

MLVS-0603 Series

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



Features

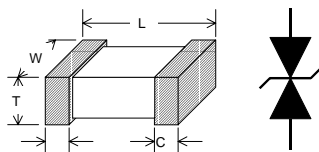
1. Keeping low and stable leakage current.
2. Excellent assembly solderability.
3. Low clamping Voltage.
4. Quick response time (<1nSec.)
5. High transient current capability
6. Test Standard meets IEC 61000-4-2, 61000-4-4, and 61000-4-5.

Part Number

SeriesType	Elements	Size	Tolerance	Vrms
MLV	S	0603	M	04
MLV	S	0603	M	06
MLV	S	0603	M	07
MLV	S	0603	L	08
MLV	S	0603	K	11
MLV	S	0603	K	14

- Series Type / MLV — Multilayer Varistor
- Elements / S — Single
- Size /0603 — 1.60x0.80x0.80mm³
- Tolerance /M/L/K — ±2.0%/ ±15%/ ±10%
- Vrms — Working Voltage Vrms

Dimensions



	0603
L	1.60 ±0.20
W	0.80 ±0.20
T	0.80 ±0.20
C	0.30 ±0.20

Unit : mm

Specifications

1. Rating(25± 5)

Symbol	Working voltage		Resistance	Peak current	Transient energy
	V _{RMS}	V _{DC}	I _r	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
MLVS0603M04	4	5.5	10*	30	0.1
MLVS0603M06	6	8	10*	30	0.1
MLVS0603M07	7	9	10*	30	0.1
MLVS0603L08	8	11	10	30	0.1
MLVS0603K11	11	14	10	30	0.1
MLVS0603K14	14	18	10	30	0.1

- *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
- I_r – Resistance at 5 V DC
- i_{max} – 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)

Symbol	Varistor voltage		Clamping Voltage	Capacitance	
	V _v	ΔV _v	V _c	C _p	
Units	Volts	%	Volt (Max.)	pF (typ.)	
Test Condition	1mA DC		1A 8/20μs	1KHz	1MHz
MLVS0603M04	8	±20	19	300	270
MLVS0603M06	11	±20	27	250	230
MLVS0603M07	12.5	±20	27	235	205
MLVS0603L08	15	±15	33	220	190
MLVS0603K11	18	±10	35	160	140
MLVS0603K14	22	±10	40	140	120

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

Electrical Characteristics

1.General technical Characteristics

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

2. Environmental Characteristics

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