

# ESD5Z3V3/ESD5Z5V0/ESD5Z7V0

## ESD5Z3V3/ESD5Z5V0/ESD5Z7V0 Transient Voltage Suppressors ESD Protection Diode

### General description

Silicon Diode in a SOD-523 Plastic Package.

### FEATURES

- Stand-off Voltage: 3.3V/5.0V/7.0V
- Low Leakage Current
- Response Time is Typically < 1ns
- IEC61000-4-2 Level 4 ESD Protection
- RoHS Compliant
- Green EMC
- Matte Tin(Sn) Lead Finish
- Band Indicates Cathode

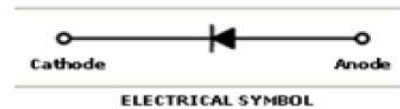
Green Product



SOD-523 Flat Lead

### Absolute Maximum Ratings (T<sub>A</sub> = 25°C unless otherwise noted)

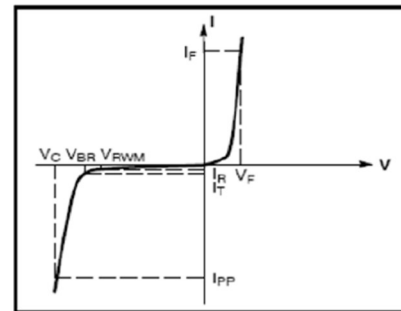
Symbol	Parameter	Value	Units
PD	Total Power Dissipation on FR-5 Board	150	mW
T <sub>L</sub>	Max Lead Solder Temperature range (10 Second Duration)	260	°C
T <sub>stg</sub>	Storage Temperature Range	-55 to +150	°C
T <sub>J</sub>	Junction Temperature	+150	°C
ESD	IEC61000-4-2 Air Discharge	±30	KV
	Contact Discharge	±30	KV
ESD	Per Human Body Model	16	KV
	Per Machine Model	400	V



### Device Marking:

Device Type	Marking
ESD5Z3V3	ZE
ESD5Z5V0	ZF
ESD5Z7V0	ZH

Symbol	Parameter
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>
I <sub>PP</sub>	Peak Pulse Current
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>T</sub>	Test Current
I <sub>R</sub>	Reverse Leakage Current @ V <sub>RWM</sub>
V <sub>RWM</sub>	Reverse Standoff Voltage
V <sub>F</sub>	Forward Voltage @ I <sub>F</sub>
I <sub>F</sub>	Forward Current



V-I characteristics for a uni-directional TVS

### Electrical Characteristics (T<sub>A</sub> = 25°C unless otherwise noted)

Device Type	V <sub>RWM</sub> (Volts)	I <sub>R</sub> @ V <sub>RWM</sub> (µA)	V <sub>BR</sub> @ I <sub>T</sub> (Note 1) (Volts)	I <sub>T</sub> (mA)	V <sub>C</sub> @ I <sub>PP+</sub> = 5A (Volts)	I <sub>PP+</sub> (A)	V <sub>C</sub> @ Max I <sub>PP+</sub> (Volts)	P <sub>PK+</sub> (W)	C @ V <sub>R</sub> = 0V, f = 1MHz (pF)
	Max	Max	Min		Typ.	Max	Max	Max	Typ.
ESD5Z3V3	3.3	1	5.0	1.0	8.4	11.2	14.1	158	105
ESD5Z5V0	5.0	1	6.2	1.0	11.6	9.4	18.6	174	80
ESD5Z7V0	7.0	1	7.5	1.0	13.5	8.8	22.7	200	65

\* Surge current waveform per Figure 1.

Note 1: V<sub>BR</sub> is measured with a pulse test current I<sub>T</sub> at an ambient temperature of 25°C.

## SURGE CURRENT WAVEFORM:

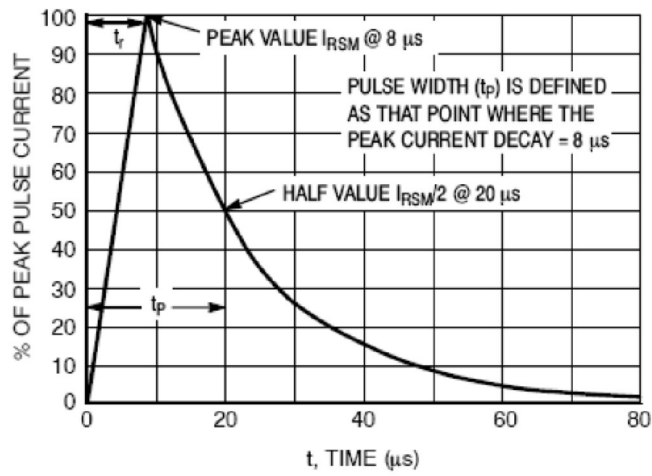
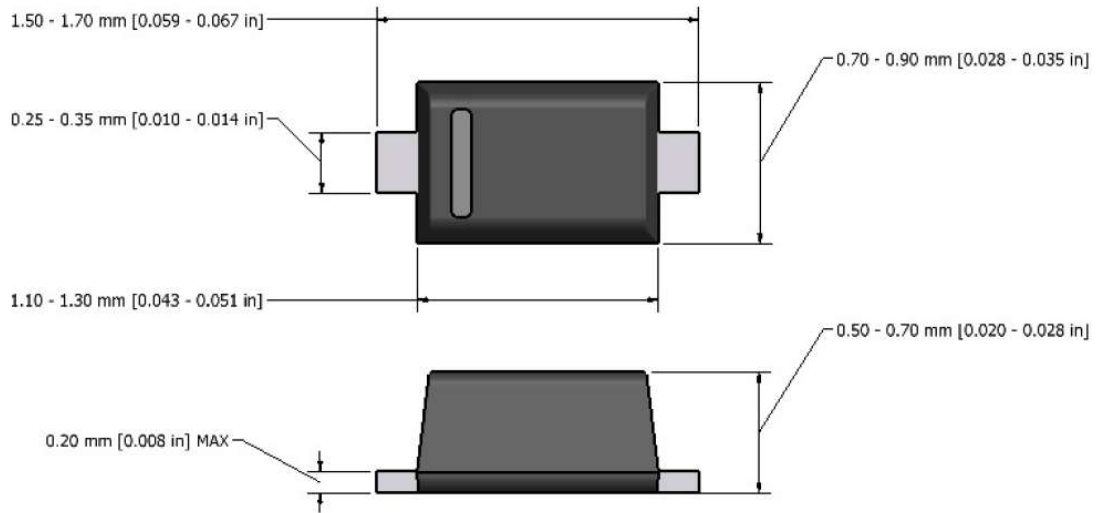


Figure 1. 8 x 20  $\mu$ s Pulse Waveform

## Flat Lead SOD-523 Package Outline



Note: Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

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