



Features

- SMD type zinc oxide based ceramic chip
- Lead free plating termination provided good solderability characteristic
- Insulator overcoat keeps excellent low and stable leakage current
- Quick response time (<1ns)
- Low clamping voltage
- Low capacitance to 1pF
- Wide operating voltage range, V_{DC} : 5.5V to 18V
- Meet IEC 61000-4-2 standard
- Ceramic lead free

Applications

Applications for I/O Port for Mother Board and Notebook (RS232, USB, PS2, VGA, Audio), Set-Top Box, MP3 Players, DVD Players, and Docking System etc.

How to Order

MLV **G** **0402** **100** **N** **V18**

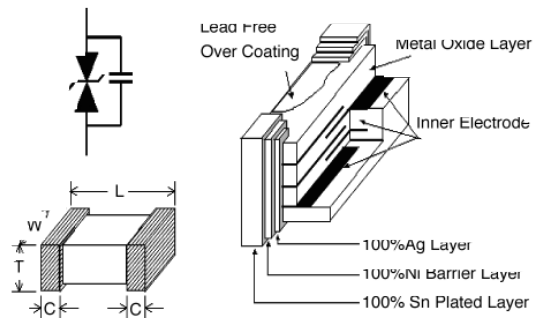
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- 1 Series Type : MLV—Multilayer Varistor
- 2 Model Code
- 3 Chip Size (EIA) : 0402/0603
- 4 Capacitance : Value— $XX \times 10^N \rightarrow XXN$
ex: 10pF=10x10⁰ → 100
- 5 Capacitance Tolerance :
N—±30%, Q—±2.0pF, T—±1.4pF, U—±0.9pF
- 6 Working Voltage : V_{DC}
- 7 Suffix for Special Code

Dimensions

Unit: mm

Size EIA (EIAJ)	0402 (1005)	0603 (1608)
L	1.00±0.15	1.60±0.20
W	0.50±0.10	0.80±0.20
T	0.50±0.10	0.80±0.20
C	0.25±0.15	0.30±0.20



Specifications

Symbol	Working Voltage	Varistor Voltage	Clamping Voltage	Capacitance		Leakage Current
	V_{dc}	V_v	V_c	C_p	ΔC_p	I_L
Units	Volts (Max.)	Volts	Volts (Max.)	pF		μA (Max.)
Test Condition		1mA DC	8/20 μs at 1A	1V _{rms} at 1MHz		V_{dc}
MLVG 0402						
MLVG04021R0UV18	18	46~60	110	1.0	$\pm 0.9pF$	< 10
MLVG04021R5TV18	18	46~60	110	1.5	$\pm 1.4pF$	< 10
MLVG04023R0QV18	18	46~60	110	3.0	$\pm 2.0pF$	< 10
MLVG04025R0QV18	18	22~34	58	5.0	$\pm 2.0pF$	< 10
MLVG0402100NV05	5.5	7.6~12	25	10	$\pm 30\%$	< 10
MLVG0402100NV18	18	22~34	58	10	$\pm 30\%$	< 10
MLVG0402120NV18	18	22~34	58	12	$\pm 30\%$	< 10
MLVG0402150NV18	18	22~34	58	15	$\pm 30\%$	< 10
MLVG0402220NV05	5.5	7.6~12	25	22	$\pm 30\%$	< 10
MLVG0402220NV09	9	11~17	35	22	$\pm 30\%$	< 10
MLVG0402220NV18	18	22~34	58	22	$\pm 30\%$	< 10
MLVG 0603						
MLVG06031R0UV18	18	46~60	110	1.0	$\pm 0.9pF$	< 10
MLVG06031R5TV18	18	46~60	110	1.5	$\pm 1.4pF$	< 10
MLVG06033R0QV18	18	46~60	110	3.0	$\pm 2.0pF$	< 10
MLVG06035R0QV09	9	11~17	35	5.0	$\pm 2.0pF$	< 10
MLVG06035R0QV18	18	22~34	58	5.0	$\pm 2.0pF$	< 10
MLVG0603100NV05	5.5	7.6~12	25	10	$\pm 30\%$	< 10
MLVG0603120NV18	18	22~34	58	12	$\pm 30\%$	< 10
MLVG0603150NV18	18	22~34	58	15	$\pm 30\%$	< 10
MLVG0603220NV05	5.5	7.6~12	25	22	$\pm 30\%$	< 10
MLVG0603220NV09	9	11~17	35	22	$\pm 30\%$	< 10
MLVG0603220NV18	18	22~34	58	22	$\pm 30\%$	< 10

V_{dc} —Maximum DC operating voltage the varistor can maintain and not exceed 10 μA leakage current

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 8/20 μs waveform and 1A pulse current.

C_p —Device capacitance measured with zero volt bias 1V_{rms}.

General Technical Data

Operating Temperature	-40... +85°C
Storage Condition	-40... +85°C
Response Time	<1 ns
Solderability	245 \pm 5°C, 3 sec

Environmental Performance

Item	Specifications	Test Condition
Bias Humidity	$\Delta V_v / V_v \leq \pm 10 \%$	90%RH, 40°C, Working Voltage, 1000 hrs
Thermal Shock		-40°C to 85°C, 30 min. cycle, 5 cycles
High Temperature Loading		Working Voltage, 85°C, 1000 hrs
Solder Leach Resistance	(1) $\Delta V_v / V_v \leq \pm 10 \%$ (2) $I_L \leq 10\mu A$ at Working Voltage (3) Solder Wetting Area $\geq 95\%$	260°C, 10 sec.

Package

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