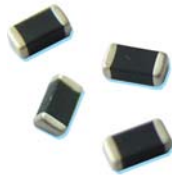
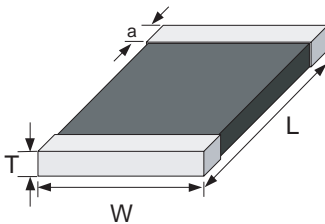


# Automotive Series SMD

This product is not recommended for new designs. Please refer to Littelfuse series AUMLA.



## Dimensions



## Multilayer Ceramic Transient Voltage Suppressors for Automotive Applications

### Features

Thin layer, high precise techniques  
Lead free  
Bi-directional clamping  
Available with Nickel/Tin end termination or

### Applications

- Circuit board and Devices  
Protection of Automotive
- Airbag control
  - Wiper motors
  - Direct ignition
  - Engine control
  - Sensors

### WebLinks

**Further info see:**  
[www.wickmanngroup.com](http://www.wickmanngroup.com)

**Further technical infos see technical varistor file:**  
[www.wickmanngroup.com/download/techvaristor.pdf](http://www.wickmanngroup.com/download/techvaristor.pdf)

## Specifications

### Packaging

Tape and Reel		
T 7 inch reel	0603	(4.000 pcs.)
	0805-1206	(3.000 pcs.)
	1210	(2.000 pcs.)
	1812-2220	(1.000 pcs.)

### Material

Body: Ceramic (ZnO)  
Terminals: Ni/Sn plated (code "P")

### Operating Temperature

-55 to +125°C

### Solderability

acc. to IEC 60068-2-58  
235°C, 2s

### Soldering Heat Resistance

260°C, 10 sec. (IEC 60068-2-58)  
280°C, 5 sec. (IEC 60068-2-58)

### Temperature coefficient ( $\alpha V$ ) of clamping voltage ( $V_c$ ) @ specified test current

<0.01%/°C

### Standards

IEC 61000-4-2  
MIL-STD-750

### Thermal Shock capability per MIL-STD-750

Method 1051: -55°C to +125°C  
5 min.@25°C, 25 cycles  
15 min.@each maximum

### Power Dissipation

1.0 W max.

Maximum Ratings (125°C)					Specifications (25°C)			
Type	Packaging	max. cont. working voltage	load dump energy (10 pulses)	jump start voltage max. (5 min.)	max. clamping voltage at spec. current (8/20µs)	nominal voltage at 1mA (DC) test current	typ. capacitance at 1MHz	typ. inductance
		$V_{M(DC)}$ (V)	$W_{LD}$ (J)	$V_{jump}$ (V)	$V_c$ (V)	$V_{N(DC)min.}$ (V) $V_{N(DC)max.}$ (V)	$C_{typ.}$ (pF)	$L_{typ.}$ (nH)
WA0805ML180A		18,0	1.0	24.5	40 @ 1.5A	23.0   32.0	500	1.5
WA1206ML180A		18,0	1.5	24.5	40 @ 1.5A	23.0   32.0	900	1.8
WA1210ML180A		18,0	3.0	24.5	40 @ 1.5A	23.0   32.0	2500	1.8
WA1812ML180A		18,0	6.0	24.5	40 @ 5A	23.0   32.0	5000	2.5
WA2230ML180A		18,0	25.0	24.5	40 @ 10A	23.0   32.0	4500	3.0
WA2220ML380A		38,0	30.0	50.0	77 @ 10A	48.5   56.0	4000	3.0

## Order Information

Qty.	Order-Number	Type	Terminal Code	Packaging
		WA0805ML180	A	T

Specifications are subject to change without notice