

# ANTREX Electronics

Electronic Components Sourcing Information

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## Product Reference Information

**Part Number:** CGA1206MLA-31551E  
**Manufacturer:** Bourns Inc.  
**Package:** 1206 (3216 Metric)  
**Availability:** Please confirm with sales

### Product Page:

<https://antrexco.com/product/details/bourns-inc/cga1206mla-31551e.html>

### Request a Quote:

[Submit RFQ for this part](#)



Scan for product page

## Contact Information

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WhatsApp: +86-186-8066-5326

Website: <https://antrexco.com>

## Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

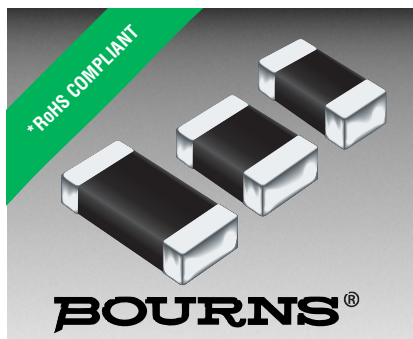
Secure sourcing support for OEM / EMS projects

### Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

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## Features

- AEC-Q200 qualified
- Meets IEC 61000-4-2 standard
- Multilayered varistor technology
- Proprietary insulating overcoat provides low and stable leakage current
- Quick response time (<0.5 ns)
- High transient current capability
- High reliability
- RoHS compliant\*

## Applications

- HDMI
- CANbus
- Ethernet
- GPS
- Camera links
- Sensors
- Touchscreen interfaces
- Circuits sensitive to ESD

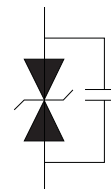
## ChipGuard® Automotive MLA Series Varistor ESD Clamp Protectors

### Description

Bourns® ChipGuard® Automotive MLA Series is a multilayered varistor designed specifically for use in automotive circuits requiring ESD protection. The CGA-MLA series is available in industry standard 0603, 0805 and 1206 packages. These robust protectors exhibit extremely fast response times to ESD events making them ideal for protecting a wide array automotive electronics.

ChipGuard® Automotive MLA Series products are fully AEC-Q200 qualified and supported.

### Device Symbol



### Electrical Characteristics @ 25 °C (unless otherwise noted)

| Model              | Package | Vrms<br>(V) | VDC<br>(V) | VN Min.<br>(V) | VN Max.<br>(V) | VC<br>(V)             | ITM (Max.)<br>(A) | WTM (Max.)<br>(J) | CP<br>(pF) Typ. |
|--------------------|---------|-------------|------------|----------------|----------------|-----------------------|-------------------|-------------------|-----------------|
|                    |         | <10 $\mu$ A |            | 1 mA DC        |                | 1 A @<br>8/20 $\mu$ s | @ 8/20 $\mu$ s    | 10/1000 $\mu$ s   | @ 1 KHz         |
| CGA0603MLA-16150E  | 0603    | 14          | 16         | 23.0           | 34.2           | 70                    | 5                 | 0.030             | 15              |
| CGA0603MLA-16121E  |         | 14          | 16         | 22.0           | 28.0           | 46                    | 30                | 0.200             | 120             |
| CGA0603MLA-17300E  |         | 14          | 17         | 21.6           | 34.4           | 70                    | 2                 | 0.050             | 30              |
| CGA0603MLA-18101E  |         | 14          | 18         | 19.8           | 25.2           | 44                    | 30                | 0.200             | 100             |
| CGA0603MLA-19161E  |         | 14          | 19         | 24.0           | 32.0           | 64                    | 20                | 0.100             | 160             |
| CGA0603MLA-22750E  |         | 17          | 22         | 25.0           | 41.0           | 54                    | 30                | 0.075             | 75              |
| CGA0603MLA-22500E  |         | 17          | 22         | 24.3           | 30.7           | 54                    | 10                | 0.100             | 50              |
| CGA0603MLA-22101E  |         | 17          | 22         | 24.3           | 30.7           | 50                    | 30                | 0.200             | 100             |
| CGA0603MLA-22161E  |         | 17          | 22         | 24.3           | 30.7           | 50                    | 30                | 0.200             | 160             |
| CGA0603MLA-26800E  |         | 20          | 26         | 30.0           | 43.0           | 67                    | 30                | 0.100             | 80              |
| CGA0603MLA-31900E  |         | 25          | 31         | 35.0           | 43.9           | 71                    | 30                | 0.200             | 90              |
| CGA0603MLA-32120E  |         | 25          | 32         | 51.9           | 71.0           | 124                   | 5                 | 0.250             | 12              |
| CGA0805MLA--16401E | 0805    | 14          | 16         | 22.0           | 28.0           | 46                    | 120               | 0.3               | 400             |
| CGA0805MLA-18351E  |         | 14          | 18         | 19.8           | 25.2           | 44                    | 120               | 0.3               | 350             |
| CGA0805MLA-22101E  |         | 17          | 22         | 25.0           | 34.0           | 54                    | 30                | 0.1               | 100             |
| CGA0805MLA-22401E  |         | 17          | 22         | 24.3           | 30.7           | 50                    | 120               | 0.3               | 400             |
| CGA0805MLA-26221E  |         | 20          | 26         | 29.7           | 37.3           | 56                    | 80                | 0.4               | 220             |
| CGA0805MLA-31251E  |         | 25          | 31         | 35.1           | 43.9           | 71                    | 80                | 0.3               | 250             |
| CGA0805MLA-38201E  |         | 30          | 38         | 42.3           | 52.7           | 81                    | 80                | 0.3               | 200             |
| CGA1206MLA-16801E  | 1206    | 14          | 16         | 22.0           | 28.0           | 44                    | 200               | 0.60              | 800             |
| CGA1206MLA-16701E  |         | 14          | 16         | 19.8           | 25.2           | 42                    | 200               | 0.50              | 700             |
| CGA1206MLA-22651E  |         | 17          | 22         | 24.3           | 30.7           | 48                    | 200               | 0.30              | 650             |
| CGA1206MLA-22841E  |         | 17          | 22         | 24.3           | 29.7           | 50                    | 100               | 0.40              | 840             |
| CGA1206MLA-26601E  |         | 20          | 26         | 29.7           | 37.3           | 58                    | 200               | 0.70              | 600             |
| CGA1206MLA-31551E  |         | 25          | 31         | 35.1           | 43.9           | 69                    | 200               | 1.00              | 550             |
| CGA1206MLA-38501E  |         | 30          | 38         | 42.3           | 52.7           | 81                    | 200               | 1.10              | 500             |
| CGA1206MLA-40181E  |         | 40          | 56         | 63.0           | 77.0           | 110                   | 200               | 1.00              | 180             |

### General Characteristics

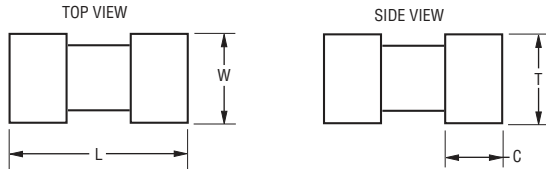
Operating Temperature..... -55 °C to +125 °C  
Storage Temperature..... -55 °C to +150 °C  
Response Time..... <1 ns  
Performance Standard ..... IEC 61000-4-2

\*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.

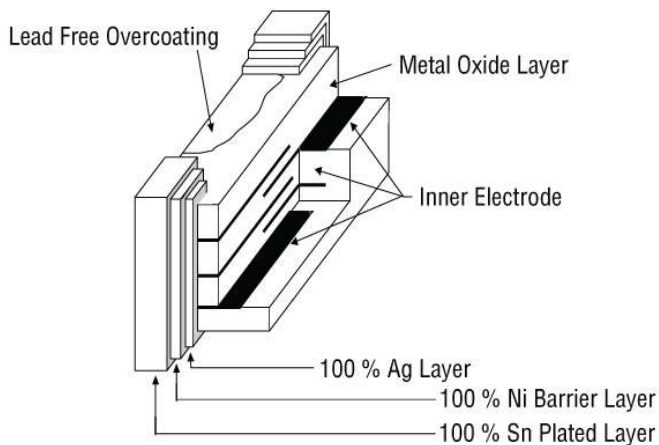
### Product Dimensions



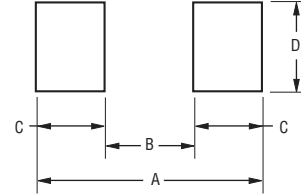
DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$

| Dim. | CGA0603MLA Series                         | CGA0805MLA Series                         | CGA1206MLA Series                         |
|------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
| L    | $\frac{1.60 \pm 0.15}{(0.063 \pm 0.006)}$ | $\frac{2.00 \pm 0.20}{(0.079 \pm 0.008)}$ | $\frac{3.20 \pm 0.30}{(0.126 \pm 0.012)}$ |
| W    | $\frac{0.80 \pm 0.10}{(0.031 \pm 0.004)}$ | $\frac{1.25 \pm 0.20}{(0.049 \pm 0.008)}$ | $\frac{1.60 \pm 0.20}{(0.063 \pm 0.008)}$ |
| T    | $\frac{0.80 \pm 0.10}{(0.031 \pm 0.004)}$ | $\frac{0.90 \pm 0.10}{(0.035 \pm 0.004)}$ | $\frac{1.70}{(0.067)}$ MAX.               |
| C    | $\frac{0.30 \pm 0.15}{(0.012 \pm 0.006)}$ | $\frac{0.50 \pm 0.25}{(0.020 \pm 0.010)}$ | $\frac{0.50 \pm 0.25}{(0.020 \pm 0.010)}$ |

### Construction



### Recommended Pad Layout



Note: Print solder to a recommended thickness of 150 to 200  $\mu\text{m}$ .

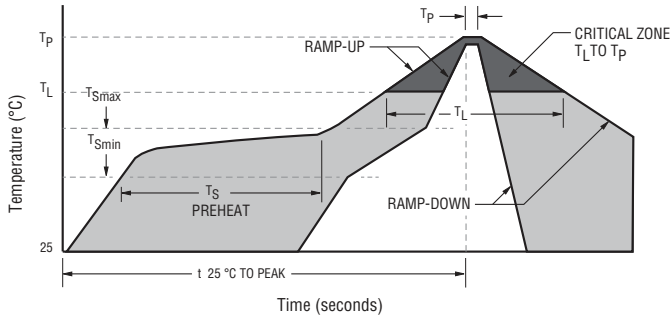
| Dim. | CGA0603MLA Series      | CGA0805MLA Series      | CGA1206MLA Series      |
|------|------------------------|------------------------|------------------------|
| A    | $\frac{2.54}{(0.100)}$ | $\frac{3.50}{(0.137)}$ | $\frac{4.06}{(0.160)}$ |
| B    | $\frac{0.50}{(0.020)}$ | $\frac{1.10}{(0.043)}$ | $\frac{2.02}{(0.080)}$ |
| C    | $\frac{1.02}{(0.040)}$ | $\frac{1.20}{(0.047)}$ | $\frac{1.02}{(0.040)}$ |
| D    | $\frac{0.76}{(0.030)}$ | $\frac{1.20}{(0.047)}$ | $\frac{1.65}{(0.065)}$ |

### How to Order

**CG A xx0x MLA - xx yyy E**

ChipGuard® Product Designator \_\_\_\_\_  
 Automotive Series \_\_\_\_\_  
 Package Option \_\_\_\_\_  
     0603 = 1608 Package  
     0805 = 2012 Package  
     1206 = 3216 Package  
 Multilayer Series Designator \_\_\_\_\_  
 Maximum DC Working Voltage, V \_\_\_\_\_  
     (Current <10  $\mu\text{A}$ )  
 Capacitance, pF \_\_\_\_\_  
     (Example: 151 =  $15 \times 10^1$  (150 pF))  
 Tape & Reel Packaging \_\_\_\_\_  
     E = 4,000 pcs. per reel

### Solder Reflow Recommendations

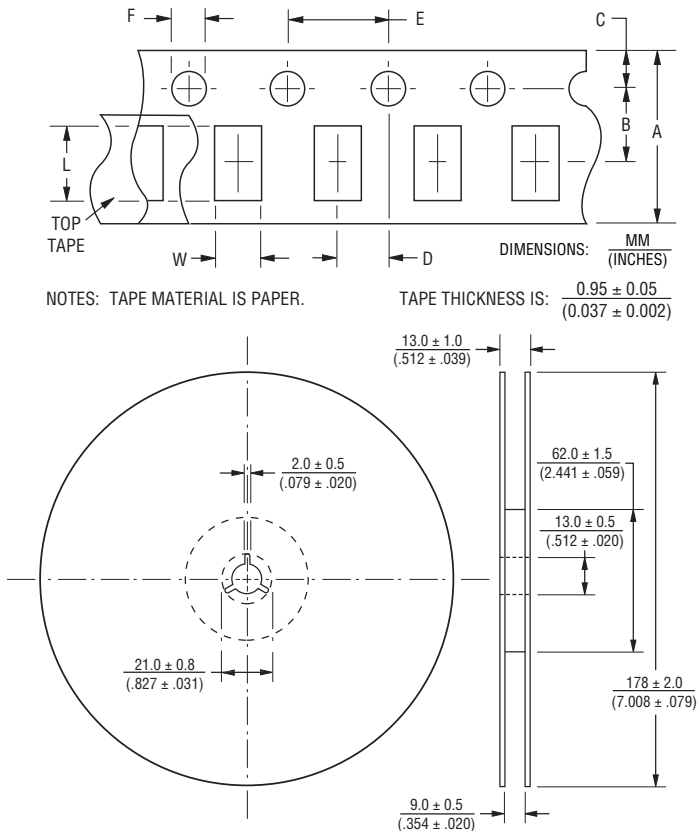


|   |                                 |                                                    |                                   |
|---|---------------------------------|----------------------------------------------------|-----------------------------------|
| A | Stage 1 Preheat Ramp            | Ambient to Preheating Temperature                  | 3 °C / s max.                     |
| B | Stage 2 Preheat                 | Preheat min./max. Temperature Range                | 150 °C to 200 °C<br>60 s to 180 s |
| C | Stage 3 Preheat to Main Heating | Max. Time Above Stated Temperature                 | 217 °C<br>60 s to 150 s           |
| D | Main Heating                    | Max. Time Within 5 °C of Peak Temperature (260 °C) | 255 °C<br>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.
- Localized heating can also damage product.
- Do not thermally shock product in excess of 100 °C.
- Use a 30 W or less solder gun/iron for product repairs. Tip temperature maximum is 280 °C for less than 3 seconds.
- Do not touch the component directly with the soldering gun/iron.
- Excess solder volumes can damage the body of the product.

### Packaging Dimensions



| Dim. | CGA0603MLA Series                         | CGA0805MLA Series                         | CGA1206MLA Series                         |
|------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
| A    |                                           | $\frac{8.00 \pm 0.30}{(0.315 \pm 0.012)}$ |                                           |
| B    |                                           | $\frac{3.50 \pm 0.05}{(0.138 \pm 0.002)}$ |                                           |
| C    |                                           | $\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$ |                                           |
| D    |                                           | $\frac{2.00 \pm 0.05}{(0.079 \pm 0.002)}$ |                                           |
| E    |                                           | $\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$ |                                           |
| F    |                                           | $\frac{1.50 \pm 0.10}{(0.059 \pm 0.004)}$ |                                           |
| L    | $\frac{1.90 \pm 0.15}{(0.075 \pm 0.006)}$ | $\frac{2.30 \pm 0.15}{(0.091 \pm 0.006)}$ | $\frac{3.50 \pm 0.15}{(0.138 \pm 0.006)}$ |
| W    | $\frac{1.05 \pm 0.15}{(0.041 \pm 0.006)}$ | $\frac{1.55 \pm 0.15}{(0.061 \pm 0.006)}$ | $\frac{1.90 \pm 0.15}{(0.075 \pm 0.006)}$ |

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