

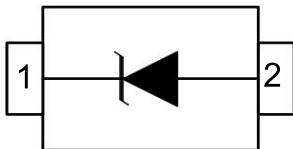
### DESCRIPTION

The ESD5Z Series is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is suited for use in cellular phones, portable devices, digital cameras, power supplies and many other portable applications.

### ORDERING INFORMATION

- ✧ Device: ESD5ZXXX
- ✧ Package: SOD-523
- ✧ Material: Halogen free
- ✧ Packing: Tape & Reel
- ✧ Quantity per reel: 3,000pcs

### PIN CONFIGURATION



### FEATURES

- ✧ IEC61000-4-2 Level 4 ESD Protection
- ✧ Protects one directional I/O line
- ✧ Low clamping voltage
- ✧ Working voltages : 3.3V, 5V,7V,12V
- ✧ Low leakage current

### MACHANICAL DATA

- ✧ SOD-523 package
- ✧ Flammability Rating: UL 94V-0
- ✧ Packaging: Tape and Reel
- ✧ High temperature soldering guaranteed:260 C/10s
- ✧ Reel size: 7 inch

### APPLICATIONS

- ✧ Cell Phone Handsets and Accessories
- ✧ Microprocessor based equipment
- ✧ Personal Digital Assistants (PDA's)
- ✧ Notebooks, Desktops, and Servers
- ✧ Portable Instrumentation
- ✧ Peripherals
- ✧ Pagers

### PACKAGE OUTLINE



### ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
V <sub>ESD</sub>	ESD per IEC 61000-4-2 (Air)	±30	kV
	ESD per IEC 61000-4-2 (Contact)	±30	
ESD	ESD Voltage per human body model	16	kV
	ESD Voltage per machine model	400	V
P <sub>D</sub>	Total Power Dissipation on FR-5 Board (Note 1) @ Ta=25°C	150	mW
T <sub>J</sub> , T <sub>STG</sub>	Junction and Storage Temperature	-55/+150	°C
T <sub>L</sub>	Lead Solder Temperature – Maximum (10 Second Duration)	260	°C

These ratings are limiting values above which the serviceability of the diode may be impaired

Note 1. FR-5=1.0x0.75x0.62 in.

### ELECTRICAL CHARACTERISTICS (Tamb=25°C)

PART NUMBER	DEVICE MARKING	V <sub>RWM</sub> (V) (max.)	I <sub>R</sub> (μA) (max.)	V <sub>B</sub> (V) (min.)	I <sub>T</sub> (mA)	V <sub>C@5A</sub> (V) (max.)	V <sub>C</sub> (V) (max.) (@A)	P <sub>PK</sub> (W) (max.)	C <sub>J</sub> (pF) (typ.)
ESD5Z3.3	ZE	3.3	0.90	5.0	1	9.4	14.1	11.2	158
ESD5Z5.0	ZF	5.0	0.08	6.2	1	11.6	18.6	9.4	174
ESD5Z7.0	ZH	7.0	0.03	7.5	1	13.5	22.7	8.8	200
ESD5Z12	ZM	12.0	0.02	14.1	1	23.0	29.0	6.0	174

### ELECTRICAL CHARACTERISTICS CURVE

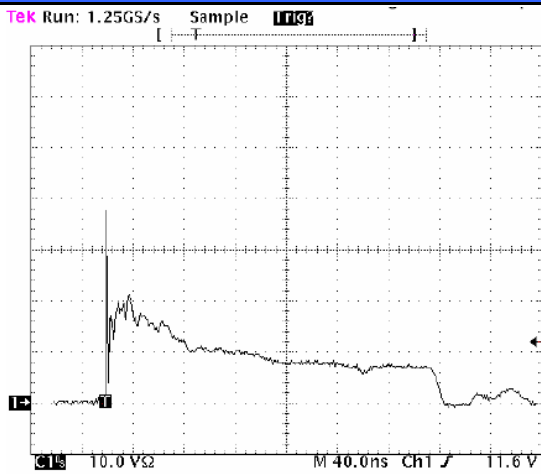


Figure 1. ESD Clamping Voltage Screenshot Positive 8 kV contact per IEC 61000-4-2

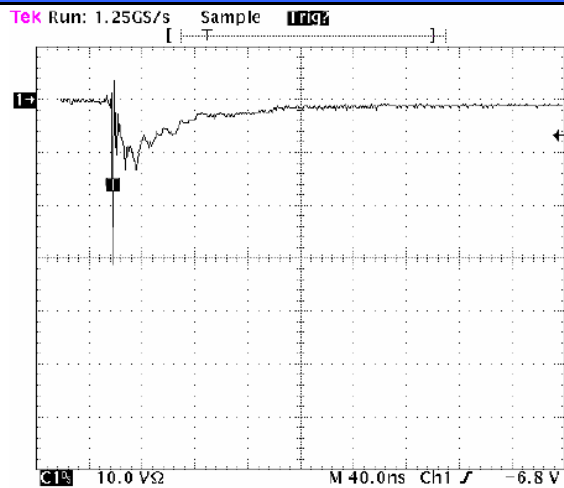
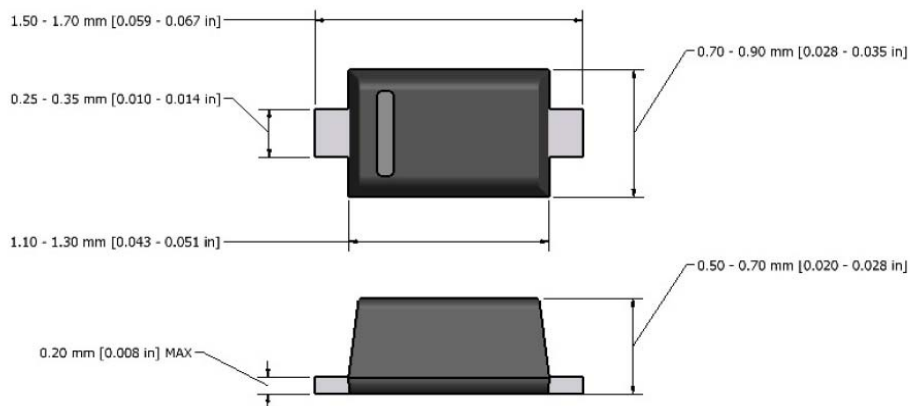


Figure 2. ESD Clamping Voltage Screenshot Negative 8 kV contact per IEC 61000-4-2

### SOD-523 PACKAGE OUTLINE DIMENSIONS



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