

# SMD Multilayer Chip Varistor

AMCV-0805

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 <sub>rms</sub> , 1MHz
Units	Volts	Volts	Volts	Volts	Volts	Joules	Amps	pF
Symbol	V <sub>WDC</sub>	V <sub>WAC</sub>	V <sub>B</sub>	V <sub>C</sub> *1	V <sub>C</sub> *2	E <sub>T</sub>	I <sub>P</sub>	C
AMCV-0805-5R5-C180	5.5	4.0	10.0-14.0	18	23	0.005	3	18
AMCV-0805-180-C101	18.0	12.7	22.0-28.0	40	48	0.05	20	100
AMCV-0805-260-C800	26.0	18.4	31.0-38.0	58	70	0.05	20	80
AMCV-0805-300-C500	30.0	21.3	37.0-46.0	65	78	0.05	15	50

\*1: V<sub>c</sub>, 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<sub>c</sub>, Maximum peak voltage across the varistor measured at 30ns after initiation of pulse on IEC61000-4-2 30A/8KV.

## Test Conditions

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

- Ambient Temperature: 20±15°C
- Relative Humidity: 65±20%
- Air Pressure: 86 kPa to 106 kPa

Items	Test Methods and Remarks
Varistor Voltage at 1mA DC (V <sub>B</sub> )	Measuring current: 1mA DC Duration: 0.2 to 2 sec
Capacitance (C)	Measure source: 0.5 V <sub>RMS</sub> Test frequency: 1MHz.
Leakage Current (I <sub>L</sub> )	Measuring voltage: Maximum DC working voltage
Clamping Voltage (V <sub>C</sub> )	Measuring source: 8/20us waveform, ESD waveform

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## OPTIONS AND PART IDENTIFICATION:

AMCV-0805- - C -

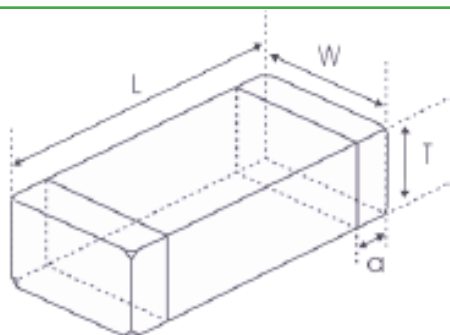
**Voltage Code**  
Please refer to the table above

**Capacitance Code**  
Please refer to the table above

**Tolerance**  
N=±30%

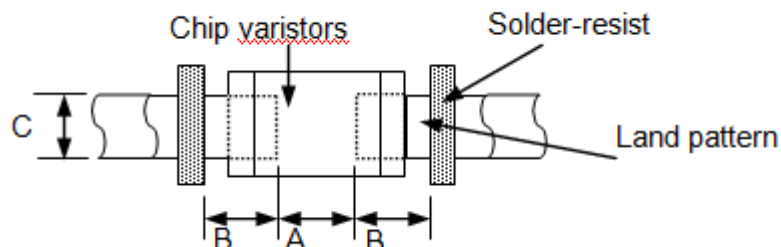
**Packaging**  
T: Tape and Reel  
(4kpcs / reel)

## OUTLINE DIMENSION:



L	W	T	a
2.0±0.2	1.25±0.2	0.85±0.2	0.5±0.3

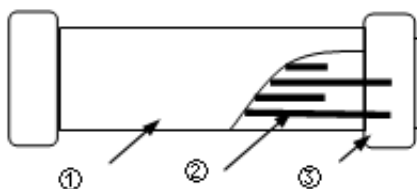
### Recommended Land Pattern



A	B	C
0.80~1.20	0.80~1.20	0.90~1.60

### Materials

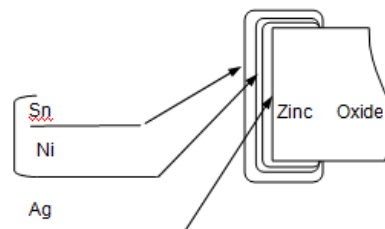
Side View



Top View



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



Dimension: mm

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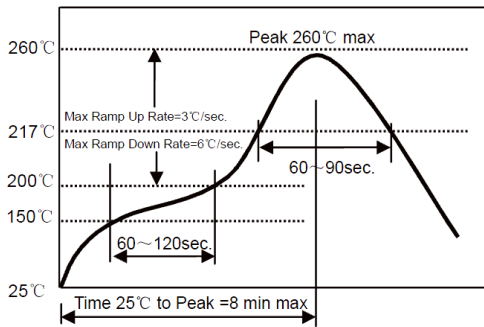
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1.0 x 0.5 x 0.5 mm

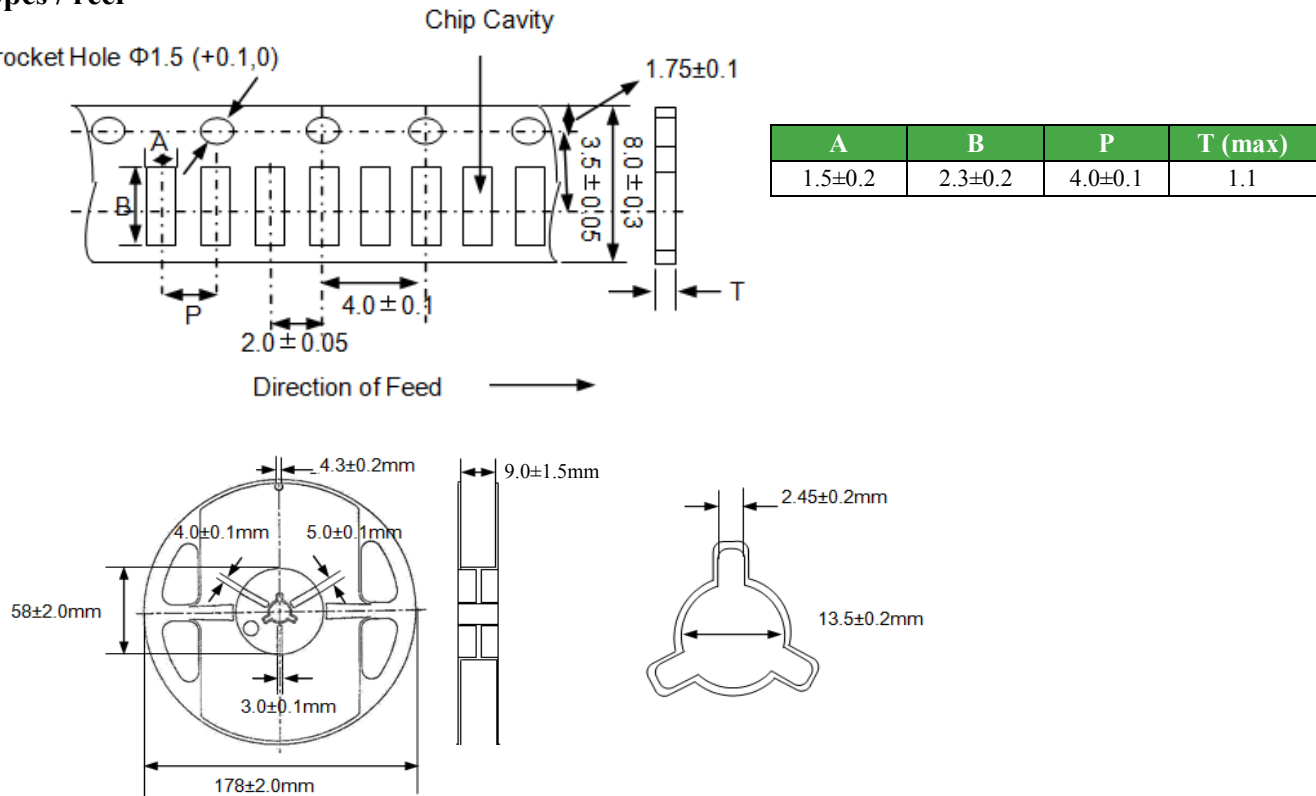
## REFLOW PROFILE:



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.

## TAPE & REEL:

T: 4,000pcs / reel



### 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 H<sub>2</sub>S).
- 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**

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