

## Features

- RoHS compliant\*
- ESD protection >25 kV
- Surge protection
- Low capacitance

## Applications

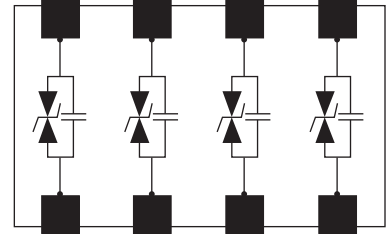
- IC supply line protection
- MOSFET gate protection
- Control line protection
- Low frequency I/O line protection

# ChipGuard® CG0805MLA Series - ESD Protector Array

## General Information

The ChipGuard® CG0805MLA series has been designed to provide a competitive solution for applications where capacitance of the ESD protector is less critical. General ESD applications in end products such as computers, analog modems and PDAs include IC supply lines, MOSFET gate protection, and low frequency digital and control lines.

The ChipGuard® CG0805MLA quad device is designed to protect equipment to IEC61000-4-2, Level 4 (±8 kV Contact / ±15 kV Air Discharge) ESD specification.

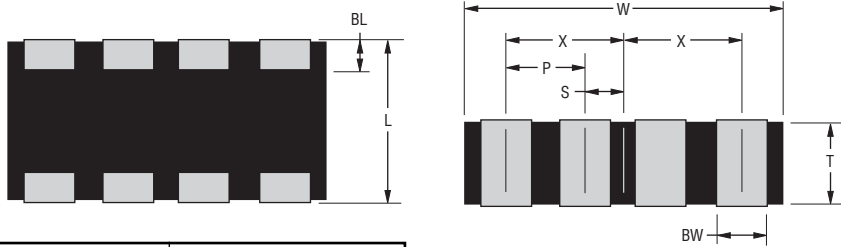


## Electrical & Thermal Characteristics @ TA = 25 °C (unless otherwise noted)

Parameter	Symbol	CG0805MLA-5.5ME	CG0805MLA-18KE	Unit
Maximum AC Working Voltage @ 10 $\mu$ A Max.	$V_{RMS}$	4	14	V
Maximum DC Working Voltage @ 10 $\mu$ A Max.	$V_{DC}$	5.5	18	V
Minimum Resistance @ 3.3 VDC	$I_R$	10		Megohms
Maximum Peak Current @ 8/20 $\mu$ S Pulse	$I_S$	10	5	A
Maximum Transient Energy @ 10/1000 $\mu$ S Pulse	$W_{Max}$	0.01		Joules
Nominal Breakdown Voltage @ 1 mA	$V_{BR}$	12	28	V
Breakdown Voltage Tolerance	% $V_{BR}$	20	10	%
Maximum Clamping Voltage @ 1 A 8/20 $\mu$ S Pulse	$V_C$	28	58	V
Typical Capacitance @ 1 VRMS 1 kHz	$C_{O1}$	36	17	pF
Typical Capacitance @ 1 VRMS 1 MHz	$C_{O2}$	33	15	pF
Maximum Response Time	$R_T$	1		ns
ESD Protection: Per IEC 61000-4-2				
Min. Contact Discharge (>100 Repts)		± 8		kV
Min. Air Discharge (>100 Repts)		± 15		kV
Operating Temperature	$T_{OPR}$	-40 to +85		°C
Storage Temperature	$T_{STG}$	-40 to +85		°C

\*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. Customers should verify actual device performance in their specific applications

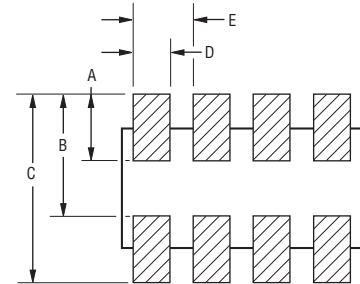
**Product Dimensions**



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

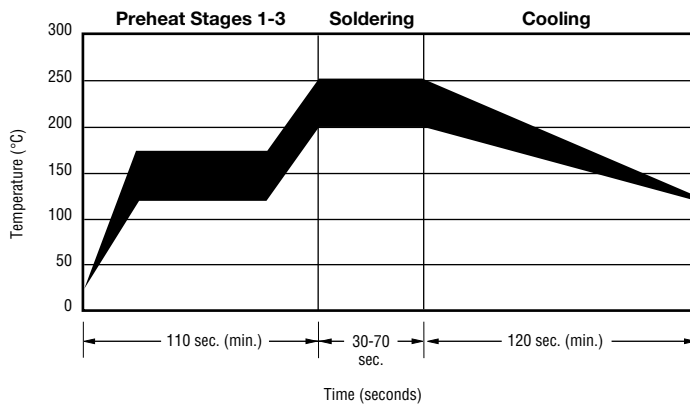
Dimension	CG0805 Series
L	$\frac{1.25 \pm 0.20}{(0.049 \pm 0.008)}$
W	$\frac{2.00 \pm 0.20}{(0.080 \pm 0.008)}$
T	$\frac{0.90}{(0.035) \text{ MAX.}}$
BW	$\frac{0.20 \pm 0.10}{(0.008 \pm 0.004)}$
BL	$\frac{0.20 \pm 0.10}{(0.008 \pm 0.004)}$
P	$\frac{0.50}{(0.020)}$
X	$\frac{0.75 \pm 0.10}{(0.029 \pm 0.004)}$
S	$\frac{0.25 \pm 0.10}{(0.009 \pm 0.004)}$

**Recommended Pad Layout**



Dimension	CG0805 Series
A	$\frac{0.64}{(0.025)}$
B	$\frac{1.27}{(0.050)}$
C	$\frac{1.91}{(0.075)}$
D	$\frac{0.28}{(0.011)}$
E	$\frac{0.51}{(0.020)}$

**Solder Reflow Recommendations**



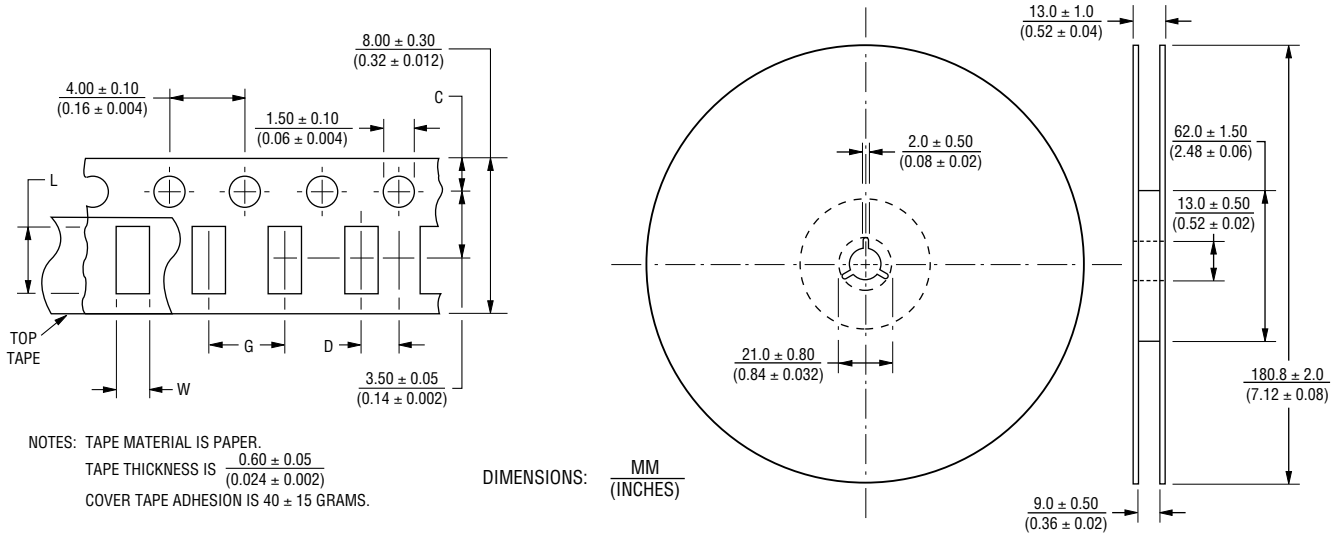
A	Stage 1 Preheat	Ambient to Preheating Temperature	30 s to 60 s
B	Stage 2 Preheat	140 °C to 160 °C	60 s to 120 s
C	Stage 3 Preheat	Preheat to 200 °C	20 s to 40 s
D	Main Heating	200 °C	60 s to 70 s
		210 °C	55 s to 65 s
		220 °C	50 s to 60 s
		230 °C	40 s to 50 s
	240 °C	30 s to 40 s	
E	Cooling	200 °C 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.

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## Packaging Dimensions



Dimension	CG0805 Series
C	$\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$
D	$\frac{2.00 \pm 0.05}{(0.080 \pm 0.002)}$
L	$\frac{2.40 \pm 0.20}{(0.094 \pm 0.008)}$
W	$\frac{1.65 \pm 0.20}{(0.065 \pm 0.008)}$
G	$\frac{4.00 \pm 0.10}{(0.16 \pm 0.004)}$

## How to Order

### CG 0805 - MLA n.n x E

ChipGuard®  
 Product Designator  
 Package Option  
 0805 = 0805 Package  
 Model Series  
 MLA = Standard Capacitance  
 Working Peak Voltage\*\*  
 18 = 18 V  
 5.5 = 5.5 V  
 Tolerance  
 K = 10 %  
 M = 20 %  
 Tape & Reel Packaging  
 E = 4,000 pcs. per reel

\*\* Only models lower than 10 volts require decimal point.

**BOURNS®**

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