



## 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

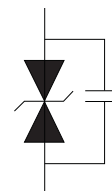
## General Characteristics

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

**BOURNS®**

**Asia-Pacific:** Tel: +886-2 2562-4117 • Fax: +886-2 2562-4116

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**www.bourns.com**

\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

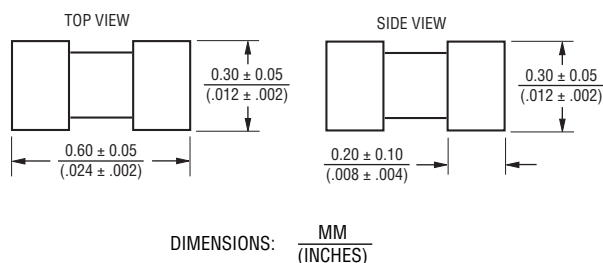
Specifications are subject to change without notice.

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.

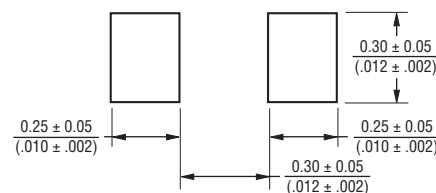
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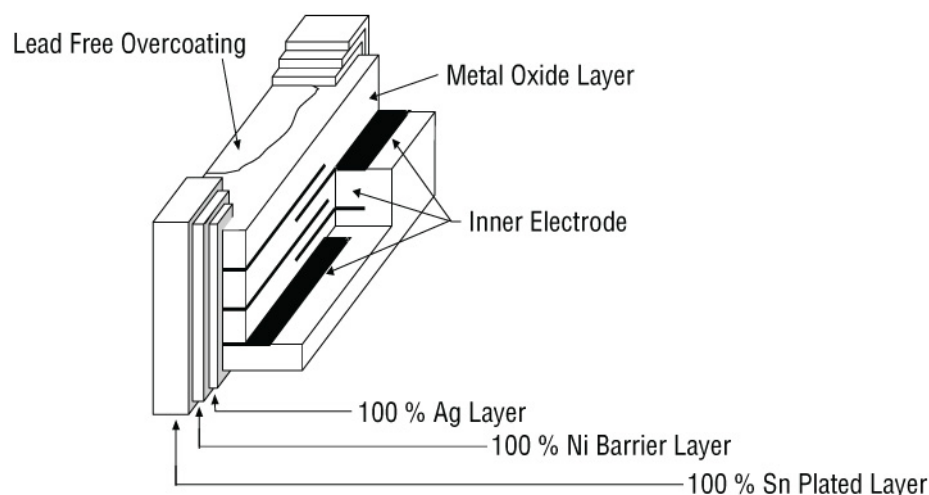
## Product Dimensions



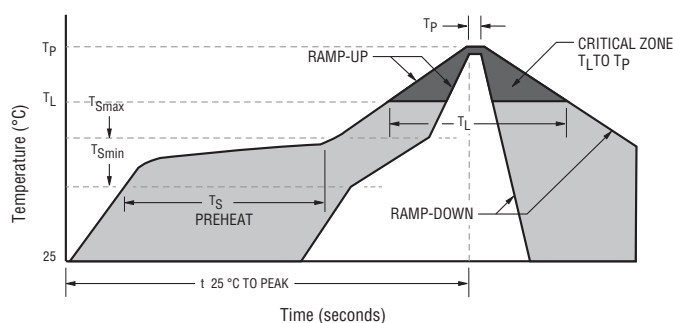
## Recommended Pad Layout



## 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:

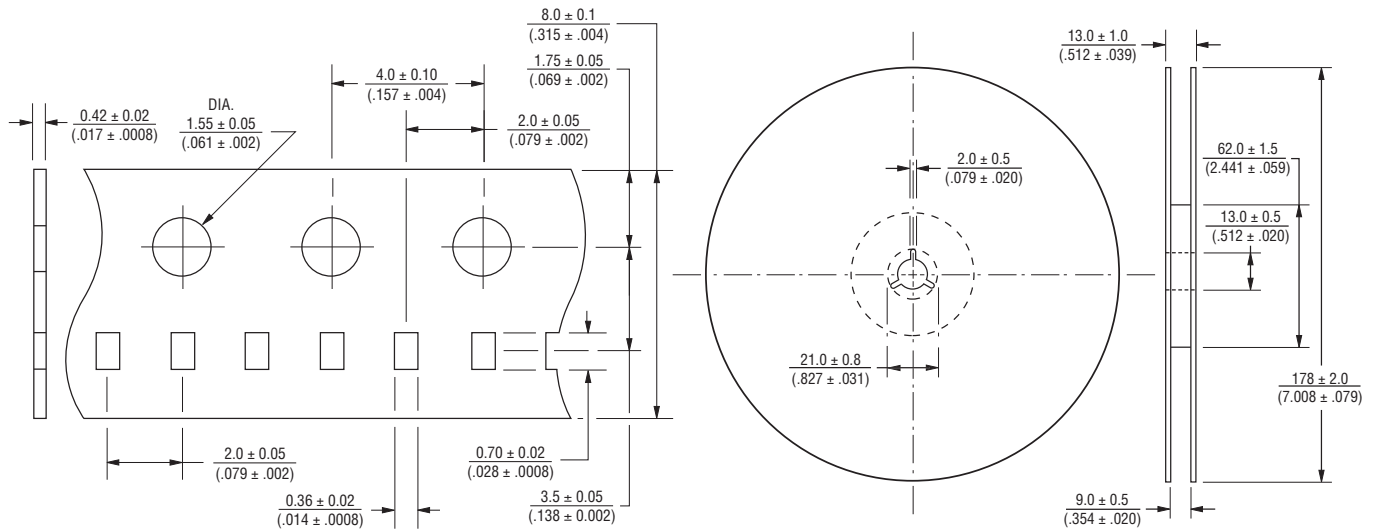
- Rapid heating and cooling in excess of stated maximum rates will easily damage this product.
- Locating heating can also damage product.
- Do not thermally shock product in excess of 100 °C.
- Product can be repaired using a 30 W or less solder gun/iron. Tip temperature maximum is 280 °C for less than 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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## Packaging Dimensions



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

REV. A 07/14

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