
Shell material is either;
"B" Off-white Vectra per MIL-M-24519C or
"P" Black epoxy per MIL-M-24325MEC.

Case	L (inch) ± 0.005	W (inch) ± 0.005	LS (inch) ± 0.015	Bump Space
HT2020P	0.200	0.200	0.200	N/A
HT3030P	0.300	0.300	0.200	N/A
HT3030B	0.300	0.300	0.200	0.100
HT4040P	0.400	0.400	0.300	N/A
HT4040B	0.400	0.400	0.300	0.200
HT5050P	0.500	0.500	0.400	N/A
HT5050B	0.500	0.500	0.400	0.300

Maximum Capacitance Table for High Temperature Potted Shells

		500Volt		1kV		2kV	
Thk Max	Mtl	.100"	.150"	.100"	.150"	.100"	.150"
2020	NPO	222	332	102	152	331	561
	N2200	822	123	392	562	122	182
	X7R	223	333	682	103	152	272
3030	NPO	822	123	392	562	122	182
	N2200	273	473	123	223	472	682
	X7R	683	124	223	393	562	103
4040	NPO	183	273	822	123	272	472
	N2200	683	104	273	473	103	153
	X7R	154	274	563	823	123	223
5050	NPO	333	394	153	223	472	682
	N2200	104	154	473	823	153	273
	X7R	274	474	823	154	183	393

Voltage as specified, rated to 200°C. For higher temperatures please consult the factory.

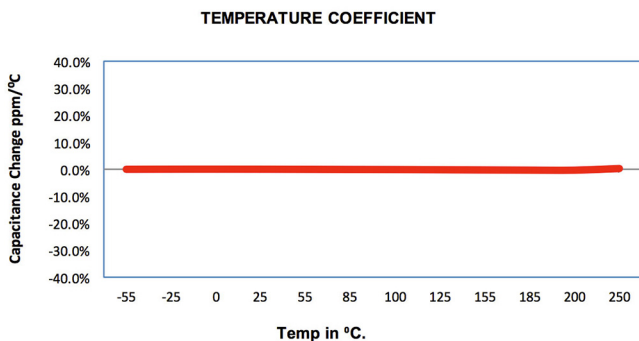


Ordering Instructions

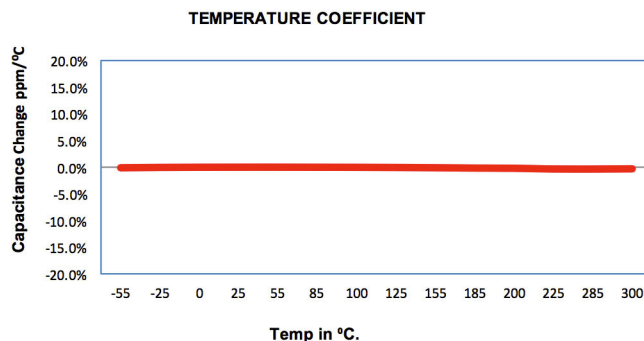
SMN	3840	TH	R	124	K	D	102	-R300
HT - High Temp (Potted Units) HTN - High Temp w/ testing	Chip Size	Encapsulation P = Square Shell B = Shell with Solder bumps	Dielectric Material X = X7R N = NPO R = N2200	Capacitance Value Code 102=1000pF First 2 digits are significant, the third denotes number of zeros	Tolerance F= ±1% G= ±2% J= ±5% K= ±10% M= ±20% Z=+80%/-20% V= +100%	Termination Type A= Ag D= Pd/Ag C= Leads with SnPb coating	Voltage Code First 2 digits are significant, the third is power of ten i.e. 102=1000V	-A Group A Testing -B Group B Testing -C Group C Testing -NM No Marking -R### Bleed Resistor in MΩ -X### Special Thickness

Temperature Coefficient

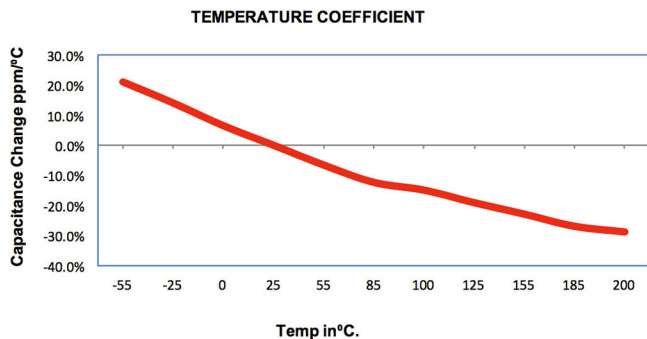
COG/NPO RoHs Compliance Up to 250°C



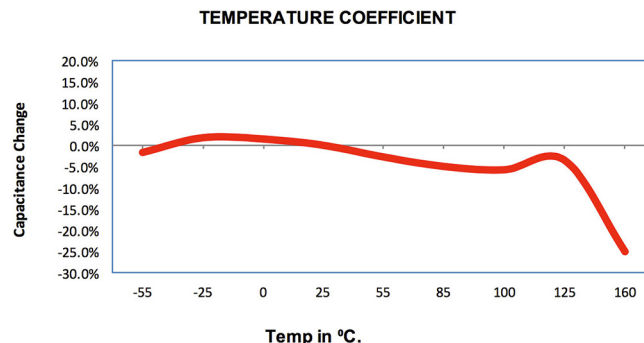
C0G/NP0 Stable High Temperature (300°C)



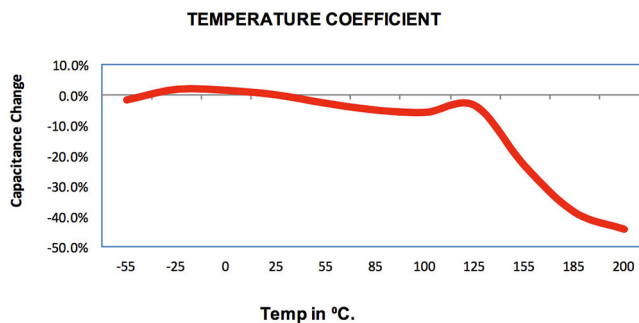
N2200 (R) Hi TEMP 200°C



X7R High Temperature 160°C



High Temp X7R Class II (200°C)



Dielectric Codes

Prefix	RoHS	Dielectric Code	Material	Temperature Coefficient
		N	COG/NPO	-55°/+125°C
		M	COG/NPO	Hi Temp -55°/+300°C
WC"R"	Y	P	NPO	Hi Temp -55°/+250°C
	Y	R	N2T	-55°/+125°C/ ±500pm
	Y	S	N2T	-55°/+125°C/ ±300pm
	Y	T	N2T	Hi Temp -55°/+200°C
		Z	X7R/BR	BR -55°/+125°C
WC"R"	Y	B	X7R/BR	BR -55°/+125°C
		X	BX/MIL	BX -55°/+125°CVC -25% max
		U	X8R	Hi Temp -55°/+160°C
		V	X9R	Hi Temp -55°/+200°C
	Y	W	X7R/BZ	BZ -55°/+125°C
	Y	Y	Y5V	Y5V -30°/+85°C

Prefixes

Prefix	Description
WC	Standard
WCN	Non standard Requirements High Temperature High Reliability
WCR	RoHS Compliant
HT	High Temperature (Potted Units)
HTN	High Temp w/ High Reliability Testing (Potted Units)
SM	Surface Mount
SMN	Surface Mount with High Reliability Testing

Capacitance Tolerance Codes

Code	Tolerance
F	± 1%
G	± 2%
J	± 5%
K	± 10%
M	± 20%
Z	+80%/-20%
V	± 100%

Suffixes

Suffix	Description
-A	Group A Testing
-B	Group B Testing
-C	Group C Testing
-NM	No Marking
-NC	No Coating
-R####	Bleed Resistor
-X####	Special Thickness