



Features

- Miniature 0201 package
- Fast response time to ESD strikes (<1 ns)
- Bidirectional protection
- Low clamping voltage
- Low leakage current
- RoHS compliant*

Applications

- Smart phones
- Tablets
- Handheld devices
- Embedded components
- Scanners
- Notebooks

ChipGuard® MLA Series μ Varistor ESD Clamp Protector

Description

Bourns® ChipGuard® MLA Series μ Varistor ESD Clamp Protectors are based on multilayer metal oxide varistor technology. Bidirectional ESD protection is provided in a miniature 0201 package, making it one of the smallest protectors available on the market today. The series is ideally suited for space-constrained applications where circuit board space is at a premium.

Additional Information

Click these links for more information:



Electrical Characteristics @ 25 °C (unless otherwise noted)

| Model | Vrms (V) | VDC (V) | VN Min. (V) | VN Max. (V) | VC (V) | ITM (Max.) (A) | WTM (Max.) (J) | CP (pF) Typ. |
|-----------------|-------------|------------|----------------|----------------|-----------------------|-------------------|-------------------|-----------------|
| | <10 μ A | | 1 mA DC | | 1 A @ 8/20 μ s | @ 8/20 μ s | 10/1000 μ s | @ 1 MHz |
| CG0201MLA-5.5MH | 4 | 5.5 | 8 | 14 | 28 | — | — | 32 |

General Characteristics

Operating Temperature.....-40 °C to +85 °C
 Storage Temperature.....-40 °C to +85 °C
 Response Time.....<1 ns
 Performance StandardIEC 61000-4-2

Environmental Characteristics

| Characteristic | Specification | Test Condition |
|----------------|----------------------------|---|
| Bias Humidity | $\Delta V_n/V_n \leq 10\%$ | 90 % RH, 40 °C, Working Voltage, 1000 Hours |
| Thermal Shock | | -40 °C to +85 °C, 30 Minute Cycle, 5 Cycles Total |
| Load Test | | Working Voltage, 85 °C, 1000 Hours |

Device Symbol



How to Order

CG 0201 MLA - 5.5 x H

ChipGuard®
 Product Designator —
 Package Designator —
 0201 = 0201 Package
 Technology —
 MLA = Multilayer Varistor
 Operating Voltage —
 5.5 = 5.5 V
 Tolerance —
 M = 20 %
 Tape & Reel Packaging —
 H = 15,000 pcs. per reel



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WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Specifications are subject to change without notice.

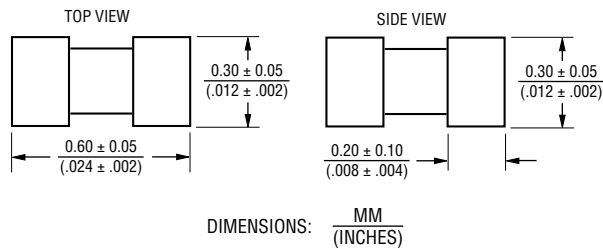
Users should verify actual device performance in their specific applications.

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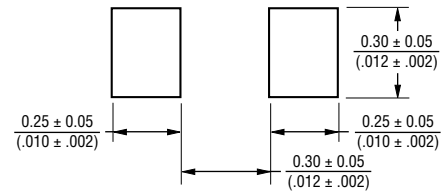
ChipGuard® MLA Series μ Varistor ESD Clamp Protector

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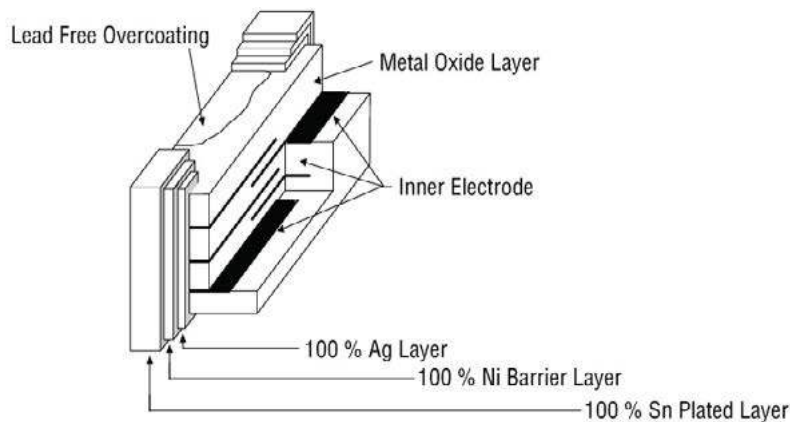
Product Dimensions



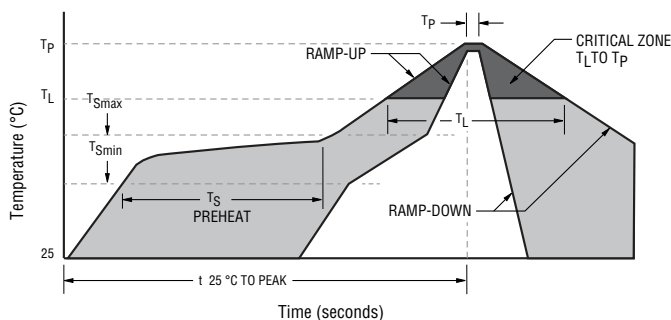
Recommended Pad Layout



Construction



Solder Reflow Recommendations



| | | | |
|---|---------------------------------|--|-----------------------------------|
| A | Stage 1 Preheat Ramp | Ambient to Preheating Temperature | 3 °C / s max. |
| B | Stage 2 Preheat | Preheat min./max. Temperature Range | 150 °C to 200 °C 60 s to 180 s |
| C | Stage 3 Preheat to Main Heating | Max. Time Above Stated Temperature | 217 °C 60 s to 150 s |
| D | Main Heating | Max. Time Within 5 °C of Peak Temperature (260 °C) | 255 °C 20 s to 40 s |
| E | Cool Down | Rate from Peak Temperature | 6 °C / s max. |

CAUTION:

- Rapid heating and cooling in excess of stated maximum rates will easily damage this product.
- Locating heating can also damage product.
- Do not thermally shock product in excess of 100 °C.
- Product can be repaired using a 30 W or less solder gun/iron. Tip temperature maximum is 280 °C for less than 3 seconds.
- Do not touch the component directly with the soldering gun/iron.
- Excess soldering volumes can damage the body of the product.

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Technical drawing of a mechanical part, showing three views: Front View, Top View, and Side View. Dimensions are provided in inches (in) and millimeters (mm).

Front View:

- Overall width: 8.0 ± 0.1 in ($.315 \pm .004$) mm
- Overall height: 1.75 ± 0.05 in ($.069 \pm .002$) mm
- Distance from left edge to center of first hole: 0.42 ± 0.02 in ($.017 \pm .0008$) mm
- Distance between centers of first and second holes: 2.0 ± 0.05 in ($.079 \pm .002$) mm
- Distance between centers of second and third holes: 2.0 ± 0.05 in ($.079 \pm .002$) mm
- Distance from center of third hole to right edge: 0.70 ± 0.02 in ($.028 \pm .0008$) mm
- Distance from left edge to center of first hole (DIA. hole): 1.55 ± 0.05 in ($.061 \pm .002$) mm
- Distance from left edge to center of first hole (DIA. hole): 0.36 ± 0.02 in ($.014 \pm .0008$) mm
- Distance from left edge to center of first hole (DIA. hole): 3.5 ± 0.05 in ($.138 \pm 0.002$) mm

Top View:

- Overall diameter: 21.0 ± 0.8 in ($.827 \pm .031$) mm
- Distance from center to center of hole: 2.0 ± 0.5 in ($.079 \pm .020$) mm

Side View:

- Overall height: 13.0 ± 1.0 in ($.512 \pm .039$) mm
- Distance from top edge to center of hole: 62.0 ± 1.5 in ($2.441 \pm .059$) mm
- Distance from center of hole to bottom edge: 13.0 ± 0.5 in ($.512 \pm .020$) mm
- Overall height: 178 ± 2.0 in ($7.008 \pm .079$) mm
- Distance from bottom edge to center of hole: 9.0 ± 0.5 in ($.354 \pm .020$) mm

DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

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