◆ Feature

RoHS

1.SMD type zinc oxide based ceramic chip
2.Lead free plating termination provided good solderability characteristic
3.Insulator overcoat keeps excellent low and stable leakage current
4.Quick response time (<1ns)
5.Low clamping voltage
6.High transient current capability
7.Meet IEC 61000-4-2, 61000-4-4, and 61000-4-5 standard
8.Compact size for EIA 0201/0402/0603/1206

◆ Applications

1.Applications for Mother Board, Notebook, Cellular Phone, PDA, handheld device, DSC, DV, Scanner, and Set-Top Box…etc.
2.Suitable for Push-Button, Power Line and Low Frequency single line over voltage protect.

◆ How to Order

MLV	S	1206	M	04	__	362
(1)	(2)	(3)	(4)	(5)		(6)

(1) Series Type: MLV – Multilayer Varistor
(2) Model Code
(3) Chip Size(EIA): 0402/ 0603/ 1206
(4) Varistor Voltage Tolerance:
M = ±20% ; L = ±15% ; K = ±10%
(5) V_{RMS}: AC Working Voltage V_{RMs}
(6) Capacitance: Value — XX x 10^N→XXN
ex:3600pF=36x10^2→362

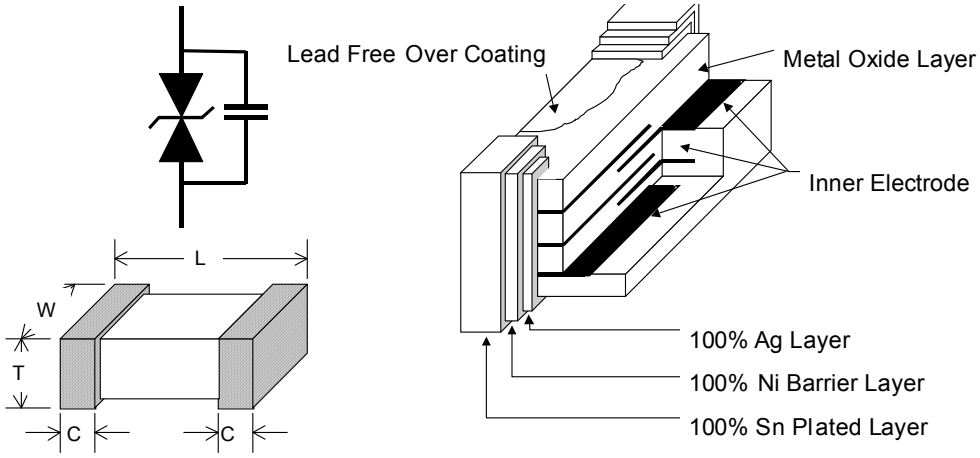
MLV	S	0201	V05	__	330
(1)	(2)	(3)	(4)		(5)

(1) Series Type: MLV – Multilayer Varistor
(2) Model Code
(3) Chip Size(EIA): 0201
(4) Working Volage: V_{DC}
(5) Capacitance: Value — XX x 10^N→XXN
ex: 33pF=33x10^0→330

◆ Dimension

Unit: mm

Size EIA (EIAJ)	0201(0603)	0402 (1005)	0603 (1608)	1206 (3216)
L	0.60±0.05	1.00±0.15	1.60±0.15	3.20±0.15
W	0.30±0.05	0.50±0.10	0.80±0.10	1.60±0.15
T	0.30±0.05	0.50±0.10	0.80±0.10	1.7 MAX.
C	0.20±0.10	0.25±0.15	0.30±0.20	0.50±0.25



◆ Specification

	Working Voltage		Varistor Voltage		Clamping Voltage	Capacitance	Peak Current	Transient Energy
Symbol	V_{RMS}	V_{DC}	V_V	ΔV_V	Vc	Cp	i_{max}	W_{max}
Units	Volts	Volts (Max.)	Volts	V/%	Volts (Max.)	pF(typ.)	Amps (Max.)	Joules (Max.)
MLVS0201								
MLVS0201V05330 ***(NEW)***	4	5.5	11	±3V	28	33	-	-
MLVS0201V05470 ***(NEW)***	4	5.5	11	±3V	26	47	-	-
MLVS0201V05640 ***(NEW)***	4	5.5	11	±3V	26	64	-	-
MLVS0402								
MLVS0402M04	4	5.5	8	±20V	19	270	20	0.05
MLVS0402M07	7	9	12.5	±20V	32	130	20	0.05
MLVS0402K11	11	14	18	±10V	38	90	20	0.05
MLVS0402K14	14	18	22	±10V	45	85	20	0.05
MLVS0603								
MLVS0603M04	4	5.5	8	±20%	19	270	30	0.1
MLVS0603M07	7	9	12.5	±20%	27	210	30	0.1
MLVS0603K11	11	14	18	±10%	35	150	30	0.1
MLVS0603K14	14	18	22	±10%	40	130	30	0.1
MLVS0603K20	20	26	31	±10%	58	100	30	0.1
MLVS1206								
MLVS1206M04-362	4	5.5	8	±20%	19	3600	150	0.4
MLVS1206K14-182	14	18	22	±10%	40	1800	150	0.4
MLVS1206K14-651*****	14	18	22	±10%	40	650	200	0.4
MLVS1206K20-601	20	26	34	±10%	60	600	200	1.0
MLVS1206K25-501	25	31	41	±10%	70	500	200	1.0
MLVS1206K30-421	30	42	53	±10%	90	420	200	1.0
MLVS1206K40-181	40	56	70	±10%	110	180	200	1.0

V_{RMS} - Maximum AC operating voltage the varistor can maintain and not exceed 10 μA leakage current for 0402,0603/50μA leakage current for 1206.

V_{DC} - Maximum DC operating voltage the varistor can maintain and not exceed 10 μA leakage current for 0402,0603/50μA leakage current for 1206.

V_V - Voltage across the device measured at 1mA DC current.
Equivalent to V_B, "break down voltage.

V_c - Maximum peak current across the varistor with 8/20μs waveform and 1A pulse current.

C_p - Device capacitance measured with zero volt bias 1Vrms at 1MHz (0201/0402/0603) or 1KHz(1206).

i_{max} - Maximum peak current which may be applied with 8/20μs waveform without device failure.

W_{max} - Maximum energy which may be dissipated with the 10/1000μs waveform without device failure.

***** Withstands 24.5 VDC for 5 minutes (automotive applications)

◆ General Technical Data

Operating Temperature	0201, 0402, 0603:-40 ~ +85℃/1206: -55 ~ +125°C
Storage Temperature (on board)	0201, 0402, 0603:-40 ~ +85℃/1206: -55 ~ +150°C
Response Time	<1 ns
Solderability	245±5℃, 3±1sec.

◆ Environmental Performance

Item	Specifications	Test Condition
Bias Humidity	$\triangle V_V / V_V \leqq \pm 10$ %	90%RH, 40℃, Working Voltage, 1000 hrs
Thermal Shock		**0201 & 0402 & 0603:** -40℃ to 85℃, 30 min. cycle, 5 cycles **1206:** -55℃ to 125℃, 30 min. cycle, 5 cycles
Full Load Voltage		**0201 & 0402 & 0603:** Working Voltage, 85℃, 1000 hrs **1206:** Working Voltage, 125℃, 1000 hrs
Solder Leach Resistance	(1) $\triangle V_V / V_V \leqq \pm 10$ % (2) $I_L \leqq 10\mu A$ at Working Voltage (3) Solder Wetting Area ≧ 95%	260±5℃, 10±1 sec.

◆ Package

Size EIA (EIAJ)	0201(0603)	0402 (1005)	0603 (1608)	1206 (3216)
Standard Packing Quantity (pcs / reel)	15,000	10,000	4,000	4,000