

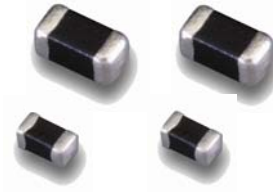


◆ Features

1. Lead free type
2. SMD type zinc oxide based ceramic chip
3. Insulator over coat keeps excellent low and stable leakage current
4. Plating termination provided good solderability characteristic
5. Wide operating voltage range, VDC: 5.5V to 18V
6. Quick response time (<1ns)
7. Low clamping voltage
8. Meet IEC 61000-4-2 standard
9. Low capacitance can meet high speed single transient voltage protection.

◆ Applications

1. Low capacitance product applications for high-speed signal lines such as HDMI, DVI, USB, IEEE1394 Port etc.
2. Normal capacitance product applications for I/O Port (RS232, USB, PS2, VGA, Audio) on Mother Board and Notebook, Set-Top Box, MP3 Players, DVD Players, and Docking System etc.



◆ How to Order

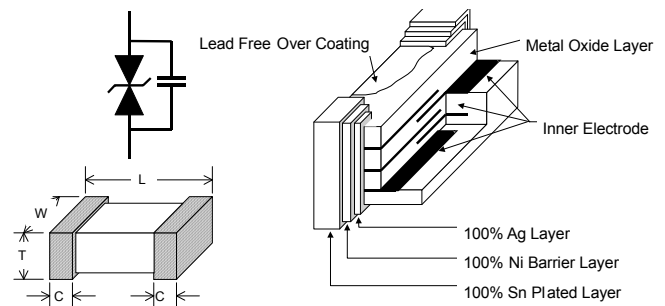
MLV **G** **0402** **0R5** **I** **V18** □ □
 (1) (2) (3) (4) (5) (6) (7) (8)

MLV **G** **0402** **100** **N** **V18** □ □
 (1) (2) (3) (4) (5) (6) (7) (8)

- (1) Series Type : MLV — Multilayer Varistor
- (2) Model Code
- (3) Chip Size(EIA) : 0402 / 0603
- (4) Capacitance : Value-XXR=0.XpF, ex: 0R5=0.5pF, XXx10^N→XXN, ex: 10pF=10x10⁰→100
- (5) Capacitance Tolerance :
I - ±0.3pF, T -±1.4pF, Q - ±2.0pF and N - ±30%
- (6) Working Voltage : V_{DC}
- (7) Special Code
- (8) 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

	Working Voltage	Varistor Voltage	Clamping Voltage	Capacitance	Leakage Current
Symbol	V_{DC}	V_V	V_C	C_p	I_L
Units	Volts (Max.)	Volts	Volts (Max.)	pF	μA (Max.)
MLVG0402					
MLVG04020R5IV18BP	~18	90~120	250*	0.5	<10
MLVG04021R0IV18BP	~18	46~60	110*	1.0	<10
MLVG04021R0UV18BP	~18	46~60	110	1.0	<10
MLVG04021R5TV18BP	~18	46~60	110	1.5	<10
MLVG04023R0TV18BP	~18	22~34	58	3.0	<10
MLVG04023R0QV18BP	~18	46~60	110	3.0	<10
MLVG04025R0QV18BP	~18	22~34	58	5.0	<10
MLVG0402100NV18BP	~18	22~34	58	10	<10
MLVG0402120NV18BP	~18	22~34	58	12	<10
MLVG0402150NV18BP	~18	22~34	58	15	<10
MLVG0402220NV18BP	~18	22~34	58	22	<10
MLVG0402900NV18BP	~18	22~34	58	90	<10
MLVG04025R0QV05BP	~5.5	7.6~12	25	5.0	<10
MLVG0402100NV05BP	~5.5	7.6~12	25	10	<10
MLVG0402220NV05BP	~5.5	7.6~12	25	22	<10
MLVG0402470NV05BP	~5.5	7.6~12	25	47	<10
MLVG0402101NV05BP	~5.5	7.6~12	25	100	<10
MLVG0402221NV05BP	~5.5	7.6~12	25	220	<10
MLVG0402331NV05BP	~5.5	7.6~12	25	330	<10
MLVG04025R0QV09BP	~9	11~17	35	5.0	<10
MLVG0402100NV09BP	~9	11~17	35	10	<10
MLVG0402220NV09BP	~9	11~17	35	22	<10
MLVG0402121NV09BP	~9	11~17	35	120	<10
MLVG04025R0QV26BP	~26	46~60	110	5.0	<10
MLVG04023R0LV42BP	~42	46~75	135	3.0	<10

◆ Specifications

	Working Voltage	Varistor Voltage	Clamping Voltage	Capacitance	Leakage Current
Symbol	V_{DC}	V_V	V_C	C_p	I_L
Units	Volts (Max.)	Volts	Volts (Max.)	pF	μA (Max.)
MLVG0603					
MLVG06030R5IV18BP	~18	90~120	250*	0.5	<10
MLVG06031R0IV18BP	~18	46~60	110*	1.0	< 10
MLVG06031R0UV18BP	~18	46~60	110*	1.0	<10
MLVG06031R5TV18BP	~18	46~60	110*	1.5	<10
MLVG06033R0TV18BP	~18	22~34	58	3.0	< 10
MLVG06033R0QV18BP	~18	46~60	110	3.0	<10
MLVG06035R0QV18BP	~18	22~34	58	5.0	<10
MLVG0603100NV18BP	~18	22~34	58	10	<10
MLVG0603120NV18BP	~18	22~34	58	12	<10
MLVG0603150NV18BP	~18	22~34	58	15	<10
MLVG0603220NV18BP	~18	22~34	58	22	<10
MLVG0603400NV18BP	~18	22~34	58	40	<10
MLVG0603101NV18BP	~18	22~34	58	100	<10
MLVG0603221NV18BP	~18	22~34	58	220	<10
MLVG0603331NV18BP	~18	22~34	58	330	<10
MLVG06035R0QV05BP	~5.5	7.6~12	25	5.0	<10
MLVG0603100NV05BP	~5.5	7.6~12	25	10	< 10
MLVG0603220NV05BP	~5.5	7.6~12	25	22	< 10
MLVG0603951NV05BP	~5.5	7.6~12	25	950	<10
MLVG06035R0QV09BP	~9	11~17	35	5.0	< 10
MLVG0603100NV09BP	~9	11~17	35	10	<10
MLVG0603220NV09BP	~9	11~17	35	22	<10
MLVG0603221NV09BP	~9	11~17	35	220	<10
MLVG0603331NV09BP	~9	11~17	35	330	<10
MLVG0603551NV09BP	~9	11~17	35	550	<10
MLVG06033R0LV42BP	~42	46~75	135	3.0	<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.
*: Maximum peak current across the varistor with 8/20 μs waveform and 0.5A pulse current.

C_p - Device capacitance measured with zero volt bias 1Vrms at 1MHz.

◆ General Technical Data

Operating Temperature	-40 ~ +85°C
Storage Temperature (on board)	-40 ~ +85°C
Response Time	<1 ns
Solderability	245±5°C, 3±1sec.
Solder Leach Resistance	260±5°C, 10±1 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
Full Load Voltage		Working Voltage, 85°C, 1000 hrs

◆ Package

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