SMD 1210 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

Pb-free

e3

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 1210 (M3225) multilayer chip varistor with NiSn terminations.

PACKAGING

Available in 8 mm embossed carrier tape, component pitch 4 mm on 180 mm reels containing 2000 pieces.

QUICK REFERENCE DATA

PARAMETER	VALUE	UNIT
Maximum continuous voltage		
DC	5.6 to 45.0	V
AC	4.0 to 35.0	V
Maximum clamping voltage at 2.5 A	22.0 to 95.0	V
Capacitance range (at 1 kHz)	650 to 5000	pF
Maximum energy (10/1000 µs)	0.4 to 2.2	J
Maximum peak current (8/20 µs)	250 to 400	A
Operating temperature range	-55 to 85	°C
Weight	± 0.030	g

ELECTRICAL DATA AND ORDERING INFORMATION

WORKING VOLTAGE		BREAKDOWN VOLTAGE	CLAMPING VOLTAGE	MAX. PEAK CURRENT	MAXIMUM ENERGY	CAPACITANCE	PART NUMBER
V_{RMS}	V_{DC}	V_b	V_C	I_p	E_t	C	SAP
V	V	V	V	A	J	pF	MLV1210E3
	< 50 µA	1 mA	2.5 A, 8/20 µs	8/20 µs	10/1000 µs	1 kHz	
4.0	5.6	7.0 to 10.0	22.0	250	0.4	5000	0403T
14.0	18.0	21.6 to 26.0	48.0	400	1.5	2000	1403T
20.0	26.0	31.0 to 38.0	62.0	400	1.9	1500	2003T
25.0	30.0	37.0 to 46.0	77.0	400	1.9	1200	2503T
35.0	45.0	50.4 to 61.6	95.0	250	2.2	950	3503T

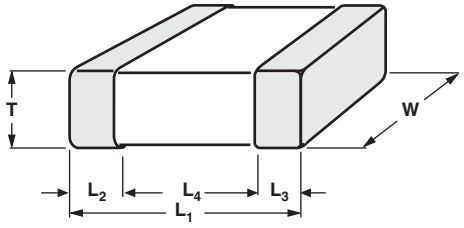
Notes

- 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.

For technical questions, contact: nlr@vishay.com

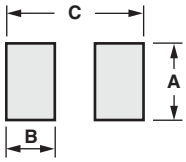
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DIIMENSIONS in millimeters



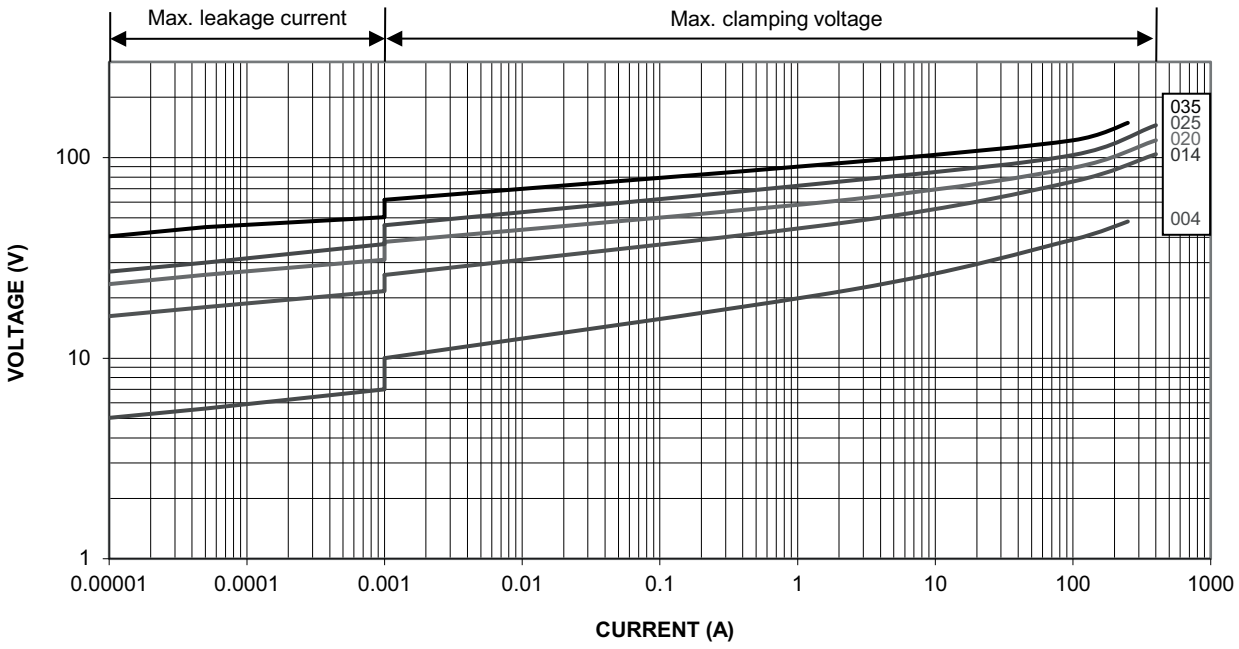
L_1	W	T	L_2 and L_3
3.2 ± 0.2	2.5 ± 0.25	1.8 max.	0.71 max.

RECOMMENDED FOOTPRINT in millimeters



A	B	C
2.7	1.2	3.9

V/I CHARACTERISTICS



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