



## 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 μVaristor ESD Clamp Protector

### Description

Bourns® ChipGuard® MLA Series μVaristor 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.

### 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 μA		1 mA DC		1 A @ 8/20 μs	@ 8/20 μs	10/1000 μs	@ 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 Standard .....IEC 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](http://www.P65Warnings.ca.gov)**

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

Specifications are subject to change without notice.

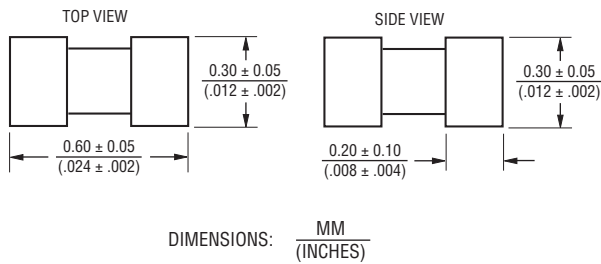
Users should verify actual device performance in their specific applications.

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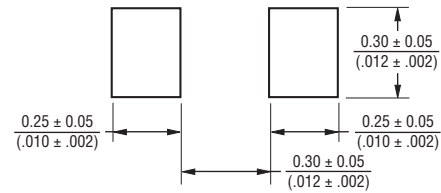
# ChipGuard® MLA Series $\mu$ Varistor ESD Clamp Protector

**BOURNS®**

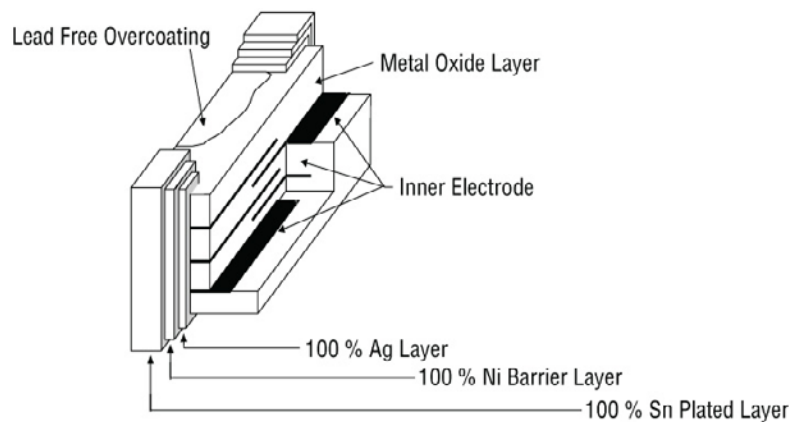
## Product Dimensions



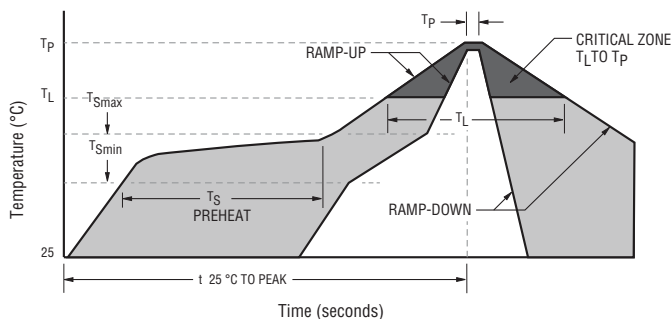
## Recommended Pad Layout



## 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.

Specifications are subject to change without notice.

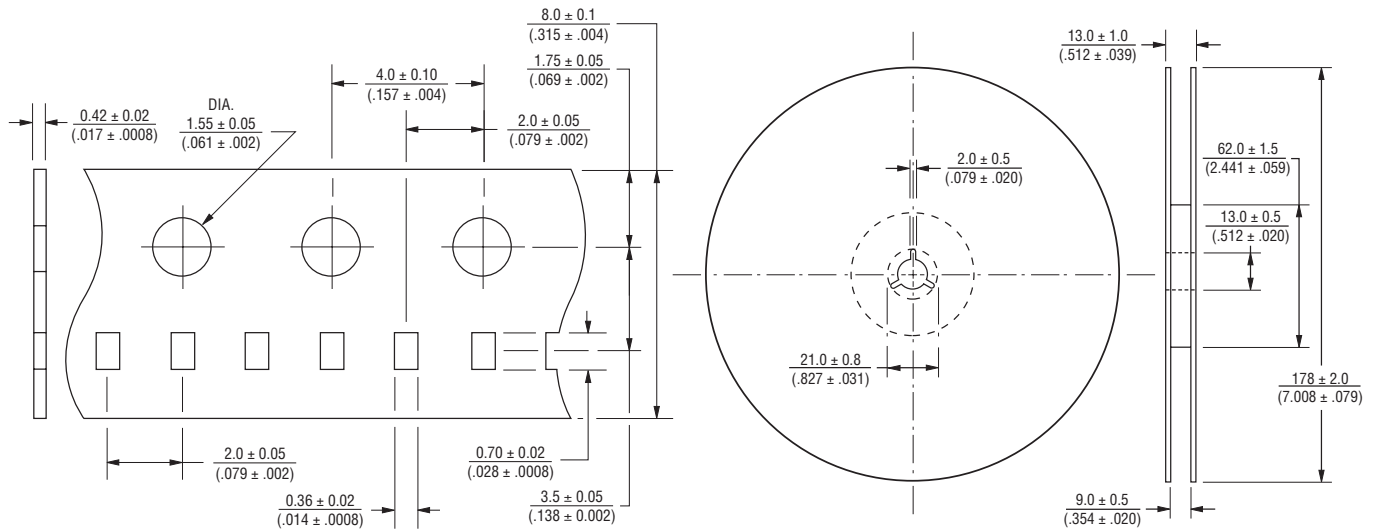
Users should verify actual device performance in their specific applications.

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# ChipGuard® MLA Series $\mu$ Varistor ESD Clamp Protector

**BOURNS®**

## Packaging Dimensions



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

REV. B 07/20

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