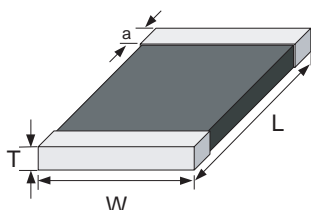


## ESD Series SMD

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



### Dimensions



## Multilayer Ceramic Transient Voltage Suppressors for ESD Protection

### Features

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

### Applications

- Circuit board and ESD, EFT  
Protection of:
- USB ports
  - Keyboards
  - Cellular Phones
  - IEEE ports
  - PDA/Handheld
  - Sensors

### WebLinks

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

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

## Specifications

### Packaging

Tape and Reel		
T 7 inch reel	0402	(10.000 pcs.)
	0603	(4.000 pcs.)
	0805-1206	(3.000 pcs.)

### Material

Body:	Ceramic (ZnO)
Terminals:	Ni/Sn plated (code "P") Ag/Pt/Pd non plated (code "N" on request)

### 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 (αV) of clamping voltage (V<sub>c</sub>) @ specified test current

<0.01%/°C

### Standards

IEC 61000-4-2  
MIL-STD-883C

Maximum Ratings (125°C)						Specifications (25°C)					
Type	Packaging	max. cont. working voltage	max. non-repetitive surge current (8/20 μs)	max. non-repetitive surge energy (10/1000 μs)	max. ESD clamping voltage 8kV contact	max. clamping voltage at spec. current (8/20 μs)		nominal voltage at 1mA (DC) test current	typ. capacitance at 1MHz	typ. inductance	
		V <sub>M(DC)</sub> (V)	I <sub>TM</sub> (A)	W <sub>TM</sub> (J)	V <sub>c</sub> (note 2)	V <sub>c</sub> (V)	V <sub>c</sub> (V)	V <sub>N(DC)min.</sub> (V)	V <sub>N(DC)max.</sub> (V)	C <sub>typ.</sub> (pF)	L <sub>typ.</sub> (nH)
WE0402ML180L		18,0	15	0,03	120	50	1A	22	28	30	1,0
WE0402ML180A		18,0	15	0,03	120	50	1A	22	28	40	1,0
WE0603ML180L		18,0	20	0,05	120	50	1A	22	28	40	1,0
WE0603ML180A		18,0	20	0,05	120	50	2A	22	28	100	1,0
WE0805ML180L		18,0	30	0,10	100	50	2A	22	28	100	1,0
WE0805ML180A		18,0	30	0,10	100	50	5A	22	28	500	1,0
WE1206ML180L		18,0	30	0,10	80	50	5A	22	28	500	1,0
WE1206ML180A		18,0	30	0,10	80	50	10A	22	28	800	1,0

Maximum Leakage V <sub>M(DC)</sub>								
	WE0402ML180L	WE0402ML180A	WE0603ML180L	WE0603ML180A	WE0805ML180L	WE0805ML180A	WE1206ML180L	WE1206ML180A
	μA	μA	μA	μA	μA	μA	μA	μA
3.5V	0.08	0.08	0.08	0.08	0.15	0.15	0.3	0.3
5.5V	0.2	0.2	0.2	0.2	0.3	0.3	0.8	0.8
15V	1.5	1.5	3.0	3.0	3.0	3.0	3.0	3.0
18V	6.0	6.0	15.0	15.0	15.0	15.0	15.0	15.0

Note 1: For applications of 18V<sub>M(DC)</sub> or less higher voltages. Please contact WICKMANN for availability.

Note 2: Maximum ESD clamping voltage tested with IEC 61000-4-2 Human Body Model discharge test circuit and direct discharge to device terminals

Note 3: Capacitance may be customized, please contact WICKMANN for availability.

### Order Information

Qty.	Order-Number	Type	Terminal Code	Packaging
		WE0402ML180	L	T

Specifications are subject to change without notice

## ESD Series SMD

