

SMD Multilayer Chip Varistor

AMCV-0603LC



RoHS
Compliant

1.6 x 0.8 x 0.8 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
Test Condition	<20µA		@1mA DC	8/20µs	ESD	Energy 10/1000µs	Peak Current 8/20µs	@0.5V _{rms} , 1MHz
	DC	AC RMS						
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
AMCV-0603LC-140-C100	14.0	10.0	16.0-22.0	30	39	0.005	2	10
AMCV-0603LC-140-C120	14.0	10.0	16.0-22.0	30	39	0.005	2	12
AMCV-0603LC-180-C050	18.0	12.7	22.0-28.0	40	48	0.003	1	5
AMCV-0603LC-180-C100	18.0	12.7	22.0-28.0	40	48	0.005	2	10
AMCV-0603LC-180-C120	18.0	12.7	22.0-28.0	40	48	0.005	2	12
AMCV-0603LC-260-C030	26.0	18.4	31.0-38.0	58	70	0.003	1	3
AMCV-0603LC-260-C100	26.0	18.4	31.0-38.0	58	70	0.005	2	10
AMCV-0603LC-260-C120	26.0	18.4	31.0-38.0	58	70	0.005	2	12

*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.

Test Conditions

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

- a. Ambient Temperature: 20±15°C
- b. Relative Humidity: 65±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

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➤ OPTIONS AND PART IDENTIFICATION:

AMCV-0603LC- [] - C [] [] - []

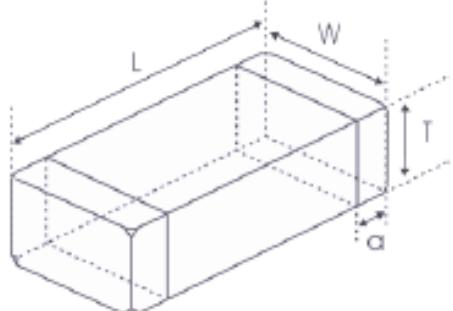
Voltage Code
Please refer to the table above

Capacitance Code
Please refer to the table above

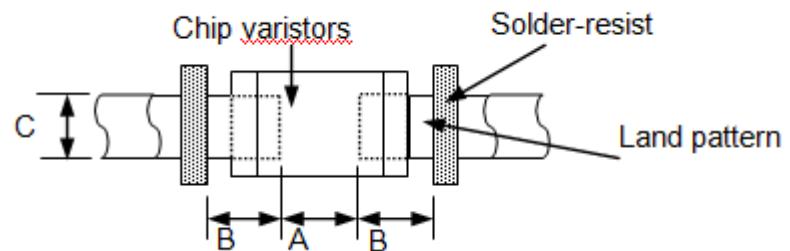
Tolerance
 $N = \pm 30\%$
 $Y = +100\%, -50\%$
 $G = +0\%, -60\%$

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

➤ OUTLINE DIMENSION:



Recommended Land Pattern



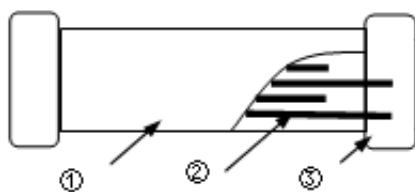
L	W	T	a
1.6 ± 0.15 [0.063 ± 0.006]	0.8 ± 0.15 [0.031 ± 0.006]	0.8 ± 0.15 [0.031 ± 0.006]	0.3 ± 0.2 [0.012 ± 0.008]

A	B	C
$0.60 \sim 0.80$	$0.60 \sim 0.80$	$0.60 \sim 0.80$

Dimension: mm [inch]

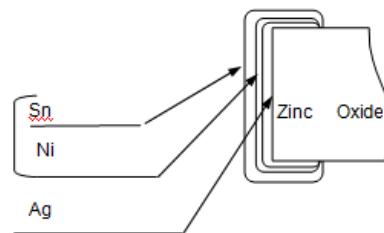
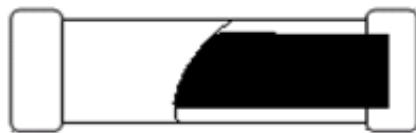
Materials

Side View



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

Top View



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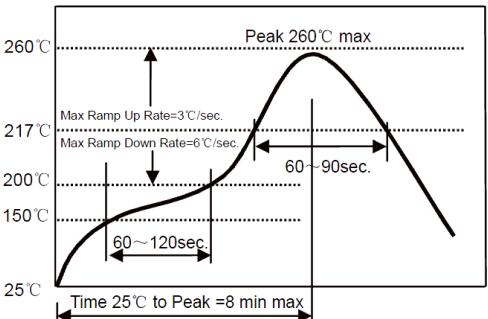
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REFLOW PROFILE:

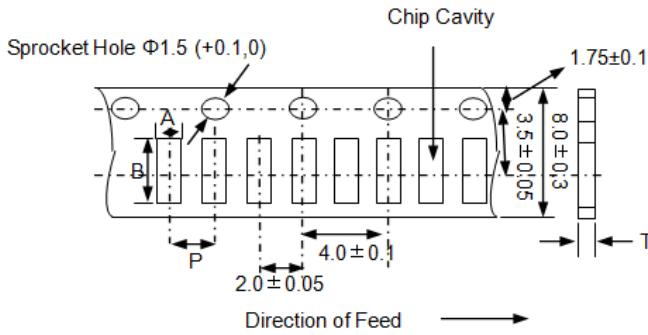


Preheat Condition	150 to 200 °C; 60 to 120 sec.
Allowed time above 217 °C	60 to 90 sec.
Max temperature	260 °C
Max time at max temperature	10 sec.
Solder paste	Sn/3.0Ag/0.5Cu
Allowed Reflow time	2x max.

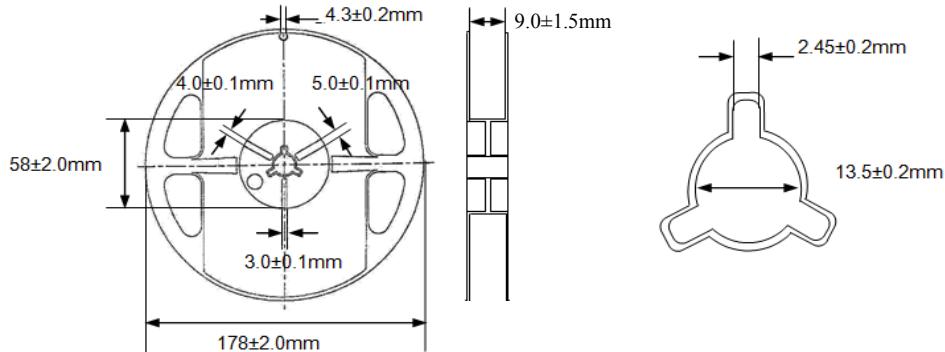
TAPE & REEL:

Packing

T: 4,000pcs / reel



A	B	P	T (max)
1.0±0.2	1.8±0.2	4.0±0.1	1.1



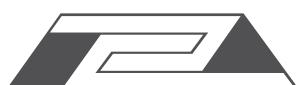
Storage Conditions

- 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 or harmful gas (e.g. HCl, sulfurous gas or 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 1.3. The parts that are stored more than 6 months shall be checked solderability before use.

Dimension: mm

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