

AVL/AVLC 0402 Series Multilayer Chip Varistor



Overview

ESD Varistor is a component which acts as a non-conductor on the circuit in normal circumstances. When over-voltage is loaded, it becomes a conductor which diverts over-current from circuits to ground at critical voltage level.

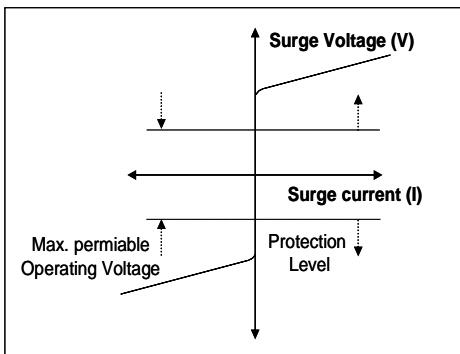


Fig 1 V-I Characteristic Curve

Features

- Meets IEC 61000-4-2 (ESD)
- Level 4 & IEC 61000-4-4 (EFT), Level 4 requirements
- ESD Protection > 25 KV
- Low capacitance for high frequency data line protection
- Fast response time < 1ns
- Available in tape and reel for automatic pick and place

Applications

- Mobile Phone & PDA
- Cellular Phone
- PCMCIA / Compact Flash Card
- RS-232 & RS-423 Data Lines
- USB Data Lines
- MCM Boards
- LCD Module

Model Description

AVLC **5** **S** **02** **050**
(1) **(2)** **(3)** **(4)** **(5)**

- (1) Series name : "AVL" – General Type
"AVLC" – Low capacitance type varistor
- (2) Maximum continuous working voltage (Vdc) : "5"- 5.5V, "14"- 14V, "18"- 18V
- (3) Breakdown voltage tolerance : "S" - special order, M: 20 % Vn tolerance
- (4) Chip size : 02 - 0402(1.0x0.5mm), 03 - 0603(1.6x0.8mm)
- (5) Peak current (AVL) : 200 - 20 A
Capacitance (AVLC) : 003-3pF, 015-15pF, 050-50pF, 100-100pF, 200-200pF

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Electrical characteristics

Part No.	Vdc ⁽¹⁾	Varistor voltage (Vn) @1mA DC	Leakage Current (IL) @Vdc	Cp (@ 1kHz, V _{rms} =0.5V)	Clamping Voltage (VC)	Peak Current (Imax)	Insulation Resistance (IR) @3.6V
	(V)	(V)	(μ A)	(pF)	(V)	(A)	(M Ω)
AVL 5M 02 200	5.5	6.4-9.6	20 max	480(336-624)	15.5	20	10 min
AVL 14K 02 200	14	16.2-19.8	20 max	160(112-208)	35	20	10 min
AVLC 5S 02 050	5.5	10-14	20 max	50 (35-65)	25	10	10 min
AVLC 5S 02 100	5.5	10-14	20 max	100 (70-130)	25	20	10 min
AVLC 5S 02 200	5.5	10-14	20 max	200 (140-260)	25	20	10 min
AVLC 14S 02 050	14	18-24	20 max	50 (35-65)	40	10	10 min
AVLC 14S 02 100	14	18-24	20 max	100 (70-130)	40	20	10 min
AVLC 18S 02 015	18	24-32	20 max	15 (7.5-22.5)	45	5	10 min
AVLC 18S 02 003	18	90-160	20 max	3.0 (2.1-3.9) at 1MHz	300	1	10 min

(1) Maximum continuous DC working voltage

(2) Cp measuring frequency of AVLC 18S 02 003 is 1 MHz

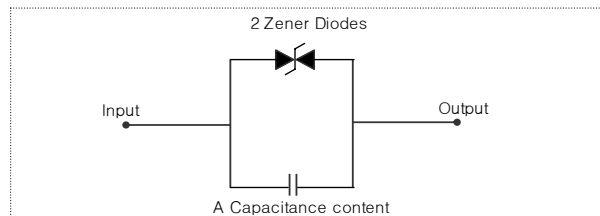
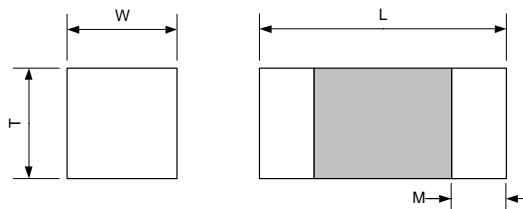


Fig.2 Equivalent Circuit

Appearance

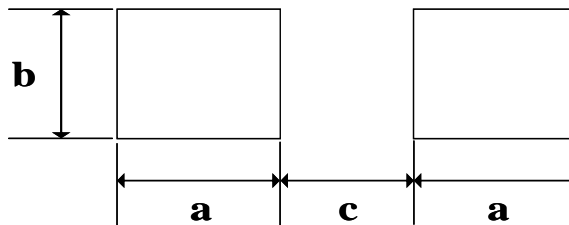


Symbol	L	W	T	M
Size (mm)	1.0 ± 0.10	0.5 ± 0.10	Max. 0.6	0.2 ± 0.10

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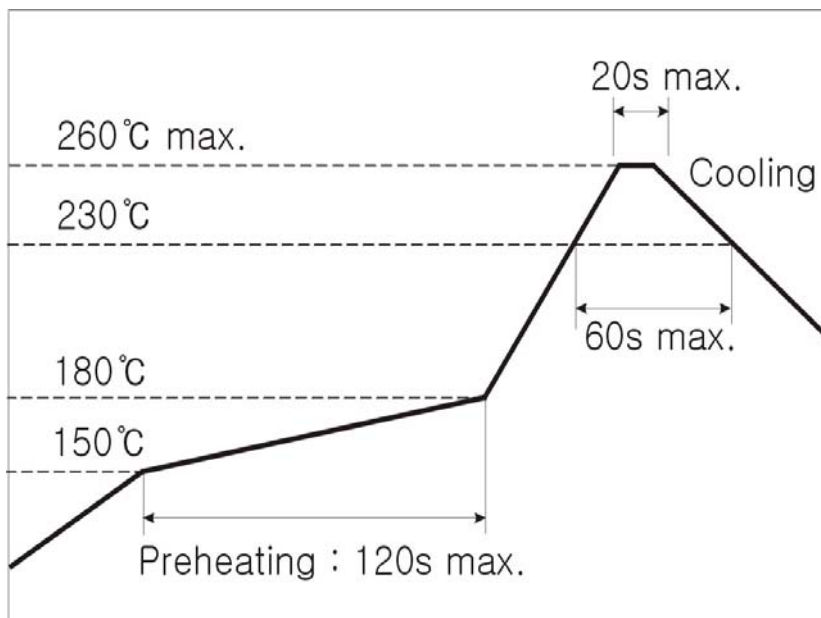
Recommended Land pattern (Typical Dimensions)



Symbol	a	b	c
Size (mm)	0.61	0.51	0.51

Recommended Soldering Profile

- Pb Free Solder Paste : Sn / Ag / Cu (96.5 / 3.0 / 0.5)



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