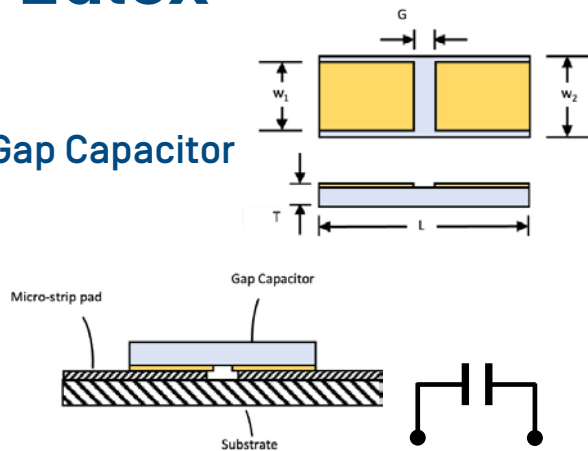
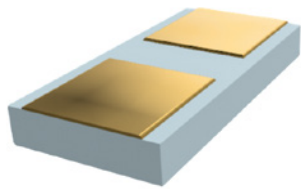


XG SERIES

XG2 - 2 Terminal Gap Capacitor



Our groundbreaking XG2, a 2-terminal gap capacitor, offers low insertion loss and ultra-high self-resonant frequencies. Manufactured from ultra-stable materials with high Q and extremely high self-resonance, the XG2's innovative design allows for useful capacitance values far exceeding those offered by other manufacturers. Parts can be mounted across the micro-strip eliminating inductance from bond wires and further extending high frequency performance. Applications include DC blocking, RF bypass, impedance matching, filtering, tuning and coupling.

Standard Dimensions

SIZE	XG10	XG15	XG20	XG25	XG30	XG35	XG40	XG50
Pad Width [W1] inch [mm]	0.007 ±0.002 [0.178 ±0.051]	0.017 ±0.003 [0.432 ±0.076]	0.020 ±0.003 [0.508 ±0.076]	0.025 ±0.003 [0.635 ±0.076]	0.030 ±0.003 [0.762 ±0.076]	0.035 ±0.003 [0.889 ±0.076]	0.040 ±0.003 [1.016 ±0.076]	0.048 ±0.003 [1.219 ±0.076]
Chip Width [W2] inch [mm]	0.012 Max [0.305 Max]	0.020 ±0.002 [0.508 ±0.051]	0.025 Max [0.635 Max]	0.030 Max [0.762 Max]	0.035 Max [0.889 Max]	0.045 Max [1.143 Max]	0.050 Max [1.27 Max]	0.065 Max [1.615 Max]
Length [L] inch [mm]	0.020 ±0.004 [0.508 ±0.102]	0.040 ±0.004 [1.016 ±0.102]	0.050 Max [1.270 Max]	0.080 Max [2.032 Max]	0.080 Max [2.032 Max]	0.080 Max [2.032 Max]	0.080 Max [2.032 Max]	0.080 Max [2.032 Max]
Thickness [T] inch [mm]	0.009 Max [0.229 Max]	0.009 Max [0.229 Max]	0.010 Max [0.254 Max]	0.010 Max [0.254 Max]	0.010 Max [0.254 Max]	0.010 Max [0.254 Max]	0.014 Max [0.356 Max]	0.014 Max [0.356 Max]
Gap [G] inch [mm]	0.003 Nom [0.076] Nom	0.005 Nom [0.127] Nom	0.005 Nom [0.127] Nom	0.005 Nom [0.127] Nom	0.005 Nom [0.127] Nom	0.005 Nom [0.127] Nom	0.010 Nom [0.254] Nom	0.010 Nom [0.254] Nom

Custom dimensions also available



Selection Guide

Capacitance [pF]	Size	XG10		XG15		XG20		XG25		XG30		XG35		XG40		XG50	
Rated Voltage	Dielectric	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
6.3 Volt	P	0.35	0.4	0.95	1.1	1.8	2	2.8	3.3	4	4.7	5.7	6.5	7.5	8.7	11	13
	Q	0.8	0.9	3.2	3.6	5.8	6.6	9.1	10	13	15	18	22	24	28	40	44
	N	2.6	2.8	14	16	25	29	40	47	60	68	82	91	110	120	170	190
	C	12	12.5	48	56	88	100	140	160	200	240	280	330	370	430	590	680
	X	75	80	410	470	760	870	1200	1400	1700	2000	2400	2800	3200	3600	5000	5800
	Y	350	370	1700	2000	3200	3600	5000	5700	7400	8400	10000	12000	13000	15000	21000	24000
16 Volt	P	0.20	0.25	0.65	0.75	1.2	1.4	1.9	2.2	2.7	4.4	3.7	4.4	4.8	5.6	7.5	8.7
	Q	0.50	0.6	2.2	2.5	3.9	4.6	6.2	7.2	9	10	12	14	16	18	25	3
	N	1.6	1.8	9.4	11	17	20	27	31	39	45	51	60	68	80	108	125
	C	6.8	7.3	33	39	60	70	94	110	140	160	180	210	240	280	370	430
	X	47	52	290	330	510	600	810	930	1100	1300	1600	1800	2100	2400	3200	3800
	Y	210	230	1200	1400	2100	2500	3400	3900	4900	5600	6500	7600	8600	10000	13000	15000
25 Volt	P	0.18	0.23	0.55	0.65	1	1.8	1.6	1.8	2.3	2.6	3.1	3.5	4	4.6	6.3	7.1
	Q	0.4	0.5	1.9	2.1	3.3	3.7	5.2	5.8	7.5	8.5	10	11	13	15	20	24
	N	1.3	1.5	8	9	14	16	23	25	33	36	43	50	58	65	90	100
	C	5.6	6.1	27	33	50	57	80	90	110	130	150	180	200	220	320	360
	X	39	44	240	270	430	490	680	750	970	1100	1300	1500	1800	2000	2700	3000
	Y	180	200	1000	1200	1800	2000	2800	3200	4000	4600	5500	6200	7200	8200	11000	13000
50 Volt	P	0.16	0.21	0.5	0.55	0.9	1	1.4	1.5	2	2.2	2.7	3	3.5	3.9	5.4	6
	Q	0.35	0.45	1.6	1.8	2.9	3.2	4.5	5	6.5	7.2	8.8	10	12	13	18	20
	N	1.2	1.4	7	7.8	12	14	20	22	27	33	38	43	49	56	80	86
	C	5	5.5	25	27	43	49	68	75	100	110	130	150	170	190	270	300
	X	36	41	210	230	370	420	580	650	840	930	1200	1300	1500	1700	2400	2600
	Y	160	180	870	970	1600	1800	2500	2700	3500	3900	4800	5200	6200	6800	9800	11000
100 Volt	P	0.15	0.2	0.4	0.45	0.75	0.82	1.2	1.3	1.6	1.8	2.3	2.5	2.9	3.3	4.6	5.1
	Q	0.3	0.4	1.3	1.5	2.4	2.7	3.7	4.3	5.4	6.2	7.2	8.2	9.6	11	15	18
	N	1	1.2	5.8	6.6	11	12	16	18	23	27	33	36	39	47	65	72
	C	4.7	5.2	20	23	37	40	57	640	82	91	110	130	150	160	230	270
	X	33	38	180	200	330	360	490	560	700	780	960	1100	1200	1400	2000	2200
	Y	150	170	750	820	1300	1500	2000	2300	3000	3300	4000	4500	5200	5800	8200	9100

Part Numbering

XG	L	40	X	302	K	G	W
Gap Capacitor	Voltage Code	Case Size	Dielectric Type	Capacitance Value	Capacitance Tolerance	Metallization Type	Packaging

Dielectric Type	P Porcelain	Q NPQ (Class I)	N NPO (Class I)	C NCS (Class I)	X X7R (Class II)	Y Y5V (Class III)
Operating Temperature Range	-55°C to 125°C	-55°C to 125°C	-55°C to 125°C	-55°C to 125°C	-55°C to 125°C	-30°C to +85°C
Temperature Coefficient [/°C]	Neg.	±25ppm	±30ppm	+0-5%	±15%	+22% -82%
Max Dissipation Factor	0.01%	0.10%	0.15%	0.05%	2.50%	4.00%
Min Insulation Resistance @ 25°C	100GΩ	100GΩ	100GΩ	100GΩ	100GΩ	10GΩ
Min Insulation Resistance @ 125°C	100GΩ	10GΩ	10GΩ	10GΩ	10GΩ	1GΩ

Capacitance Code	
R05	0.05pF
0R2	0.20pF
1R0	1.0pF
2R7	2.7pF
270	27pF
271	270pF
102	1000pF

Below 10pF, R denotes a decimal point.
For 10pF and above, first 2 digits are significant values and 3rd digit indicates the number of zeros.

Capacitance Tolerance		
B	±0.10pF	(P,Q) <9.1pF
C	±0.25pF	(P,Q) <9.1pF
D	±0.50pF	(P,Q) <9.1pF
G	±2%	(P,Q) 10pF
J	±5%	(P,Q,N) >10pF
K	±10%	[All Dielectrics]
M	±20%	[All Dielectrics]
Z	+80/-20%	[All Dielectrics]

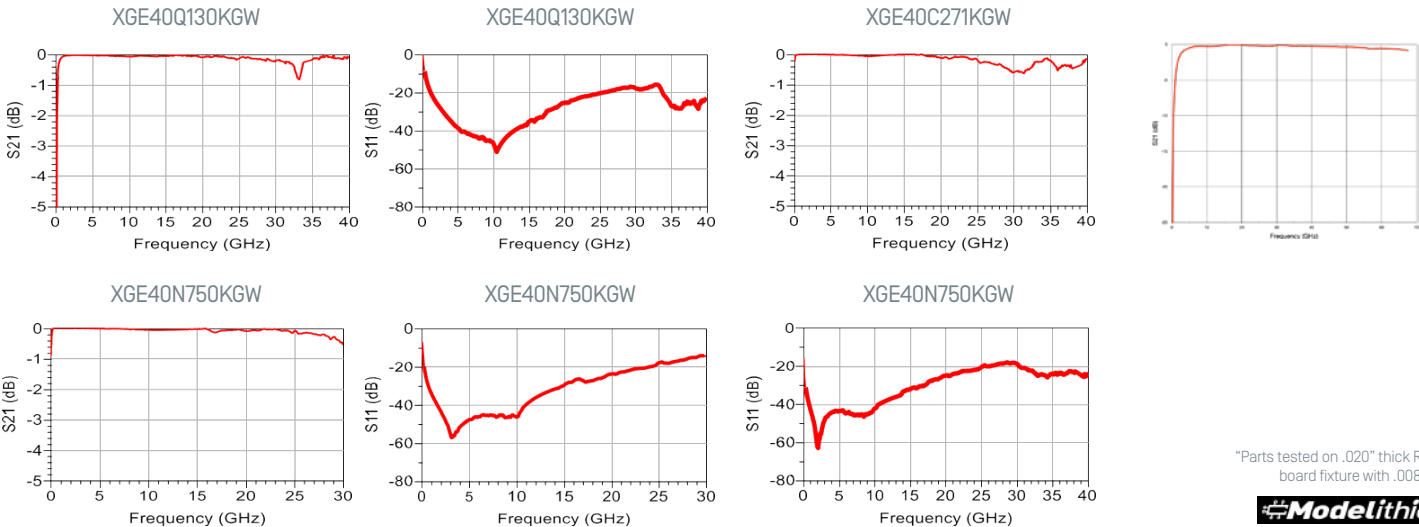
Voltage Code	
A	6.3VDC
E	16VDC
L	25VDC
G	50VDC
B	100VDC

Metallization	
P	Pt 100µin min
G	Au 100µin min

Electrical & Mechanical Characteristics	
Voltage Rating:	6.3, 16, 25, 50, 100 WVDC
Insulation Resistance:	See Chart [Dielectric code]
Dielectric Withstanding Voltage:	250% of WVDC
Dissipation Factor:	See Chart [Dielectric code]
Capacitance Test:	Values > 1000pF (1.0±0.2 VRMS @ 1KHz, 25°C) Values ≤ 1000pF (1.0±0.2 VRMS @ 1MHz, 25°C)
Shear Strength:	Size dependent
Metallization Thickness:	100µin min [99.9% Au]

Packaging	
W	ESD Waffle Pack

Frequency Characteristics



*Parts tested on .020" thick Rogers board fixture with .008" gap.

