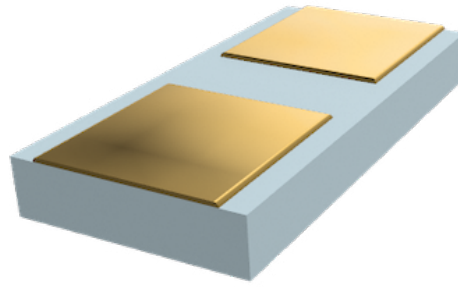


Gap Capacitor

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 | | | | Voltage Code | |
|-----------------|---------------|----------------------------|----------------------|--------------|---------------|--------------|--------|
| | | Temp Coeff | Tolerance | Temp Range | Metallization | | |
| P | Porcelain | Neg. | B, C, D [G, J >10pF] | -55 to 125°C | Au/Pt | A | 6.3VDC |
| Q | Class I/NPQ | ±25ppm | B, C, D [G, J >10pF] | -55 to 125°C | Au/Pt | C | 10VDC |
| N | Class I/NP0 | ±30ppm | J, K, M | -55 to 125°C | Au/Pt | E | 16VDC |
| C | Class I/NPS | +0-5% | J, K, M | -55 to 125°C | Au/Pt | L | 25VDC |
| X | Class II/X7R | ±15% | K, M, P | -55 to 125°C | Au/Pt | G | 50VDC |
| Y | Class III/Y5V | +22%-82% | M, P, Z | -30 to 85°C | Pt | 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)

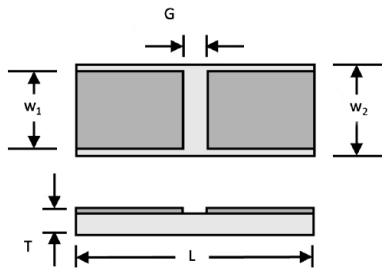
| Metallization |
|---------------|
| Pt 100µin min |
| Au 100µin min |

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 |

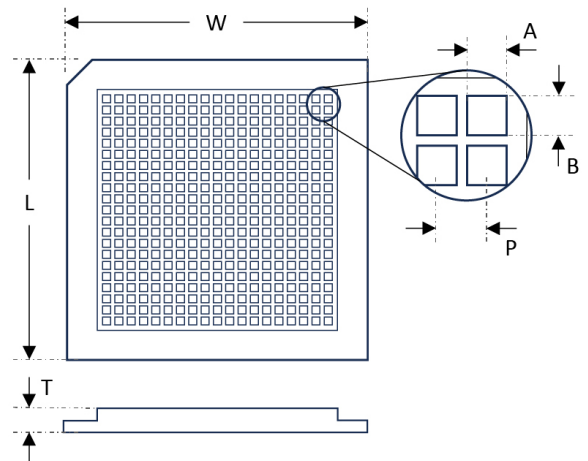
| 100V | 50 | 40 | 25 | 22 | 20 | 15 | 12 | 10 |
|------------|----------|----------|----------|----------|----------|----------|----------|----------|
| Dielectric | Cap (pF) | Cap (pF) | Cap (pF) | Cap (pF) | Cap (pF) | Cap (pF) | Cap (pF) | Cap (pF) |
| P | 10 | 7.2 | 4.4 | 3.3 | 2.1 | 1.6 | 0.8 | 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 |

Test Conditions

| No. | Item | Test Condition | Requirements |
|-----|-------------------------|---|---|
| 1 | Visual & Dimensions | Suitable optical or mechanical measurement system | <ul style="list-style-type: none"> No major defects Conforms to individual specification sheet" |
| 2 | Capacitance | <ul style="list-style-type: none"> Measured at 1.0±0.2Vrms, 1.0MHz±10% Measured at room temperature" | <ul style="list-style-type: none"> Shall not exceed specified capacitance plus allowed tolerance. |
| 3 | Dielectric Strength | <ul style="list-style-type: none"> 250% of rated voltage. Duration: 1 to 5 sec. Charge & discharge current <50mA." | <ul style="list-style-type: none"> No evidence of damage or arc-over during test. |
| 4 | Insulation Resistance | <ul style="list-style-type: none"> Time rated voltage applied for 120 secs Max Test at room temperature" | <ul style="list-style-type: none"> ≥100GΩ minimum |
| 5 | Temperature Coefficient | <ul style="list-style-type: none"> No electrical load Allow temperature to equilibrate prior to measure" | <ul style="list-style-type: none"> Capacitance change ±30ppm between -55 to +125°C from reference measurement at 20°C. |
| 6 | Termination Strength | <ul style="list-style-type: none"> MIL-STD-883, device mounted to Au metalized alumina substrate with Au-Sn20. Apply force parallel to substrate until failure. | <ul style="list-style-type: none"> Die bond strength 2N min. |
| 7 | High Temperature Load | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 | | | | | |



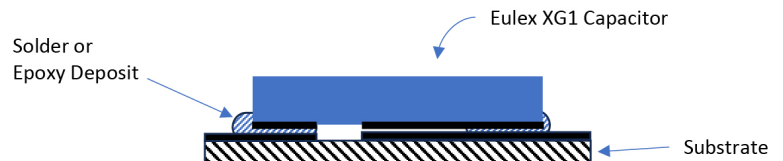
Mounting Methods

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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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.

Product specifications and technical documentation are provided for informational purposes only, are subject to change without notice, and do not create any warranty except as expressly set forth in the applicable Terms and Conditions of Sale.

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