

## SMD 0805 Multilayer Varistor



### FEATURES

- Surface mount multilayer surge suppressor
- Inherent bidirectional clamping
- Excellent energy / volume ratio
- Suitable for reflow soldering
- Material categorization:  
for definitions of compliance please see  
[www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**

### APPLICATIONS

Over-voltage and transient voltage protection:

- Data lines and I/O port protection
- Protection against ESD transients
- On-board protection of IC's and transistors
- Modem protection
- LCD protection

### DESCRIPTION

Size 0805 (2012M) multilayer chip varistor with NiSn terminations.

### PACKAGING

Available in 8 mm paper tape, component pitch 4 mm on 180 mm reels containing 4000 pieces.

### QUICK REFERENCE DATA

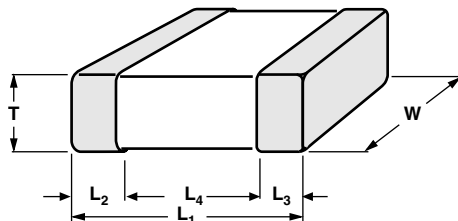
| PARAMETER                        | VALUE       | UNIT         |
|----------------------------------|-------------|--------------|
| Maximum continuous voltage       |             |              |
| DC                               | 5.6 to 38.0 | V            |
| AC                               | 4.0 to 30.0 | V            |
| Maximum clamping voltage at 1 A  | 15.5 to 77  | V            |
| Capacitance range (at 1 MHz)     | 80 to 860   | pF           |
| Maximum energy (10/1000 $\mu$ s) | 0.1 to 0.3  | J            |
| Maximum peak current             | 30 to 100   | A            |
| Operating temperature range      | -55 to 125  | $^{\circ}$ C |
| Weight                           | $\pm$ 0.011 | g            |

### ELECTRICAL DATA AND ORDERING INFORMATION

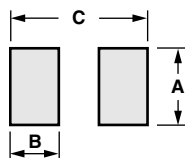
| WORKING VOLTAGE |          | BREAKDOWN VOLTAGE | MAXIMUM CLAMPING VOLTAGE | MAXIMUM PEAK CURRENT | MAXIMUM ENERGY  | TYPICAL CAPACITANCE | PART NUMBER |
|-----------------|----------|-------------------|--------------------------|----------------------|-----------------|---------------------|-------------|
| $V_{RMS}$       | $V_{DC}$ | $V_b$             | $V_c$                    | $I_p$                | $E_M$           | C                   | SAP         |
| V               | V        | V                 | V                        | A                    | J               | pF                  | MLV0805E3   |
|                 |          | 1 mA              | 1 A, 8/20 $\mu$ s        | 8/20 $\mu$ s         | 10/1000 $\mu$ s | 1 MHz               |             |
| 4.0             | 5.6      | 7.1 to 9.3        | 15.5                     | 40                   | 0.1             | 860                 | 0403T       |
| 7.0             | 9.0      | 11.0 to 14.0      | 20.0                     | 40                   | 0.1             | 585                 | 0703T       |
| 11.0            | 14.0     | 16.5 to 20.3      | 30.0                     | 40                   | 0.1             | 280                 | 1103T       |
| 13.0            | 18.0     | 23.0 to 28.0      | 42.0                     | 100                  | 0.3             | 550                 | 1305T       |
| 25.0            | 30.0     | 37.0 to 46.0      | 65.0                     | 30                   | 0.1             | 80                  | 2503T       |
| 30.0            | 38.0     | 42.3 to 51.7      | 77.0                     | 80                   | 0.3             | 220                 | 3005T       |

#### Notes

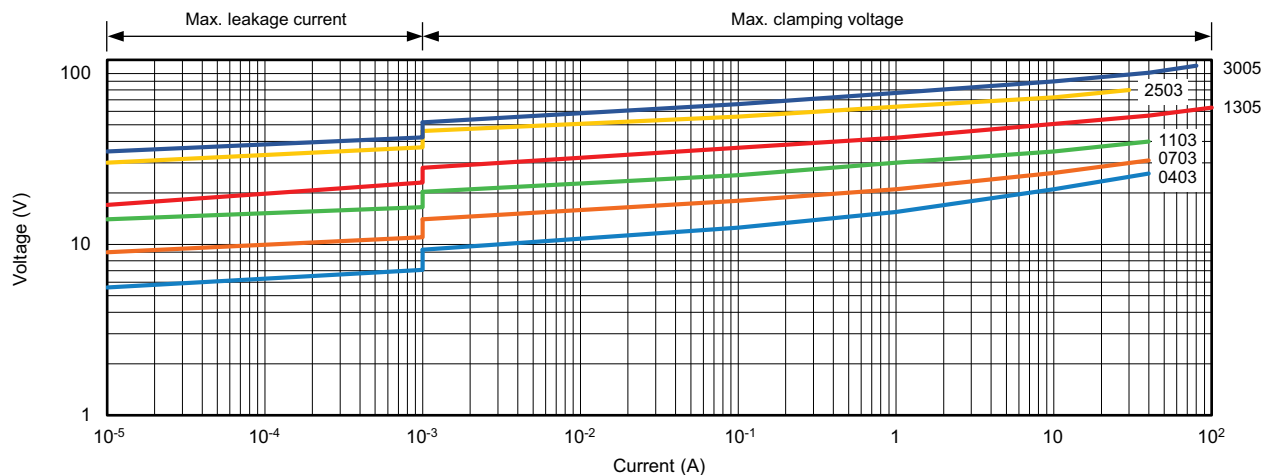
- Sinusoidal voltage assumed as normal operating condition.  
If a non-sinusoidal voltage is present, the crest voltage x 0.707 should be used for type selection
- Breakdown voltage at a current of 1 mA, measured according to 4.5 of IEC 61051-1
- Parts are not recommended for automotive applications

**DIMENSIONS** in millimeters


| $L_1$         | $W$            | $T$      | $L_2$ and $L_3$ |
|---------------|----------------|----------|-----------------|
| $2.0 \pm 0.2$ | $1.25 \pm 0.2$ | 1.1 max. | $0.4 \pm 0.3$   |

**RECOMMENDED FOOTPRINT** in millimeters


| $A$ | $B$ | $C$ |
|-----|-----|-----|
| 1.4 | 1.2 | 3.4 |

**V/I CHARACTERISTICS**




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