Evans GROUP
EULEX

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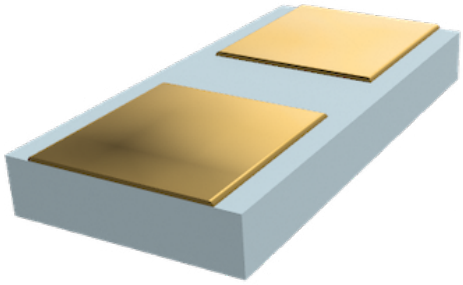
eulex@evans-group.com

Gap Capacitor

XG2



Product Overview

Eulex single layer SMD mount gap capacitor with (Pt or Au) metallization for solder, or epoxy die attach.

Part Numbering System

XG1	A	15	N	100	K	P	W
Eulex Gap	Rated Voltage	Case Size	Dielectric Type	Capacitance	Capacitance Tolerance	Metallization Type	Packaging

Dielectrics and Voltage Rating

Dielectric Type		Dielectric Characteristics			
		Temp Coeff	Tolerance	Temp Range	Metallization
P	Porcelain	Neg.	B, C, D [G, J >10pF]	-55 to 125°C	Au/Pt
Q	Class I/NPQ	±25ppm	B, C, D [G, J >10pF]	-55 to 125°C	Au/Pt
N	Class I/NP0	±30ppm	J, K, M	-55 to 125°C	Au/Pt
C	Class I/NPS	+0-5%	J, K, M	-55 to 125°C	Au/Pt
X	Class II/X7R	±15%	K, M, P	-55 to 125°C	Au/Pt
Y	Class III/Y5V	+22%-82%	M, P, Z	-30 to 85°C	Pt

Voltage Code	
A	6.3VDC
C	10VDC
E	16VDC
L	25VDC
G	50VDC
B	100VDC

Tolerance Code									
Code	B	C	D	G	J	K	M	P	Z
Tolerance	±0.10 pF	±0.25 pF	±0.50 pF	±2%	±5%	±10%	±20%	+100 / -0%	+80 / -20%

Termination Material (P/G)

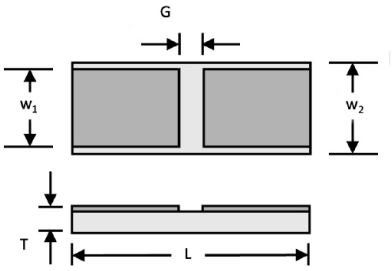
Metallization
Pt 100µin min
Au 100µin min

Packaging (G/W/T)

Package Type	Pack Qty
Gel-Pak/Waffle / Tape and Reel	N/A

Case Size & Dimensions

XG	Case Size	Length (L) Inch (mm)	Chip Width (W2) Inch (mm)	Thickness (T) Inch (mm)	Pad Width (W1) Inch (mm)	Gap (G) Inch (mm)
50	0806	0.080 ±0.004 (2.032 ±0.102)	0.060 ±0.004 (1.651 ±0.102)	0.014 Max (0.356 Max)	0.0048 ±0.003 (0.122 ±0.076)	0.008 Min (0.203 Min)
40	0805	0.080 ±0.004 (2.032 ±0.102)	0.050 ±0.004 (1.270 ±0.102)	0.014 Max (0.356 Max)	0.040 ±0.003 (1.016 ±0.076)	0.008 Min (0.203 Min)
25	0803	0.080 ±0.004 (2.032 ±0.102)	0.030 ±0.003 (0.762 ±0.076)	0.012 Max (0.305 Max)	0.025 ±0.003 (0.635 ±0.076)	0.004 Min (0.102 Min)
22	0603	0.060 ±0.004 (1.524 ±0.102)	0.030 ±0.003 (0.762 ±0.076)	0.012 Max (0.305 Max)	0.024 ±0.003 (0.610 ±0.076)	0.003 Min (0.076 Min)
20	0503	0.045 ±0.004 1.143 ±0.102	0.025 ±0.003 (0.635 ±0.076)	0.012 Max (0.305 Max)	0.021 ±0.003 (0.533 ±0.076)	0.003 Min (0.076 Min)
15	0402	0.040 ±0.004 (1.016 ±0.102)	0.020 ±0.002 (0.508 ±0.051)	0.009 Max (0.229 Max)	0.017 ±0.003 (0.432 ±0.076)	0.003 Min (0.076 Min)
12	0301	0.035 ±0.005 (0.889 ±0.127)	0.012 Max (0.305 Max)	0.009 Max (0.229 Max)	0.008 ±0.003 (0.203 ±0.076)	0.003 Min (0.076 Min)
10	0201	0.020 ±0.004 (0.508 ±0.102)	0.012 Max (0.305 Max)	0.009 Max (0.229 Max)	0.007 ±0.002 (0.178 ±0.051)	0.002 Min (0.051 Min)



Dimensions

Capacitance Rating

6.3V	50	40	25	22	20	15	12	10
Dielectric	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)
P	22	15	11	7.5	4.7	3.6	1.8	0.5
Q	43	30	18	15	8.2	6.2	3.3	0.8
N	120	88	56	43	27	18	10	2.4
C	470	360	220	180	100	75	41	10
X	3000	2200	1300	1000	620	430	240	62
Y	18000	13000	8200	5900	3900	2700	1500	360

10V	50	40	25	22	20	15	12	10
	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)
P	18	12	7.5	5.6	3.6	2.7	1.5	0.4
Q	30	22	15	10	6.8	4.8	2.7	0.6
N	91	68	43	30	20	15	7.5	2.0
C	360	270	180	120	75	56	30	7.5
X	2200	1600	910	750	47	330	180	47
Y	13000	9100	5600	4700	2700	2200	1100	270

Capacitance Rating

16V	50	40	25	22	20	15	12	10
Dielectric	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)
P	15	10	6.2	4.7	3.0	2.2	1.2	0.3
Q	24	18	10	8.2	5.1	3.9	2.2	0.5
N	73	51	33	24	15	12	6.2	1.5
C	270	220	120	100	62	47	24	6.2
X	1800	1200	750	600	360	270	150	36
Y	10000	7500	4700	3600	2200	1600	880	220

25V	50	40	25	22	20	15	12	10
Dielectric	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)
P	12	8.2	5.1	4.0	2.4	2.0	1.0	0.25
Q	20	15	9.1	6.8	4.3	3.3	1.8	0.4
N	62	45	27	20	12	10	5.1	1.2
C	240	180	110	82	51	40	20	5.1
X	1500	1100	680	510	300	220	120	30
Y	9100	6500	4000	3000	2000	1500	750	180

50V	50	40	25	22	20	15	12	10
Dielectric	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)
P	11	8.0	4.7	3.6	2.4	1.8	0.9	0.2
Q	19	13	8.5	6.2	4.0	3.0	1.5	0.3
N	56	43	27	20	12	9.1	4.7	1.2
C	220	160	100	75	47	36	19	4.7
X	1400	1000	600	470	290	200	110	30
Y	8200	6000	3600	2700	1800	1300	680	180

100V	50	40	25	22	20	15	12	10
Dielectric	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)	Cap (pF)
P	10	7.2	4.4	3.3	2.1	1.6	0.8	0.1
Q	16	12	7.5	5.6	3.6	2.7	1.4	0.2
N	51	36	23	17	11	8.2	4.3	1.1
C	200	150	90	70	43	33	17	4.4
X	1200	900	560	430	270	180	100	25
Y	7500	5500	3300	2500	1600	1200	620	150

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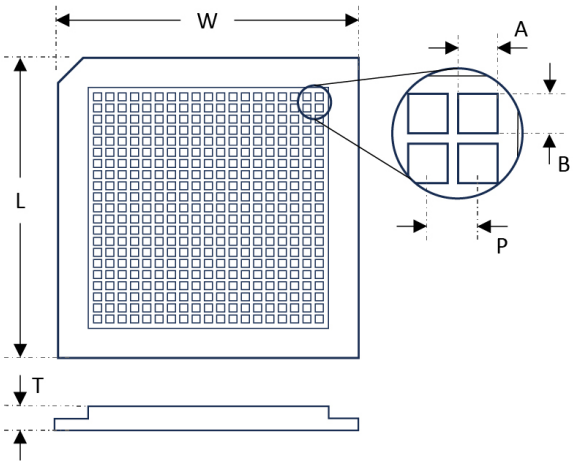
Test Conditions

No.	Item	Test Condition	Requirements
1	Visual & Dimensions	Suitable optical or mechanical measurement system	▪ No major defects ▪ Conforms to individual specification sheet"
2	Capacitance	▪ Measured at 1.0±0.2Vrms, 1.0MHz±10% ▪ Measured at room temperature"	▪ Shall not exceed specified capacitance plus allowed tolerance.
3	Dielectric Strength	▪ 250% of rated voltage. ▪ Duration: 1 to 5 sec. ▪ Charge & discharge current <50mA."	▪ No evidence of damage or arc-over during test.
4	Insulation Resistance	▪ Time rated voltage applied for 120 secs Max ▪ Test at room temperature"	▪ ≥100GΩ minimum
5	Temperature Coefficient	▪ No electrical load ▪ Allow temperature to equilibrate prior to measure"	▪ Capacitance change ±30ppm between -55 to +125°C from reference measurement at 20°C.
6	Termination Strength	▪ MIL-STD-883, device mounted to Au metalized alumina substrate with Au-Sn20. Apply force parallel to substrate until failure.	▪ Die bond strength 2N min.
7	High Temperature Load	▪ Test temp.: 125±3°C ▪ Applied voltage: Rated Volt ▪ Test time: 1000+24/-0 hrs. ▪ Cap. / DF / I.R. Measurement to be made after de-aging at 150°C for 1hr then 24±2hr age at RT	▪ No major damage ▪ Cap change: within ±7.5% or ±0.75pF whichever is larger ▪ I.R. ≥1GΩ

Packaging Details

Dimensions (mm)					
A	B	P	W	L	T
Samples Provided in Gel-Pak AD-22T-00X8					



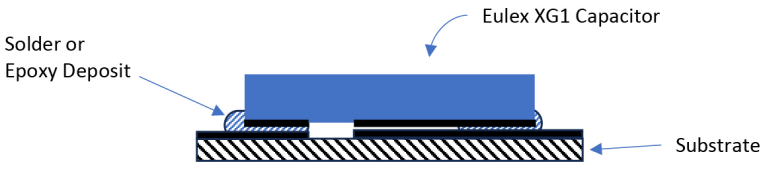
Mounting Methods

Solder Attach

Parts are mounted terminations down.
Solder compositions suitable for Au attachment are acceptable.
Au-Sn20 or In-Pb30 solder is recommended.
Do not exceed 320°C.
Heating cycle to remain below 5°C/sec and cooling below 4°C/sec.

Epoxy Bonding

Parts are suitable for conductive epoxy bonding.
Epoxy should be deposited towards edge of part, taking care not to short gap between terminals.



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Hi-Rel Capacitors for Mission Critical Systems.

Uniting four industry leaders—Evans, Paktron, UTC, and Eulex—Evans Group delivers the industry's most specialized and comprehensive capacitor portfolio. Together, we provide power-dense, high-reliability solutions engineered for mission-critical environments across defense, aerospace, energy, and advanced RF systems.

Eulex
718 Monterey Pass Rd., Monterey Park, CA 91754

T +1 323.266.6603
E eulex@evans-group.com
URL www.evans-group.com/eulex