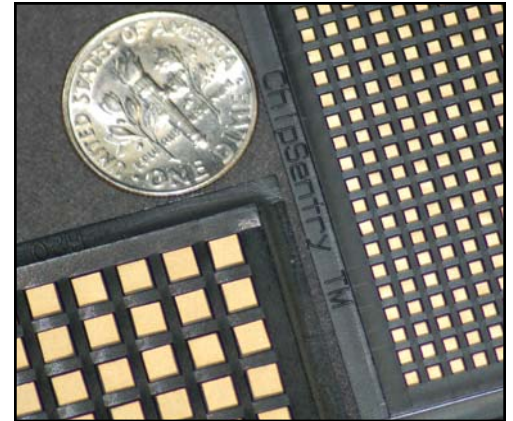


Parallel Plate Ceramic Single Layer Microwave Capacitors (SLCs) are ideally suited for applications such as GaAs integrated circuits, microwave integrated circuits, DC block, bypass, and tuning, and RF/microwave components. The SLC design offers increased capacitance for additional bandwidth, increased stability in capacitance over various temperatures, and more capacitance in smaller case sizes for greater board density.



### SLCs are suitable solutions for applications that require:

- Through 40 GHz with minimum insertion loss.
- Specified material from a selection of fourteen standard dielectric options.
- Imperviousness to electrostatic discharge and more ruggedness than MOS/MNS capacitors.
- Gold plated electrode termination, which is compatible with solder, eutectic, epoxy and wire bonding production methods.

### General Specifications

#### MECHANICAL

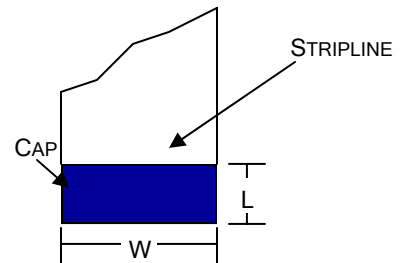
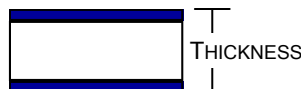
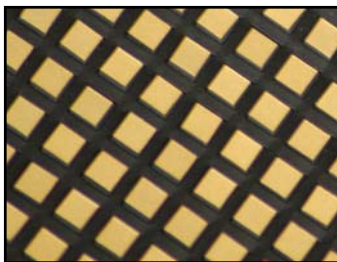
- Bond Strength: Exceeds MIL-STD-883, Method 2011 Destructive Bond Pull Test
- Die Shear Strength: Exceeds applicable MIL-STD-883 requirements.

#### ENVIRONMENTAL

- Low Voltage Humidity: Paragraph 3.17, MIL-C-49464
- Burn-in/Life Test: MIL-STD-202, Method 108, Condition A/F
- Solderability: MIL-STD-202, Method 208

#### HIGH RELIABILITY TESTING

- Group A: 100 Hour burn-in, 100% screening.
- Group B: Group A tests, solderability, bond strength, die shear strength, and temperature coefficient.
- Group C: Group B tests, thermal shock, resistance to soldering heat, low voltage humidity, and life test.



### CASE DIMENSIONS in Inches (mm)

Case Size	P10	P13	P15	P20	P25	P30	P35	P40	P50	P70	P90	PA0
<b>Width (W)</b>	.010 (.254)	.013 (.330)	.015 (.381)	.020 (.508)	.025 (.635)	.030 (.762)	.035 (.889)	.040 (1.02)	.050 (1.27)	.070 (1.78)	.90 (2.29)	.100 (2.54)
<b>Length (L)</b>	.010 (.254)	.013 (.330)	.015 (.381)	.020 (.508)	.025 (.635)	.030 (.762)	.035 (.889)	.040 (1.02)	.050 (1.27)	.070 (1.78)	.100 (2.54)	.100 (2.54)
<b>Thickness (50V)</b>	.005 (.127)	.005 (.127)	.005 (.127)	.005 (.127)	.005 (.127)	.005 (.127)	.005 (.127)	.005 (.127)	—	—	—	—
<b>Thickness (100V)</b>	.007 (.178)	.007 (.178)	.007 (.178)	.007 (.178)	.007 (.178)	.007 (.178)	.007 (.178)	.007 (.178)	.008 (.203)	.008 (.203)	.009 (.229)	.010 (.254)

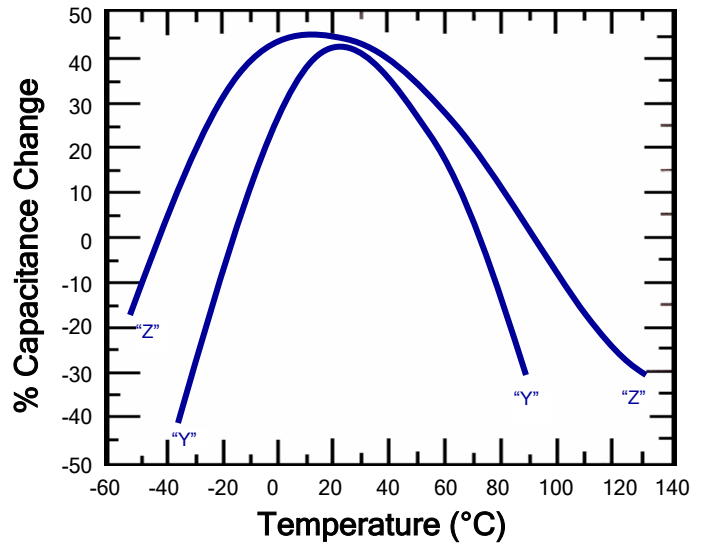
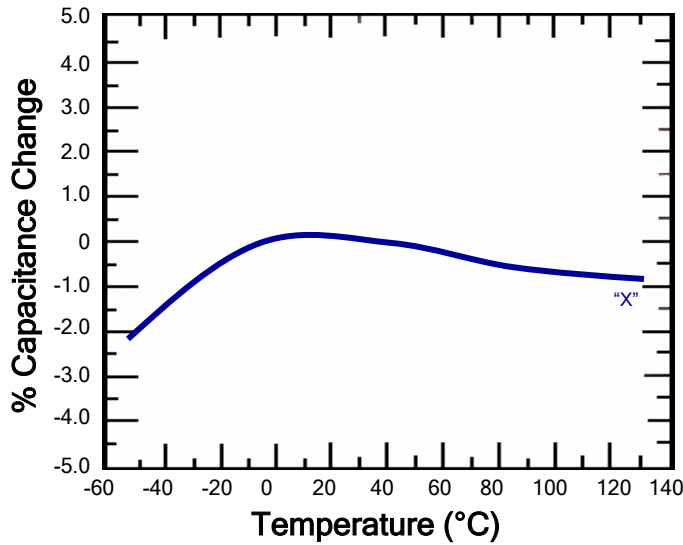
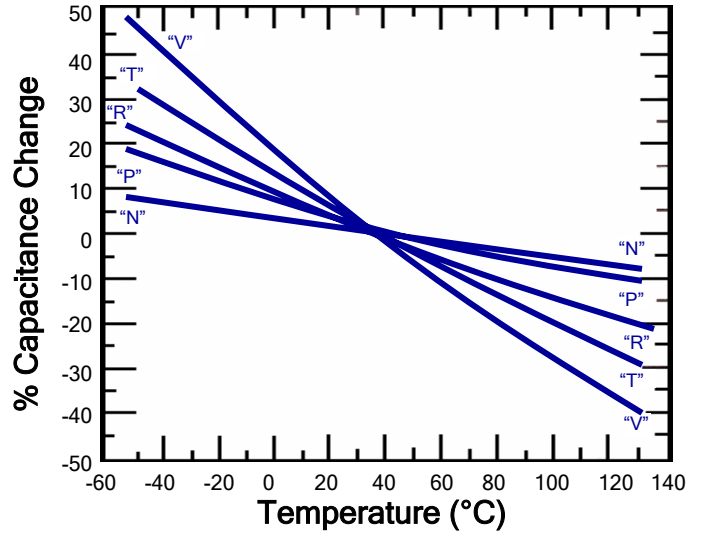
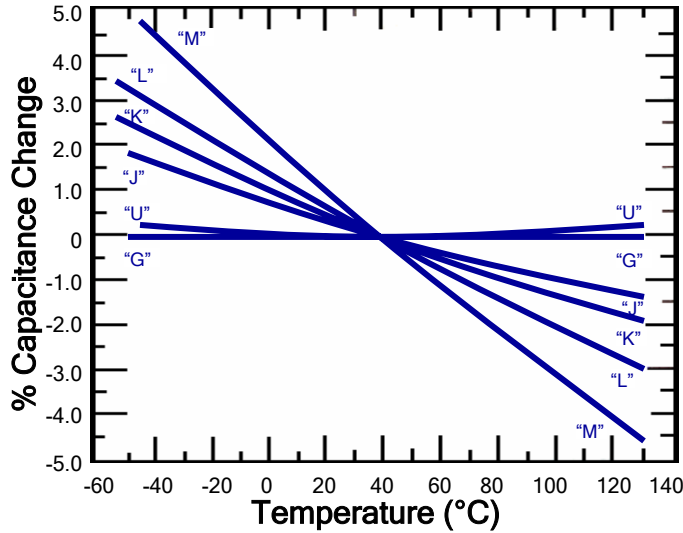
\*\* Tolerance: ±.002 (.050) or 10%

Dielectric Characteristics					
Code	DIELECTRIC Constant	Temperature Coefficient	Temperature Range	Dissipation Factor/Frequency	Insulation Resistance
U	23	0 ± 30 ppm	-55°C to +125°C	< 0.15%/1MHz	> 1000 GΩ
G	37/80/110	0 ± 30 ppm	-55°C to +125°C	< 0.15%/1MHz	> 1000 GΩ
N	120	-750 ± 120 ppm	-55°C to +125°C	< 0.25%/1MHz	> 1000 GΩ
P	160	-1500 ± 300 ppm	-55°C to +125°C	< 0.25%/1MHz	> 1000 GΩ
R	270	-2200 ± 500 ppm	-55°C to +125°C	< 0.25%/1MHz	> 1000 GΩ
T	330	-3300 ± 500 ppm	-55°C to +125°C	< 1.50%/1MHz	> 1000 GΩ
V	600	-4700 ± 1000 ppm	-55°C to +125°C	< 2.50%/1KHz	> 100 GΩ
W	1200	-5600 ± 1000 ppm	-55°C to +125°C	< 2.50%/1KHz	> 100 GΩ
X	2000/3000/4000	± 15%	-55°C to +125°C	< 2.50%/1KHz	> 100 GΩ
Y	8000	+22%, -56%	+10°C to +85°C	< 4.00%/1KHz	> 10 GΩ
Z	12000	+22%, -82%	-30°C to +85°C	< 4.00%/1KHz	> 10 GΩ

Capacitance Selection																											
CAPACITANCE		P10	P13	P15	P20	P25	P30	P35	P40	P50	P70	P90	PA0	CAPACITANCE		P10	P13	P15	P20	P25	P30	P35	P40	P50	P70	P90	PA0
CODE	VALUE													CODE	VALUE												
0R1	0.1pF	U	U	U										6R8	6.8pF	X	W	W	V	R	P	P	P	G	G	G	G
0R2	0.2pF	G	G	U	U									7R5	7.5pF	X	W	W	V	T	R	P	P	G	G	G	G
0R3	0.3pF	G	G	G	U	U								8R2	8.2pF	X	X	W	V	T	R	P	P	G	G	G	G
0R4	0.4pF	P	G	G	G	U								9R1	9.1pF	X	X	W	V	V	R	R	P	G	G	G	G
0R5	0.5pF	P	G	G	G	U	U							100	10pF	X	X	X	V	V	T	R	P	P	G	G	G
0R6	0.6pF	P	P	G	G	G	U	U						120	12pF	X	X	X	W	V	T	R	R	P	G	G	G
0R7	0.7pF	P	P	P	G	G	U	U						150	15pF	X	X	X	W	V	T	T	R	P	G	G	G
0R8	0.8pF	R	P	P	G	G	U	U						180	18pF	X	X	X	W	V	V	T	R	R	P	G	G
0R9	0.9pF	R	P	P	G	G	U	U	U					200	20pF	X	X	X	W	W	V	V	T	R	P	G	G
1R0	1.0pF	R	P	P	G	G	G	U	U					220	22pF	Z	X	X	W	W	V	V	T	R	P	G	G
1R1	1.1pF	R	R	P	G	G	G	U	U					270	27pF	Z	X	X	X	W	V	V	V	T	P	G	G
1R2	1.2pF	T	R	P	G	G	G	U	U					330	33pF	Y	Z	X	X	W	W	V	V	T	R	G	G
1R3	1.3pF	T	R	R	G	G	G	G	U					390	39pF	Y	Z	Z	X	X	W	W	V	T	R	P	P
1R4	1.4pF	T	R	R	G	G	G	G	U	U				470	47pF	Y	Z	Z	X	X	W	W	V	V	R	P	P
1R5	1.5pF	T	R	R	P	G	G	G	U	U				500	50pF	Y	Y	Z	X	X	W	W	V	V	R	P	P
1R6	1.6pF	V	R	R	P	G	G	G	G	U				510	51pF	Y	Y	Z	X	X	W	W	V	V	R	R	P
1R7	1.7pF	V	R	R	P	G	G	G	G	U				560	56pF	Y	Y	Z	X	X	W	W	W	V	R	R	P
1R8	1.8pF	V	T	R	P	G	G	G	G	U				680	68pF		Y	Y	X	X	X	X	W	V	T	R	P
1R9	1.9pF	V	T	T	P	G	G	G	G	U				820	82pF		Y	Y	Z	X	X	X	W	V	V	R	P
2R0	2.0pF	V	T	T	P	G	G	G	G	U				101	100pF			Y	Z	X	X	X	X	W	V	T	P
2R1	2.1pF	V	T	T	P	G	G	G	G	U	U			121	120pF				Z	X	X	X	X	W	V	V	P
2R2	2.2pF	V	T	T	P	P	G	G	G	U	U			151	150pF				Y	Z	X	X	X	X	W	V	R
2R4	2.4pF	V	T	T	P	P	G	G	G	G	U			181	180pF				Y	Z	X	X	X	X	W	V	R
2R7	2.7pF	V	V	T	P	P	G	G	G	G	U	U		201	200pF				Y	Z	X	X	X	X	W	W	R
3R0	3.0pF	W	V	V	T	P	G	G	G	G	U	U		221	220pF				Y	Y	Z	X	X	X	W	W	V
3R3	3.3pF	W	V	V	T	P	G	G	G	G	U	U		271	270pF				Y	Z	Z	X	X	X	W	V	
3R6	3.6pF	W	V	V	T	P	G	G	G	G	U	U	U	331	330pF				Y	Y	Z	Z	X	X	X	W	
3R9	3.9pF	W	V	V	T	P	P	G	G	G	U	U	U	391	390pF				Y	Z	Z	X	X	X	X	W	
4R3	4.3pF	W	V	V	T	R	P	G	G	G	U	U	U	471	470pF				Y	Y	Z	Z	X	X	X	X	
4R7	4.7pF	W	W	V	T	R	P	G	G	G	U	U	U	561	560pF				Y	Y	Y	Z	X	X	X	X	
5R1	5.1pF	W	W	V	T	R	P	G	G	G	U	U	U	681	680pF						Y	Y	Z	X	X	X	
5R6	5.6pF	W	W	W	T	R	P	G	G	G	G	U	U	821	820pF									Y	X	X	X
6R2	6.2pF	X	W	W	V	R	P	P	P	G	G	G	G	102	1000pF									Y	X	X	Z
6R8	6.8pF	X	W	W	V	R	P	P	P	G	G	G	G	122	1200pF									Y	Z	X	Y



### Typical Temperature Coefficient



### ORDERING INFORMATION

Style	Case Size	Dielectric	Capacitance	Tolerance	Voltage	Termination	High Rel Testing
P	20	X	500	K	101	G	A
P Parallel Plate	10 15 20 25 30 35 40 50 70 90 A0	U G N P R T V W X Z Y	First 2 digits are Significant; Third digit indicates number of Zeros  Examples: 201 = 200pF 2R2 = 2.2pF	A ±0.05pF B ±0.10pF C ±0.25pF F ±1% G ±2% J ±5% K ±10% M ±20% X Special	First 2 digits are Significant; Third digit indicates number of Zeros Examples: 201 = 200V 151 = 150V 202 = 2000V	G Gold over Nickel Plated (RoHS Compliant)	(Optional) A = Group A B = Groups A & B C = Groups A, B, & C D = Special Testing