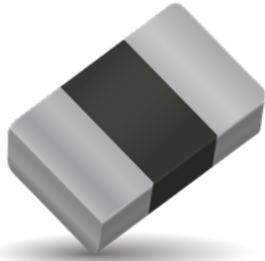


# Miniature 0201 MLV

## Multilayer Ceramic Transient Voltage Suppressors

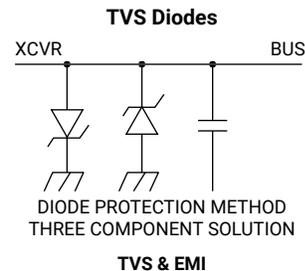
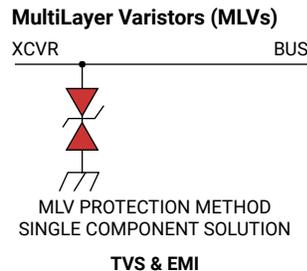
### ESD Protection for any Circuit with Board Space Constraints



### GENERAL DESCRIPTION

KYOCERA AVX 0201 Multi-Layer Varistors are designed for circuits where board space is a premium. 0201 MLV offer bi-directional ESD protection in the smallest package available today. The added advantage is EMI/RFI attenuation. 0201 MLV can replace 2 diodes and the EMC capacitor for a one chip solution.

The miniature size and one chip solution team to offer designers the best in ESD protection and EMI filtering in one ultra compact device.



### GENERAL CHARACTERISTICS

- Operating Temperature: -55°C to +125°C
- Working Voltage: 3.5Vdc - 16Vdc
- Case Size: 0201

### APPLICATIONS

- Cell phone
- PDA
- Camera modules
- Embedded components
- Hearing aid
- Any circuit with space constraints

### FEATURES

- Capacitance 15pF to 150pF
- Low VB Version
- Bi-Directional protection
- Fastest response time to ESD strikes
- Multi-strike capability
- Ultra compact 0201 case size

### HOW TO ORDER

<b>VC</b> └─┘ Varistor Clamp	<b>AS</b> └─┘ Automotive Series	<b>0201</b> └─┘ Chip Size 0201	<b>09</b> └─┘ Working Voltage 09 = 9V	<b>V</b> └─┘ Energy Rating V = 0.02J	<b>300</b> └─┘ Capacitance 300 = 32V	<b>W</b> └─┘ Package W = 7" 10kpcs	<b>P</b> └─┘ Termination P = Ni Barrier/ 100% Sn (matte)
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Part Number	V <sub>w</sub> (DC)	V <sub>w</sub> (AC)	V <sub>B</sub>	V <sub>c</sub>	I <sub>vc</sub>	I <sub>L</sub>	E <sub>T</sub>	I <sub>p</sub>	Cap
VC020103V101WP	3.5	2.0	4.76 min 8.84 max	14max	1	50	0.02	10	100pF ±40%
VC020103V121WP	3.5	2.0	4.76 min 8.84 max	14max	1	50	0.02	10	125pF ±30%
VC020103V151WP	3.5	2.0	4.76 min 8.84 max	14max	1	50	0.02	10	150pF ±30%
VC020105T150WP	5.6	4.0	10.0 min 15.6 max	35max	1	50	0.01	2	15pF ±30%
VC020105T330WP	5.6	4.0	10.0 min 15.6 max	35max	1	50	0.01	4	33pF ±30%
VC020105T500WP	5.6	4.0	10.0 min 15.6 max	35max	1	50	0.01	5	50pF ±30%
VC020105T101WP	5.6	4.0	10.0 min 15.6 max	35max	1	50	0.01	5	100pF ±30%
VC020105V101WP	5.6	4.0	6.4 min 9.6 max	17max	1	50	0.02	4	100pF ±30%
VC020107V101WP	7.0	5.6	9.6 min 14.4 max	20max	1	50	0.02	5	100pF ±30%
VC020116T150WP	16	11	21.7 min 29.3 max	45max	1	50	0.01	1	15pF ±30%

V<sub>w</sub>(DC) DC Working Voltage [V]  
V<sub>w</sub>(AC) AC Working Voltage [V]  
V<sub>B</sub> Breakdown Voltage [V @ 1mA DC]  
V<sub>c</sub> Clamping Voltage [V @ I<sub>vc</sub>]  
I<sub>vc</sub> Test Current for VC [A, 8x20μS]

I<sub>L</sub> Maximum leakage current at the working voltage [μA]  
E<sub>T</sub> Transient Energy Rating [J, 10x1000μS]  
I<sub>p</sub> Peak Current Rating [A, 8x20μS]  
Cap Capacitance [pF] @ 1KHz specified and 0.5VRMS

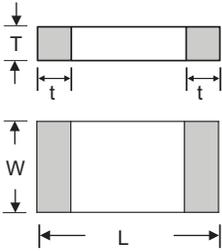
# Miniature 0201 MLV

## Multilayer Ceramic Transient Voltage Suppressors

### ESD Protection for any Circuit with Board Space Constraints

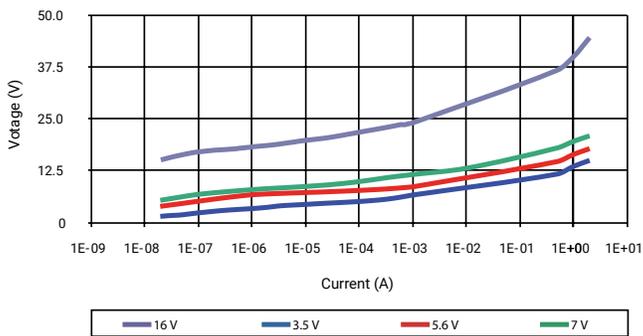


#### PHYSICAL DIMENSIONS: mm (inches)

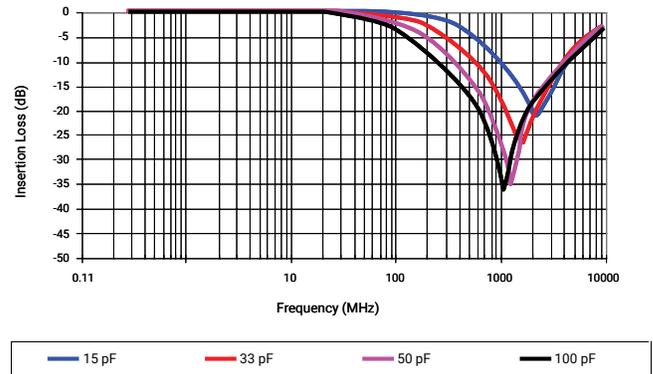


Size (EIA)	Length (L)	Width (W)	Max Thickness (T)	Terminal
0201	0.60±0.03 (0.024±0.001)	0.30±0.03 (0.011±0.001)	0.33 max. (0.013 max.)	0.15±0.05 (0.006±0.002)

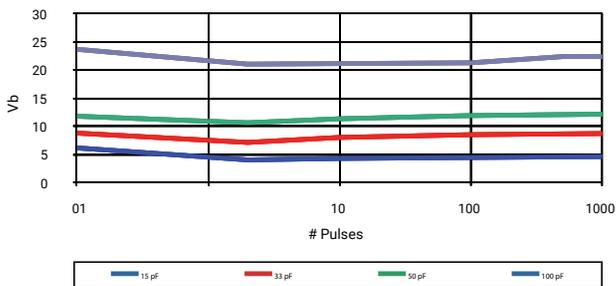
#### VOLTAGE/CURRENT CHARACTERISTICS



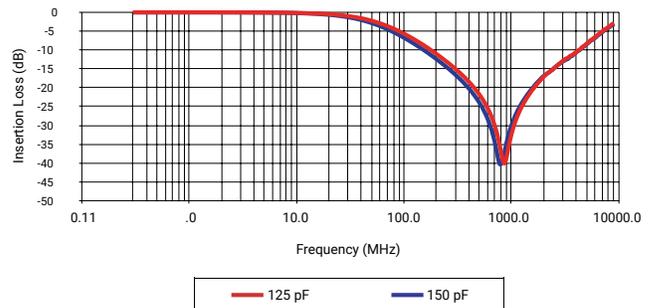
#### TRANSMISSION CHARACTERISTICS 5.6VDC



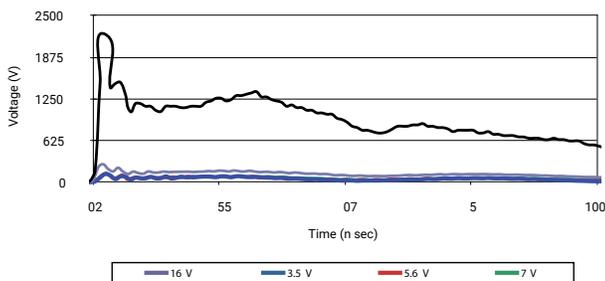
#### TYPICAL 8 KV ESD PERFORMANCE (150pF / 300ohm IEC Network)



#### 3.5VDC



#### 8 kV CONTACTED ESD PULSE 1 Mohm Input (150pF / 300ohm IEC Network)



#### 16Vdc

