MLVS-0402 Series

This specification is applicable to Chip Metal Oxide Varistor in multilayer technology.

Features

1. Keeping low and stable leakage current.
2. Excellent assembly solderability.
3. Low clamping Voltage.
4. Quick response time (<1nSec.)
5. High transient current capability
6. Test Standard meets IEC 61000-4-2, 61000-4-4, and 61000-4-5.

Applications

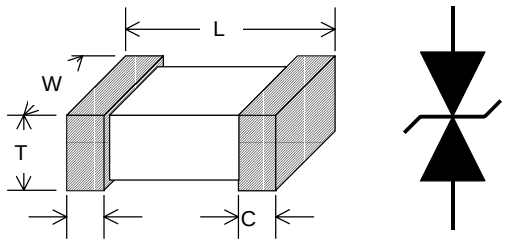
Applications for Mother Board, Notebook , Cellular Phone, PDA , handheld device, DSC, DV, Scanner, and Set-Top Box etc

Part Number

SeriesType	Elements	Size	Tolerance	Vrms
MLV	**S**	**0402**	**M**	**04**
MLV	**S**	**0402**	**M**	**07**
MLV	**S**	**0402**	**L**	**08**
MLV	**S**	**0402**	**K**	**11**
MLV	**S**	**0402**	**K**	**14**

- Series Type / MLV — Multilayer Varistor
- Elements / S — Single
- Size / 0402 —1.00x0.50x0.50mm
- Tolerance / M/L/K —±20%/±15%/±10%
- Vrms — Working Voltage Vrms

Dimensions



Size / EIA	0402
L	1.00±0.15
W	0.50±0.08
T	0.50±0.08
C	0.30±0.15

Unit : mm

Specifications

1. Rating(25 ± 5℃)

	Working voltage		Resistance	Peak current	Transient energy
Symbol	V_{RMS}	V_{DC}	Ir	i_{max}	W_{max}
Units	Volts	Volts (Max.)	X10^6 ohm (Min.)	Amps (Max.)	Joules (Max.)
Test Condition		< 10 μA	5 VDC	8/20μs	10/1000μs
MLVS0402M04	4	5.5	>10*	20	0.05
MLVS0402M07	7	9	>10*	20	0.05
MLVS0402L08	8	11	>10*	20	0.05
MLVS0402K11	11	14	>10*	20	0.05
MLVS0402K14	14	18	>10*	20	0.05

- *Measured resistance at 3.3V DC
- V_{RMS} – Maximum AC operating voltage the varistor can maintain and not exceed 10 μA leakage current
- V_{DC} – Maximum DC operating voltage the varistor can maintain and not exceed 10 μA leakage current
- Ir – Resistance at 5 V DC
- $_{Imax}$ – Maximum peak current which may be applied with 8/20us waveform without device failure
- W_{max} – Maximum energy which may be dissipated with the 10/1000us waveform without device failure

2.Characteristics(25 ± 5℃)

	Varistor voltage		Clamping Voltage	Capacitance
Symbol	V_V	ΔV_V	Vc	Cp
Units	Volts	%	Volts (Max.)	pF (typ.)
Test Condition	1mA DC		1A 8/20μs	1KHz
MLVS0402M04	8	±20	19	300
MLVS0402M07	12.5	±20	32	155
MLVS0402L08	15	±15	33	135
MLVS0402K11	18	±10	38	100
MLVS0402K14	22	±10	45	95

- VV – Voltage across the device measured at 1mA DC current
- Vc – Maximum peak current across the varistor with 8/20us waveform and 1A pulse current
- Cp – Device capacitance measured with zero volt bias 1Vrms

Electrical Characteristics

1.General technical Characteristics

Operating temperature	-55 … +125 (85)
Storage temperature	-55 … +125 (85)
esponse time	<1 ns
Solderability	235 , 2s
Solder leach resistance	260 , 10s

2. Environmental Characteristics

Characteristics	Specifications	Test condition
Bias humidity	$\Delta V_V/V_V$ ±10%	90%RH, 40 , Working voltage, 1000 hours
Thermal shock	$\Delta V_V/V_V$ ±10%	-40 to 85 , 30 min. cycle, 5 cycles
Vibration	$\Delta V_V/V_V$ ±10%	10 to 50 to 10 Hz, 1 min. cycle, 2 hours each in X-Y-Z
Full load voltage	$\Delta V_V/V_V$ ±10%	Working voltage, 25 , 1000 hours
Solder leach resistance	$\Delta V_V/V_V$ ±10%	260 , 10s