

## SMD 0603 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 0603 (1608M) multilayer chip varistor with NiSn terminations.

### PACKAGING

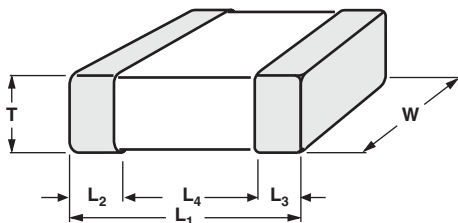
Available in 8 mm paper tape, component pitch 4 mm on 180 mm reels containing 4000 pieces.

QUICK REFERENCE DATA		
PARAMETER	VALUE	UNIT
Maximum continuous voltage		
DC	5.6 to 30.0	V
AC	4.0 to 25.0	V
Maximum clamping voltage at 1 A	15.5 to 65	V
Capacitance range (at 1 MHz)	150 to 825	pF
Maximum energy (10/1000 $\mu$ s)	0.1	J
Maximum peak current	30	A
Operating temperature range	-55 to 125	°C
Weight	$\pm 0.005$	g

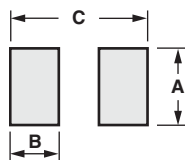
ELECTRICAL DATA AND ORDERING INFORMATION					
WORKING VOLTAGE		BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE	TYPICAL CAPACITANCE	PART NUMBER
$V_{RMS}$	$V_{DC}$	$V_b$	$V_c$	C	SAP
V	V	V	V	pF	MLV0603E3
	< 10 $\mu$ A	1 mA	1 A, 8/20 $\mu$ s	1 MHz	
4.0	5.6	7.1 to 9.3	15.5	825	0403T
7.0	9.0	11.0 to 14.0	20.0	550	0703T
11.0	14.0	16.0 to 20.0	30.0	425	1103T
14.0	18.0	23.0 to 28.0	40.0	225	1403T
20.0	26.0	31.0 to 38.0	58.0	160	2003T
25.0	30.0	37.0 to 46.0	65.0	150	2503T

### Notes

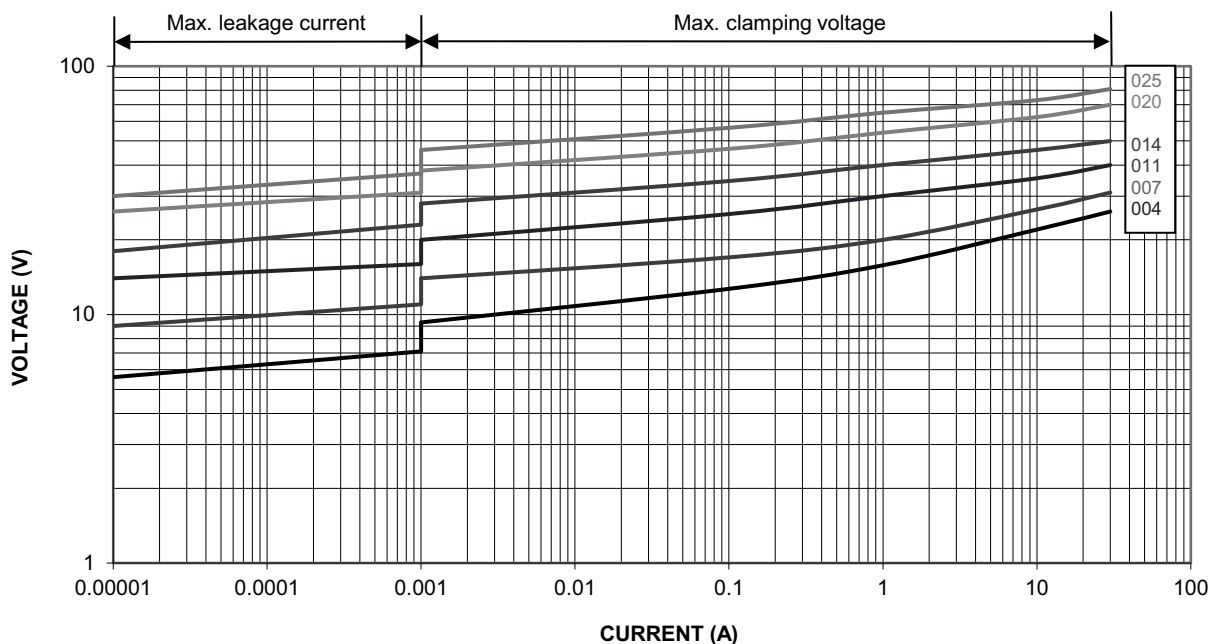
- Sinusoidal voltage assumed as normal operating condition.  
If a non-sinusoidal voltage is present, the crest voltage  $\times 0.707$  should be used for type selection.
- Breakdown voltage at a current of 1 mA, measured according to 4.5 of IEC 61051-1.
- Parts are not recommended for automotive applications.

**DIMENSIONS** in millimeters


$L_1$	$W$	$T$	$L_2$ and $L_3$
$1.6 \pm 0.15$	$0.8 \pm 0.15$	0.9 max.	$0.35 \pm 0.15$

**RECOMMENDED FOOTPRINT** in millimeters


$A$	$B$	$C$
1.0	1.0	3.0

**V/I CHARACTERISTICS**




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