

## ESD SUPPRESSION VARICONS® ZVE SERIES


### Description

ZVE Varicons are designed to suppress ESD events, including those specified in IEC1000-4-2 or other standards used for Electromagnetic Compliance testing. The ZVE Series is typically applied to protect integrated circuits and other components at the circuit board level operating at 18 VDC or less.

Fabrication method, design and materials of these devices result in capacitance characteristics suitable for high frequency attenuation / low-pass filter circuit functions, providing suppression and filtering in a single device.



### Features

- Operating voltage range  $V_{dc}$  up to 18 V.
- + 125 °C maximum continuous operating temperature
- 4 Model sizes available... 0603, 0805, 1206, 1210.
- Short response time.
- Characterized for inductance and capacitance.
- Dimensional and weight savings on the board.
- Non-sensitive to mildly activated fluxes (see Soldering Recommendations, page 25).
- End termination : AgPd or barrier type suitable for Pb-free soldering process - barrier type end terminations solderable with Pb-free solders according to JEDEC J-STD-020C and IEC60068-2-58.
- No plastic coating guarantees better flammability rating.
- Available in tape and reel for automatic pick and place.
- U11449, C22.2 - File E221545 Section8.
- RoHS conform components complying  to 2002/95/EC and 2003/11/EC.
- AEC-Q200 qualified Grade 1.

### Applications

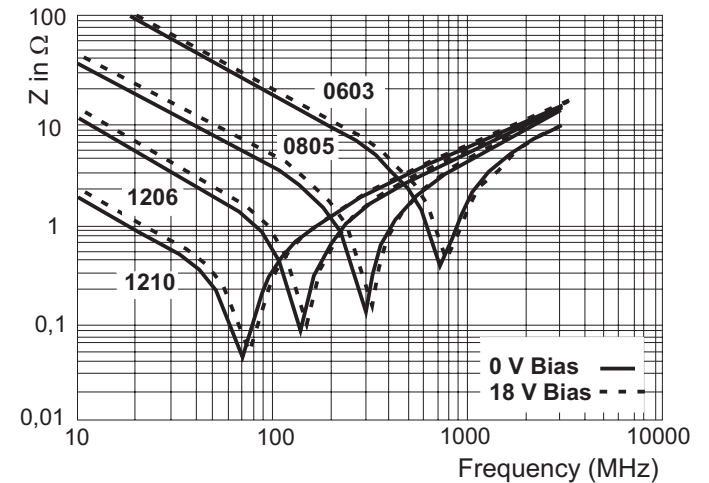
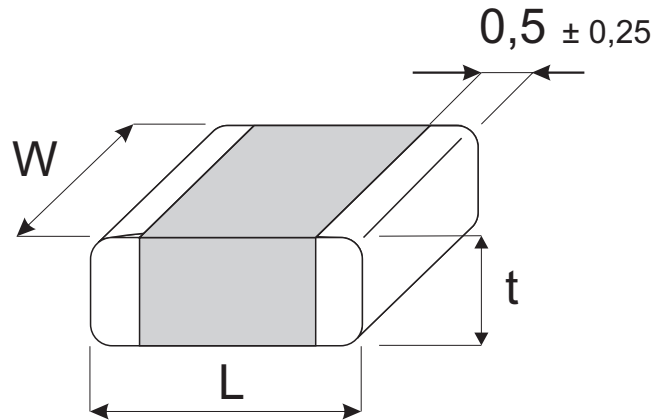
- Protection of Components and circuits sensitive to ESD transients occurring on power supply, control and signal lines.
- Suppression of ESD events such as specified in IEC 1000-4-2, MIL STD-883C, method 3015.7 or AEC-Q200-002 for Electromagnetic Compliance (EMC).
- Used in mobile communication, computer/EDP products, medical products, hand held / portable devices, industrial equipment, including diagnostics port protection and I/O interfaces.

### Absolute Maximum Ratings

	Units	Value
<b>Continuous :</b>		
Steady State Applied Voltage : DC Voltage Range ( $V_{dc}$ )	V	≤ 18
<b>Transient :</b>		
Peak Single Pulse Surge Current, 8/20 $\mu$ s Waveform, ( $I_{max}$ )	A	20, 30
Single Pulse Surge Energy, 10/1000 $\mu$ s Waveform ( $W_{max}$ )	J	0,05 to 0,1
<b>Operating Ambient Temperature</b>	°C	-55 to +125
<b>Storage Temperature Range</b>	°C	-55 to +150
<b>Threshold Voltage Temperature Coefficient</b>	%/°C	< +0.05
<b>Response Time</b>	ns	< 1
<b>Climatic Category</b>		55 / 125 / 56

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**Device Ratings and Characteristics**



Capacitance - Frequency Characteristics

**ZVE 14 S 0603.....ZVE 14 S 1210**

Type	V <sub>rms</sub> V	V <sub>dc</sub> V	V <sub>n</sub> 1 mA V	V <sub>c</sub> 8/20 μs V	I <sub>c</sub> 8/20 μs A	W <sub>max</sub> 10/1000 μs J	P max W	C <sub>max</sub> 1 MHz pF	L <sub>typ</sub> 100 mA/nS nH	L (mm)	W (mm)	t max mm
<b>ZVE 14 S 0603</b>	14	18	22 to 28	50	2	0,05	0,003	75	< 1.0	1,6 ± 0,20	0,80 ± 0,10	0,95
<b>ZVE 14 S 0805</b>	14	18	22 to 28	50	2	0,10	0,004	100	< 1.5	2,0 ± 0,25	1,25 ± 0,20	0,95
<b>ZVE 14 S 1206</b>	14	18	22 to 28	50	2	0,10	0,004	200	< 1.8	3,2 ± 0,30	1,60 ± 0,20	1,20
<b>ZVE 14 S 1210</b>	14	18	22 to 28	50	2	0,10	0,004	400	< 3.5	3,2 ± 0,30	2,50 ± 0,25	1,30