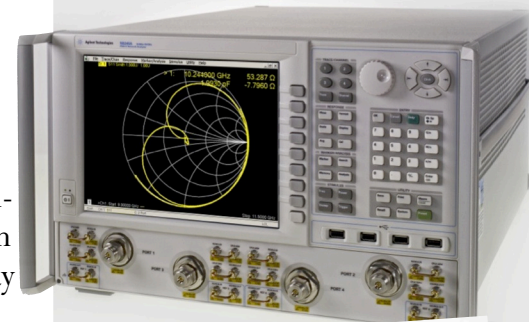


Single Layer Microwaves

Wright Capacitors Inc.'s single sheet (SS) ceramic capacitor chips are intended for DC block, decoupling, filtering, tuning and hybrid applications from direct current through GHz frequencies. Their dual plate construction and low profile make them ideally suited for microwave stripline applications. They display ultra-low series resistance and inductance with high series resonance frequencies. WCI's SS capacitors use the finest ceramic and electrode materials resulting in a high quality, stable, hermetic device which is unaffected by static discharges.

Microwave capacitors are available in all three dielectric classes. With a wide range of dielectric constants from our new, ultra high Q / high frequency (100GHz +), P9 porcelain to our k=30,000 GBBL dielectric.

Terminations are high quality vapor deposited gold or thick film gold suitable for thermo compression, wire and ribbon bonding, soldering or epoxy. Palladium / Silver and Silver only terminations are also available. Not all termination options are available on all dielectrics. Please consult the factory with any questions.



Ordering Information

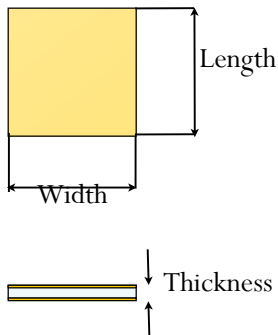
SS	2020	X	121	J	G	501
SS = Microwave "Single Sheet" SD = Microwave "Single Discs" SL = High Voltage	Part Size i.e. 0502 = .050" x .020" Two or three digits only for squares and discs. Six digits for SL's > 1.0" rectangular.	Dielectric Material P = P9 Q = NPQ N = NPO X = X7R Z = Z5U Y = Y5V G = GBBL	Capacitance Value Code 102=1000pF First 2 digits are significant, the third denotes number of zeros	Tolerance J= ±5% K= ±10% M= ±20% Z= +80%/-20% V= +100% A= ± 0.05pF B= ± 0.1pF D= ± 0.5pF P= ±0.01pF F= ±1% G= ±2%	Termination Type A = Ag D = Pd/Ag G = Au	Voltage 250 = 25volt First 2 numbers are significant, the third denotes the number of zeros. "R" represents a decimal point so 6R3 = 6.3volt

Circular capacitors are available. Please call the factory.

Case Size		1010			1515			2020			2525			3030			3535			5050			9090					
Length	Inch (mm)	.010 ± .003 (.254 ± .076)			.015 ± .003 (.381 ± .076)			.020 ± .003 (.508 ± .076)			.025 ± .003 (.635 ± .076)			.030 ± .003 (.762 ± .076)			.035 ± .003 (.889 ± .076)			.050 ± .005 (1.27 ± .127)			.090 ± .005 (2.29 ± .127)					
	Width	(.254 ± .076) .010 ± .003			.015 ± .003 (.381 ± .076)			.020 ± .003 (.508 ± .076)			.025 ± .003 (.635 ± .076)			.030 ± .003 (.762 ± .076)			.035 ± .003 (.889 ± .076)			.050 ± .005 (1.27 ± .127)			.090 ± .005 (2.29 ± .127)					
Thick	Inch (mm)	(.254 ± .076) .007 ± .003			.007 ± .003 (.178 ± .076)			.007 ± .003 (.178 ± .076)			.007 ± .003 (.178 ± .076)			.007 ± .003 (.178 ± .076)			.007 ± .003 (.178 ± .076)			.007 ± .003 (.178 ± .076)			.007 ± .003 (.178 ± .076)					
	Width	(.254 ± .076) .007 ± .003			.007 ± .003 (.178 ± .076)			.007 ± .003 (.178 ± .076)			.007 ± .003 (.178 ± .076)			.007 ± .003 (.178 ± .076)			.007 ± .003 (.178 ± .076)			.007 ± .003 (.178 ± .076)			.007 ± .003 (.178 ± .076)					
Volt Cap (pF)		50V	100V	ToI	50V	100V	ToI	50V	100V	ToI	50V	100V	ToI	50V	100V	ToI	50V	100V	ToI	50V	100V	ToI	50V	100V	ToI	50V	100V	ToI
P (High Q / Fq)	Min	N/A	N/A	N/A	N/A	N/A	P	0.08	0.05	P,A	0.14	0.09	A	0.2	0.14	A	0.3	0.2	A	0.6	0.4	A,B	2	1.3				
	Max	0.06	N/A	P	0.12	0.07	P,A	0.18	0.12	A	0.28	0.17	A	0.38	0.22	A,B	0.5	0.3	A,B	1	0.6	B,C	3.1	2	C,D			
NPQ	Min	0.05	0.03	P	0.15	0.1	P,A	0.3	0.2	A,B	0.7	0.4	B,C	0.7	0.5	B,C	1.1	0.7	B,C	2.2	1.4	B,C,D	7.5	5	C,D			
	Max	0.22	0.12	A	0.4	0.25	A,B	0.7	0.4	B,C	1	0.6	B,C,D	1.4	0.85	B,C,D	1.8	1.1	B,C,D	3.9	2.4	C,D	12	7	C,D			
NPO	Min	0.2	0.14	A	0.6	0.4	A,B	1.2	0.8	A,B	2	1.3	A,B,C	3	2	C,D	4.2	2.7	C,D	8.2	5.4	C,D	30	19	C,D			
	Max	0.9	0.5	A,B	1.6	1	C,D	2.6	1.6	C,D	4	2.4	C,D	5.4	3.3	C,D	7.2	4.3	C,D,K	15	9	C,D,K	45	27	K,M			
X7R	Min	5.5	3.5	K,M	16	10	K,M	32	20	K,M	54	34	K,M	80	52	K,M	110	73	K,M	220	150	K,M	800	500	K,M			
	Max	23	13	K,M	43	26	K,M	70	42	K,M	100	64	K,M	150	88	K,M	200	120	K,M	400	240	K,M	1200	720	K,M			
Z5U	Min	N/A	N/A	M	45	30	M	90	60	M	150	100	M	230	150	M	320	210	M	640	420	M	2300	1500	M			
	Max	N/A	N/A	M	125	75	M	200	120	M	300	180	M	420	250	M	560	330	M	1200	700	M	3500	2000	M			
Y5V	Min	N/A	N/A	M	70	44	M	140	90	M	230	150	M	350	220	M	490	320	M	2700	1700	M	3400	2200	M			
	Max	N/A	N/A	M	180	110	M	300	180	M	460	270	M	640	380	M	850	510	M	3200	2000	M	5300	3200	M			
GBBL		16V and 25V			290	250	M	520	450	M	820	700	M	1200	1000	M	1600	1400	M	3300	2800	M	9000	10000	M			

*For square parts. Other shapes, sizes, custom configurations and higher voltages available on request.

Dielectric Characteristics



Dielectric	Temperature Coefficient	Dissipation Factor	Insulation Resistance
P (High Q / Fq)	Neg.	≤0.001%	>1000GΩ
NPQ	0±30ppm	≤0.1%	>1000GΩ
NPO	0±30ppm	≤0.15%	>100GΩ
X7R	±15% (-55 to 125°C)	≤2.5%	>100GΩ
Z5U	+22/-56% (10 to 85°C)	≤4.0%	>10GΩ
Y5V	+22/-82% (-30 to 85°C)	≤4.0%	>10GΩ
GBBL	±15% (-55 to 125°C)	≤2.5%	>10GΩ

Other Characteristics

DWV at 2.5 X working voltage

Test parameters >100pF 1kHz, 1.0Vrms, 25°C / ≤100pF 1MHz, 1.0Vrms, 25°C

Min Bond Strength 3.0gram (0.001 in dia. Au wire)



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°C VC -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

