

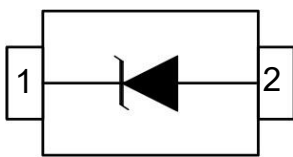
### DESCRIPTION

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 : 2.5V,3.3V, 5V,6V,7V,12V,15V
- ✧ 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
$V_{ESD}$	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$\pm 30$ $\pm 22$	kV
ESD	ESD Voltage per human body model ESD Voltage per machine model	16 400	kV V
$P_D$	Total Power Dissipation on FR-5 Board (Note 1) @ $T_a=25^{\circ}\text{C}$	150	mW
$T_J, T_{STG}$	Junction and Storage Temperature	-55/+150	$^{\circ}\text{C}$
$T_L$	Lead Solder Temperature – Maximum (10 Second Duration)	260	$^{\circ}\text{C}$

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 ( $T_{amb}=25^{\circ}\text{C}$ )

PART NUMBER	DEVICE MARKING	$V_{RWM}$	$I_R$	$V_B$	$I_T$	$V_C$		$V_C$		$P_{PK}$	$C_J$
		(V)	( $\mu\text{A}$ )	(V)	(mA)	(V)		(V)		(W)	(pF)
		Max	Max	Min		Max	@A	Max	@A	Max	Max
ESD5Z2V5	ZD + code	2.5	6.0	4.0	1	9.0	5.0	11.5	9.0	104	145
ESD5Z3V3	ZE + code	3.3	0.90	5.0	1	10.0	5.0	14.0	7.5	105	105
ESD5Z5V0	ZF + code	5.0	0.08	6.2	1	11.6	5.0	15.0	7.0	105	80
ESD5Z6V0	ZG + code	6.0	0.05	6.8	1	13.5	5.0	17.5	6.0	105	70
ESD5Z7V0	ZH + code	7.0	0.03	7.5	1	14.0	5.0	18.0	6.0	108	65
ESD5Z12V	ZM + code	12.0	0.03	14.1	1	20.0	1.0	26.0	4.0	104	45
ESD5Z15V	ZN + code	15.0	0.50	16.0	1	23.0	1.0	30.0	4.0	120	28

### ELECTRICAL CHARACTERISTICS CURVE

Fig 1 8/20 $\mu$ s Waveform per IEC61000-4-5

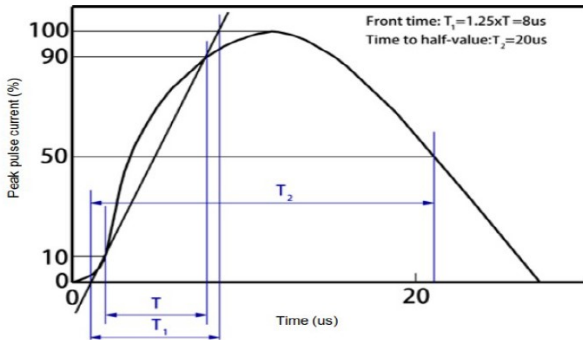


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

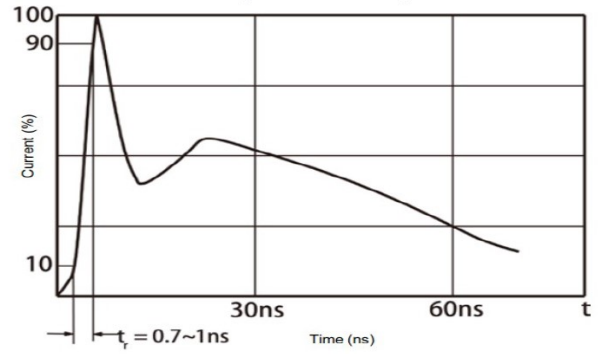


Fig 3 Voltage vs Capacitance

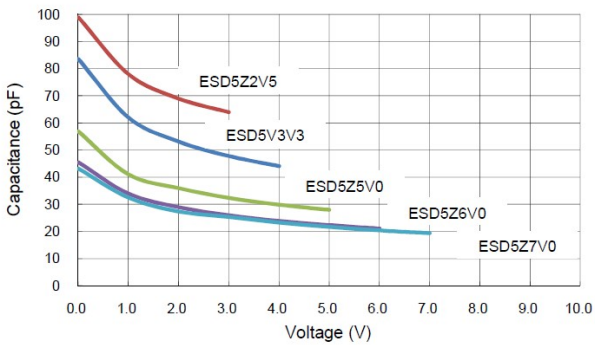


Fig 4 Voltage vs Capacitance

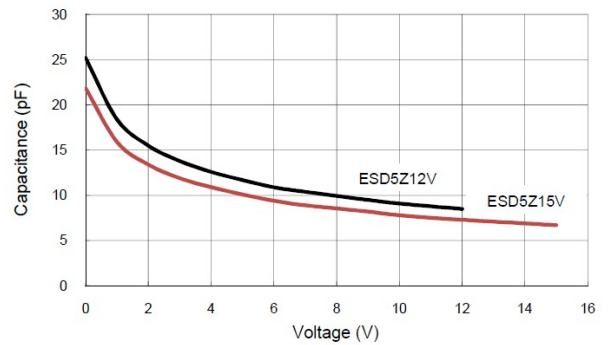


Fig 5 Clamping Voltage vs Peak Pulse Current

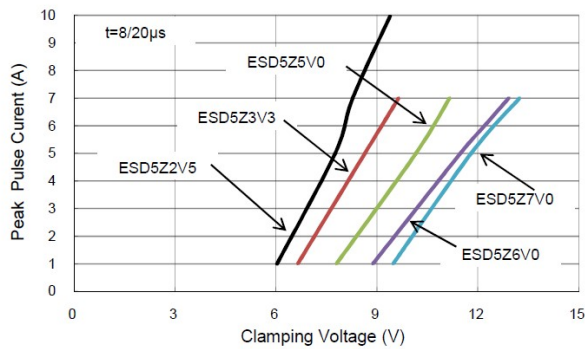
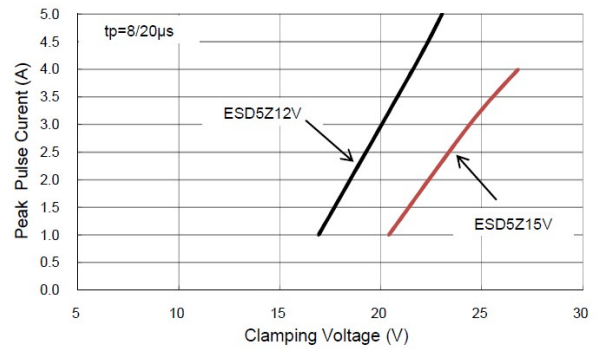
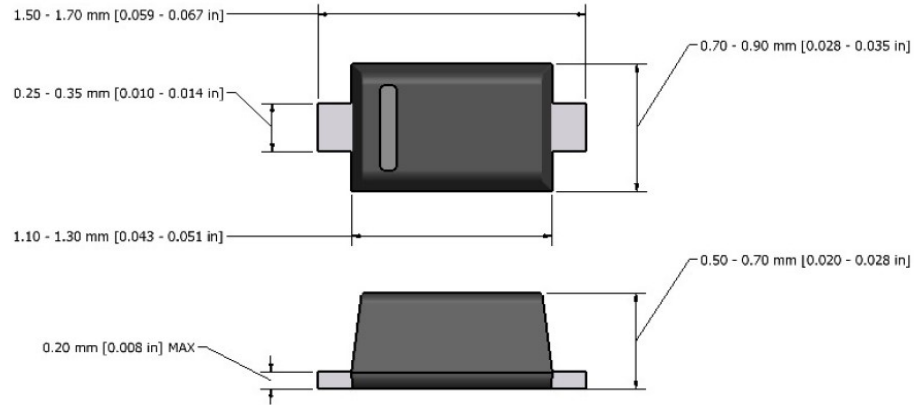


Fig 6 Clamping Voltage vs Peak Pulse Current



## SOD-523 PACKAGE OUTLINE DIMENSIONS



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