

SMD 0402 Multilayer Varistor



FEATURES

- Surface mount multilayer surge suppressor
- Inherent bidirectional clamping
- Excellent energy/volume ratio
- Suitable for reflow soldering
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



RoHS
COMPLIANT

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 0402 (1005M) multilayer chip varistor with NiSn terminations.

PACKAGING

Available in 8 mm paper tape and reel.

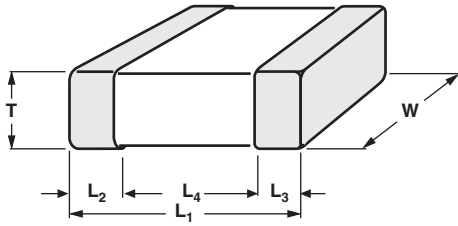
| QUICK REFERENCE DATA | | |
|--|----------------------------|--------------|
| PARAMETER | VALUE | UNIT |
| Maximum Continuous Voltage DC AC | 5.6 to 18.0 4.0 to 14.0 | V |
| Maximum Clamping Voltage at 1 A | 15.5 to 40 | V |
| Capacitance Range (at 1 MHz) | 90 to 360 | pF |
| Maximum Energy (10/1000 μ s) | 0.05 | J |
| Maximum Peak Current | 20 | A |
| Operating Temperature Range | - 55 to 125 | $^{\circ}$ C |
| Climatic Category | 55/125/56 | |
| Weight | \pm 0.0015 | g |

| ELECTRICAL DATA AND ORDERING INFORMATION | | | | | | |
|--|----------|-----------------------------|-----------------------------------|--------------------------------|-------------|-----------|
| WORKING VOLTAGE | | BREAKDOWN VOLTAGE (1 mA) | MAXIMUM CLAMPING VOLTAGE (1 A) | TYPICAL CAPACITANCE (1 MHz) | PART NUMBER | |
| V_{RMS} | V_{DC} | V_b | V_c | C | 12NC | SAP |
| V | V | V | V | pF | 2381 553 | MLV0402E3 |
| 4.0 | 5.6 | 7.1 to 9.3 | 15.5 | 360 | 20406 | 0403T |
| 7.0 | 9.0 | 11.0 to 14.0 | 20.0 | 230 | 20706 | 0703T |
| 11.0 | 14.0 | 16.0 to 20.0 | 30.0 | 120 | 21106 | 1103T |
| 14.0 | 18.0 | 23.0 to 28.0 | 40.0 | 90 | 21406 | 1403T |

Notes

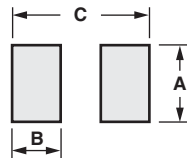
- Sinusoidal voltage assumed as normal operating condition.
If a non-sinusoidal voltage is present, the crest voltage x 0.707 should be used for type selection.
- Voltage at a current of 1 mA, measured according to 4.3 of CECC 42 000.
- Parts are not recommended for automotive applications.

DIMENSIONS in millimeters



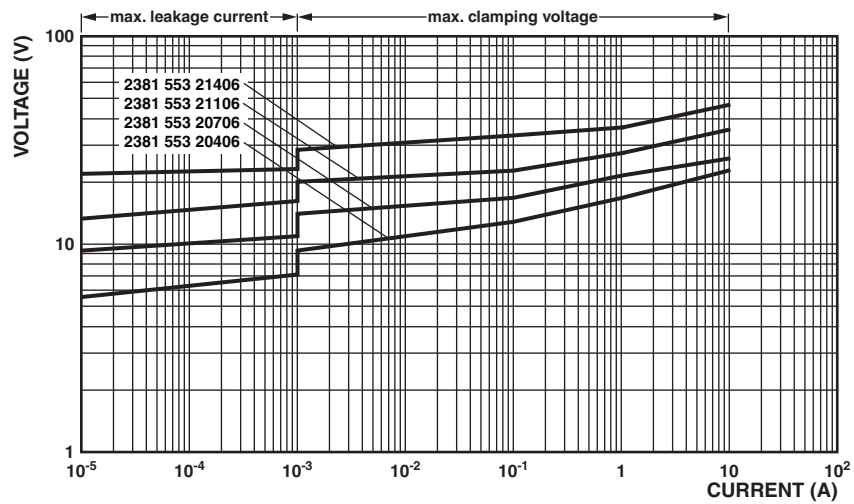
| L ₁ | W | T | L ₂ and L ₃ |
|----------------|-----------|----------|-----------------------------------|
| 1.0 ± 0.1 | 0.5 ± 0.1 | 0.6 max. | 0.25 ± 0.15 |

RECOMMENDED FOOTPRINT in millimeters



| A | B | C |
|-----|-----|-----|
| 0.7 | 0.7 | 2.0 |

V/I CHARACTERISTICS





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