

SMD Multilayer Chip Varistor

AMCV-0402

RoHS
Compliant



1.0 x 0.5 x 0.5 mm

FEATURES:

- SMD type, small size suitable for high density mounting
- Excellent clamping ratio and strong capability of voltage surge suppression
- Excellent solderability (Ni, Sn plating)

APPLICATIONS:

- Transient voltage protection and voltage surge suppression for LED lighting
- Suitable for LCD-TV, STB, Switch, Router, PLC, Security System, smart meters, mobile phones
- Suppressing Induced / switching over-voltage caused by lightning and power
- Protecting DC-DC Module, I/O ports, IC driver

STANDARD SPECIFICATIONS:

Operating Temperature: -55°C ~ +125°C

Storage Temperature: -10°C ~ +40°C and RH 70% (Max.)

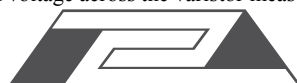
| Part Number | Max. Working Voltage | | Varistor Voltage | Max. Clamping Voltage | | Rated Single Pulse Transient | | Typical Capacitance |
|--------------------|----------------------|------------------|------------------|------------------------------|------------------------------|------------------------------|---------------------|-----------------------------|
| | DC | AC RMS | | 8/20µs | ESD | Energy 10/1000µs | Peak Current 8/20µs | |
| Test Condition | <20µA | | @1mA DC | 8/20µs | ESD | Energy 10/1000µs | Peak Current 8/20µs | @0.5V _{rms} , 1MHz |
| Units | Volts | Volts | Volts | Volts | Volts | Joules | Amps | pF |
| Symbol | V _{WDC} | V _{WAC} | V _B | V _C ^{*1} | V _C ^{*2} | E _T | I _P | C |
| ACMV-0402-5R5-C180 | 5.5 | 4.0 | 10.0-14.0 | 18 | 23 | 0.005 | 3 | 18 |
| ACMV-0402-5R5-C300 | 5.5 | 4.0 | 10.0-14.0 | 18 | 23 | 0.005 | 5 | 30 |
| ACMV-0402-5R5-C500 | 5.5 | 4.0 | 10.0-14.0 | 18 | 23 | 0.01 | 10 | 50 |
| ACMV-0402-5R5-C800 | 5.5 | 4.0 | 10.0-14.0 | 18 | 23 | 0.02 | 10 | 80 |
| ACMV-0402-5R5-C101 | 5.5 | 4.0 | 10.0-14.0 | 18 | 23 | 0.05 | 20 | 100 |
| ACMV-0402-090-C180 | 9.0 | 6.4 | 11.0-16.0 | 20 | 26 | 0.005 | 3 | 18 |
| ACMV-0402-090-C300 | 9.0 | 6.4 | 11.0-16.0 | 20 | 26 | 0.005 | 5 | 30 |
| ACMV-0402-090-C500 | 9.0 | 6.4 | 11.0-16.0 | 20 | 26 | 0.01 | 10 | 50 |
| ACMV-0402-090-C800 | 9.0 | 6.4 | 11.0-16.0 | 20 | 26 | 0.02 | 15 | 80 |
| ACMV-0402-090-C101 | 9.0 | 6.4 | 11.0-16.0 | 20 | 26 | 0.05 | 20 | 100 |
| ACMV-0402-140-C180 | 14.0 | 10.0 | 16.0-22.0 | 30 | 39 | 0.005 | 3 | 18 |
| ACMV-0402-140-C300 | 14.0 | 10.0 | 16.0-22.0 | 30 | 39 | 0.01 | 5 | 30 |
| ACMV-0402-140-C500 | 14.0 | 10.0 | 16.0-22.0 | 30 | 39 | 0.02 | 10 | 50 |
| ACMV-0402-140-C800 | 14.0 | 10.0 | 16.0-22.0 | 30 | 39 | 0.03 | 15 | 80 |
| ACMV-0402-140-C101 | 14.0 | 10.0 | 16.0-22.0 | 30 | 39 | 0.05 | 20 | 100 |
| ACMV-0402-180-C150 | 18.0 | 12.7 | 22.0-28.0 | 40 | 48 | 0.005 | 2 | 15 |
| ACMV-0402-180-C180 | 18.0 | 12.7 | 22.0-28.0 | 40 | 48 | 0.01 | 5 | 18 |
| ACMV-0402-180-C300 | 18.0 | 12.7 | 22.0-28.0 | 40 | 48 | 0.02 | 10 | 30 |
| ACMV-0402-180-C500 | 18.0 | 12.7 | 22.0-28.0 | 40 | 48 | 0.02 | 10 | 50 |
| ACMV-0402-180-C800 | 18.0 | 12.7 | 22.0-28.0 | 40 | 48 | 0.03 | 15 | 80 |
| ACMV-0402-180-C101 | 18.0 | 12.7 | 22.0-28.0 | 40 | 48 | 0.05 | 20 | 100 |
| ACMV-0402-260-C180 | 26.0 | 18.4 | 31.0-38.0 | 58 | 70 | 0.02 | 5 | 18 |
| ACMV-0402-260-C300 | 26.0 | 18.4 | 31.0-38.0 | 58 | 70 | 0.03 | 10 | 30 |
| ACMV-0402-260-C500 | 26.0 | 18.4 | 31.0-38.0 | 58 | 70 | 0.03 | 10 | 50 |

*1: V_c, Maximum peak voltage across the varistor measured at a specified pulse current and waveform.

| | |
|-----------------|------------------|
| Energy Rating | Pulse & Waveform |
| 0.00-0.05 Joule | 1A, 8/20µs |
| 0.10 Joule | 2A, 8/20µs |
| 0.20-0.50 Joule | 5A, 8/20µs |

*2: V_c, Maximum peak voltage across the varistor measured at 30ns after initiation of pulse on IEC61000-4-2 30A/8KV.

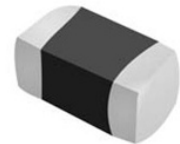
ABRACON IS
ISO 9001:2008
CERTIFIED



ABRACON
CORPORATION

Visit www.abracon.com for Terms & Conditions of Sale **Revised: 11.30.12**
30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

SMD Multilayer Chip Varistor



1.0 x 0.5 x 0.5 mm

AMCV-0402

RoHS
Compliant

Test Conditions

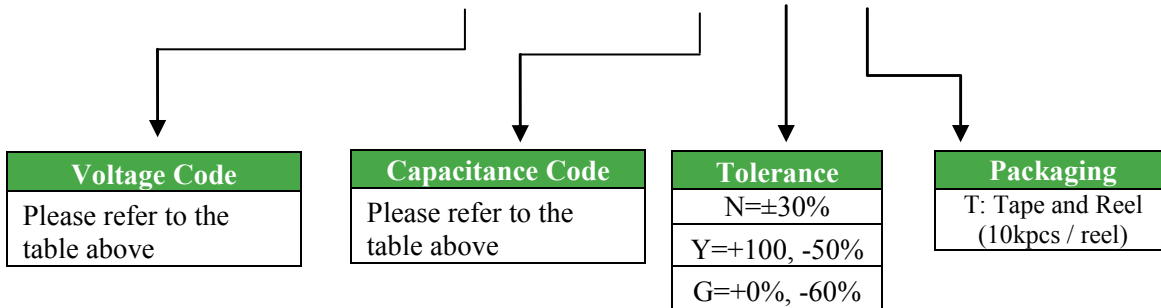
Unless otherwise specified, the standard atmospheric conditions for measurement/test as:

- a. Ambient Temperature: $20 \pm 15^\circ\text{C}$
- b. Relative Humidity: $65 \pm 20\%$
- c. Air Pressure: 86 kPa to 106 kPa

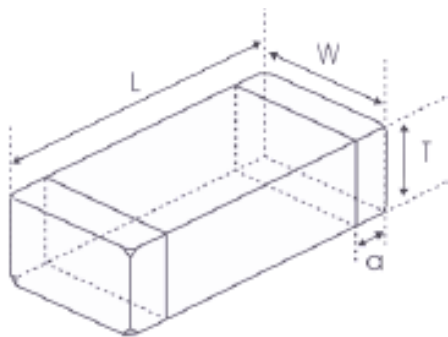
| Items | Test Methods and Remarks |
|--------------------------------------|--|
| Varistor Voltage at 1mA DC (V_B) | Measuring current: 1mA DC Duration: 0.2 to 2 sec |
| Capacitance (C) | Measure source: $0.5 V_{RMS}$ Test frequency: 1MHz. |
| Leakage Current (I_L) | Measuring voltage: Maximum DC working voltage |
| Clamping Voltage (V_C) | Measuring source: 8/20us waveform, ESD waveform |

OPTIONS AND PART IDENTIFICATION:

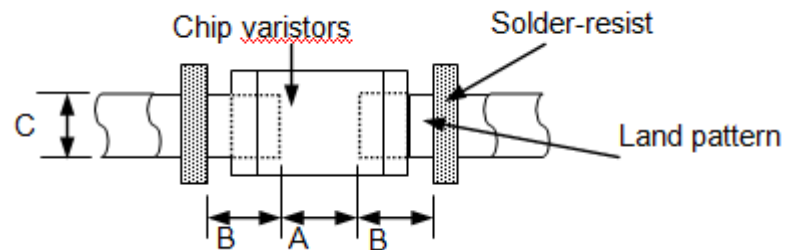
AMCV-0402- - C -



OUTLINE DIMENSION:



Recommended Land Pattern



| L | W | T | a |
|----------------|----------------|----------------|----------------|
| 1.0 ± 0.15 | 0.5 ± 0.15 | 0.5 ± 0.15 | 0.25 ± 0.1 |

| A | B | C |
|------------------|------------------|------------------|
| $0.45 \sim 0.55$ | $0.40 \sim 0.50$ | $0.45 \sim 0.55$ |

Dimension: mm

SMD Multilayer Chip Varistor



1.0 x 0.5 x 0.5 mm

AMCV-0402

RoHS
Compliant

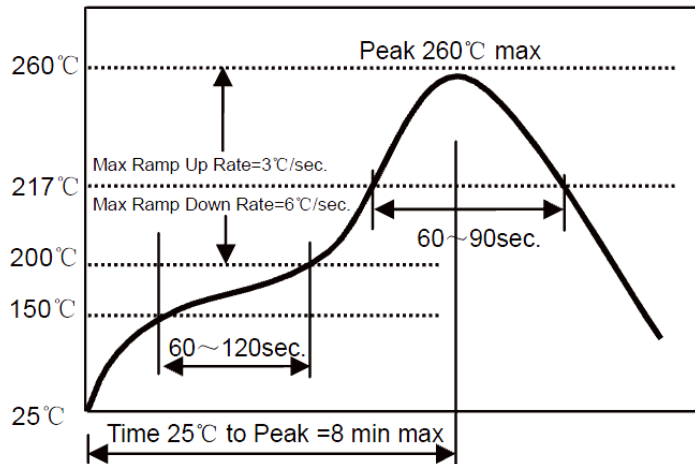
Materials



| | Part Name | Material |
|---|--------------------|---|
| 1 | Base Material | ZnO |
| 2 | Internal Conductor | Ag-Pd |
| 3 | Terminal Electrode | Ag (Inner layer) Ni-Sn (Outer layer) |



REFLOW PROFILE:



| | |
|-----------------------------|-------------------------------|
| Preheat Condition | 150 to 200 °C; 60 to 120 sec. |
| Allowed time above 217 °C | 60 to 90 sec. |
| Max temperature | 260 °C |
| Max time at max temperature | 10 sec. |
| Solder paste | Sn/3.0Ag/0.5Cu |
| Allowed Reflow time | 2x max. |

SMD Multilayer Chip Varistor

AMCV-0402

RoHS
Compliant

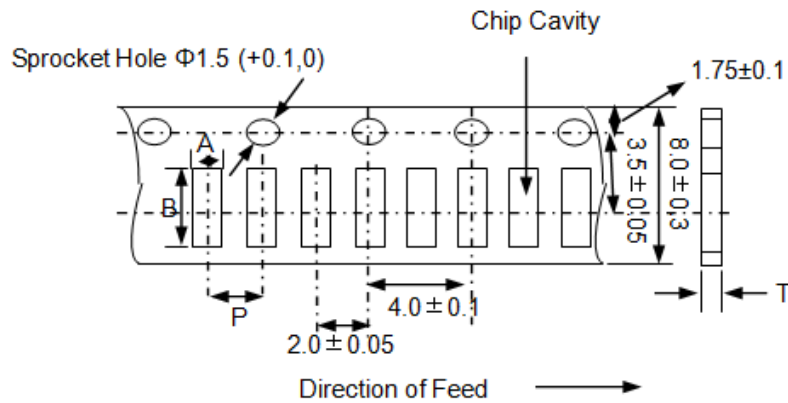


1.0 x 0.5 x 0.5 mm

TAPE & REEL:

Packing

T: 10,000pcs / reel



| A | B | P | T (max) |
|----------|----------|----------|---------|
| 0.65±0.1 | 1.15±0.1 | 2.0±0.05 | 0.8 |



Storage Conditions

- The solderability of the external electrode may be deteriorated if packages are stored where they are exposed to high humidity. Package must be stored at 40°C or less and 70% RH or less.
- The solderability of the external electrode may be deteriorated if packages are stored where they are exposed to dust of harmful gas (e.g. HCl, sulfurous gas of H₂S).
- Packaging material may be deformed if package are stored where they are exposed to heat of direct sunlight.
- Solderability shall be guaranteed for 6 months from the date of delivery on condition that they are stored at the environment specified in **a**. The parts that are stored more than 6 months shall be checked solderability before use.

Dimension: mm

ATTENTION: Abracon Corporation's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon Corporation is required. Please contact Abracon Corporation for more information.

ABRACON IS
ISO 9001:2008
CERTIFIED



Visit www.abracon.com for Terms & Conditions of Sale **Revised: 11.30.12**
30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.