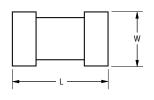
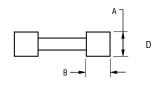
ChipGuard® MLC Series - ESD Protectors

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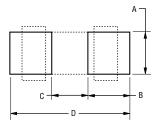
Recommended Pad Layout

Product Dimensions





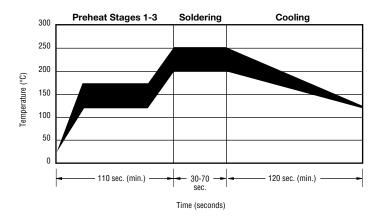




| Dimension | CG0402 Series | CG0603 Series |
|-----------|---|---|
| L | $\frac{1.00 \pm 0.15}{(0.04 \pm 0.006)}$ | $\frac{1.60 \pm 0.20}{(0.064 \pm 0.008)}$ |
| W | $\frac{0.50 \pm 0.10}{(0.02 \pm 0.004)}$ | $\frac{0.80 \pm 0.20}{(0.032 \pm 0.008)}$ |
| A | $\frac{0.36 \pm 0.05}{(0.014 \pm 0.002)}$ | $\frac{0.45 \pm 0.10}{(0.018 \pm 0.004)}$ |
| В | $\frac{0.25 \pm 0.15}{(0.10 \pm 0.006)}$ | $\frac{0.30 \pm 0.20}{(0.012 \pm 0.008)}$ |

| Dim. | CG0402 Series | CG0603 Series |
|------|------------------------|------------------|
| А | <u>0.51</u> (0.020) | 0.76 (0.030) |
| В | 0.61 (0.024) | 1.02 (0.040) |
| С | 0.51 (0.020) | 0.50 (0.020) |
| D | 1.70 (0.067) | 2.54 (0.100) |

Solder Reflow Recommendations



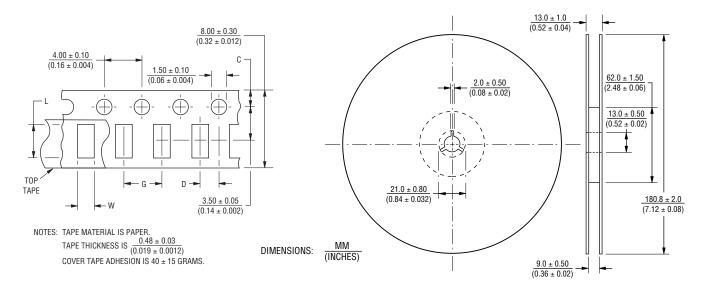
| Α | Stage 1 Preheat | Ambient to Preheating Temperature | 30 s to 60 s |
|---|-----------------|--|---|
| В | Stage 2 Preheat | 140 °C to 160 °C | 60 s to 120 s |
| С | Stage 3 Preheat | Preheat to 200 °C | 20 s to 40 s |
| D | Main Heating | 200 °C 210 °C 220 °C 230 °C 240 °C 250 °C to 255 °C | 60 s to 70 s 55 s to 65 s 50 s to 60 s 40 s to 50 s 30 s to 40 s 5 s |
| Е | Cooling | 200 °C to 100 °C | 1 °C/s to 4 °C/s |

- This product can be damaged by rapid heating, cooling or localized heating.
- Heat shocks should be avoided. Preheating and gradual cooling recommended.
- Excessive solder can damage the device. Print solder thickness of 150 to 200 um recommended.
- Solder gun tip temperature should be kept below 280 °C and should not touch the device directly. Contact should be less than 3 seconds.
 A solder gun under 30 watts is recommended.

ChipGuard® MLC Series - ESD Protectors

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Packaging Dimensions



| Dimension | CG0402 Series | CG0603 Series |
|-----------|--|---|
| С | $\frac{1.75 \pm 0.05}{(0.04 \pm 0.002)}$ | $\frac{1.75 \pm 0.10}{(0.04 \pm 0.004)}$ |
| D | $\frac{2.00 \pm 0.02}{(0.08 \pm 0.0008)}$ | $\frac{2.00 \pm 0.05}{(0.08 \pm 0.002)}$ |
| L | $\frac{1.12 \pm 0.03}{(0.045 \pm 0.0012)}$ | $\frac{1.80 \pm 0.20}{(0.072 \pm 0.008)}$ |
| W | $\frac{0.62 \pm 0.03}{(0.025 \pm 0.0012)}$ | $\frac{0.90 \pm 0.20}{(0.036 \pm 0.008)}$ |
| G | $\frac{2.0 \pm 0.05}{(0.08 \pm 0.002)}$ | $\frac{4.0 \pm 0.05}{(0.16 \pm 0.002)}$ |

CG 0n0n MLC - n.n x x x ChipGuard® Product Designator Package Option 0402 = 0402 Package 0603 = 0603 Package Multilayer Series Designator Operating Voltage** 3.3 = 3.3 V 05 = 5 V 12 = 12 V 24 = 24 V Low Leakage Current Option L = Low Leakage Current Blank = Standard Product Tape & Reel Packaging E = 5,000 pcs. per reel (0402 Package) G = 10,000 pcs. per reel (0402 Package) Operating Temperature Option A = Higher +125 °C Operating Temperature Blank = Standard Product

Only models lower than 10 volts require

decimal point.

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REV. S 06/13

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.