

## DESCRIPTION

The ESD5Z 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.

## APPLICATIONS

- ✧ Cellular phones.
- ✧ Portable devices.
- ✧ Digital cameras.
- ✧ Power supplies.

## FEATURES

- ✧ Small Body Outline Dimensions.
- ✧ Low Body Height.
- ✧ Peak Power up to 200Watts @ 8 x20  $\mu$ s Pulse.
- ✧ Low Leakage current.
- ✧ Response Time is Typically < 1 ns.

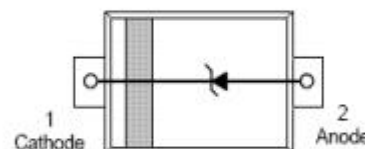
## COMPLIES WITH THE FOLLOWING STANDARDS

- ✧ IEC61000-4-2.
- ✧ Level 4 15 kV (air discharge)  
8 kV(contact discharge) .
- ✧ MIL STD 883E - Method 3015-7 Class 3  
25 kV HBM (Human Body Model) .

### SOD-523



### PIN CONFIGURATION

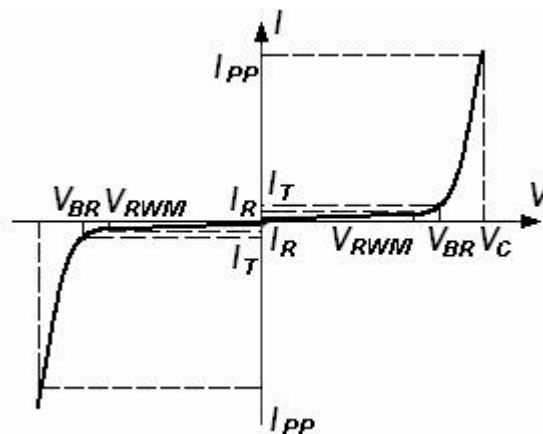


**DEVICE CHARACTERISTICS**
**Absolute Ratings ( $T_{amb}=25^{\circ}\text{C}$ )**

Symbol	Parameter	Value	Units
$P_{pp}$	Peak Pulse Power ( $t_p=8/20\mu\text{s}$ )	200	W
$T_L$	Maximum lead temperature for soldering during 10s	260	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature Range	-55 to +155	$^{\circ}\text{C}$
$T_{op}$	Operating Temperature Range	-40 to +125	$^{\circ}\text{C}$
$T_j$	Maximum junction temperature	150	$^{\circ}\text{C}$
	IEC61000-4-2 (ESD) air discharge contact discharge	$\pm 15$ $\pm 8$	kV
	IEC61000-4-4 (EFT)	40	A
	ESD Voltage Per Human Body Model Per Machine Model	25 400	kV V

**ELECTRICAL PARAMETER**

Symbol	Parameter
$I_{pp}$	Maximum Reverse Peak Pulse Current
$V_c$	Clamping Voltage @ $I_{pp}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$I_T$	Test Current
$V_{BR}$	Breakdown Voltage @ $I_T$



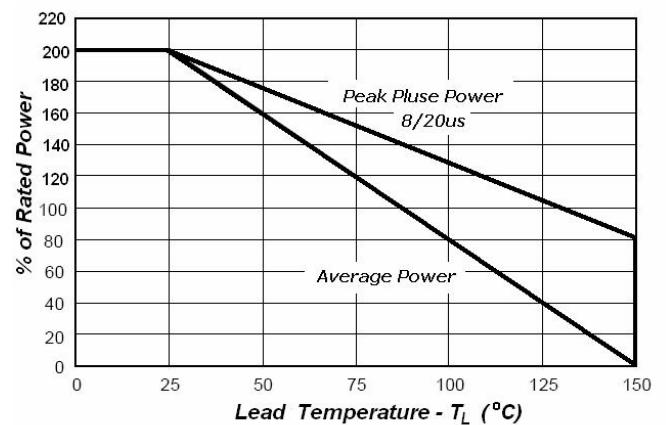
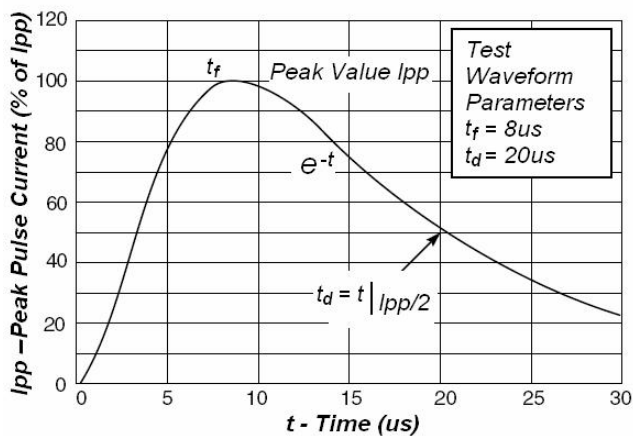
## ELECTRICAL CHARACTERISTICS

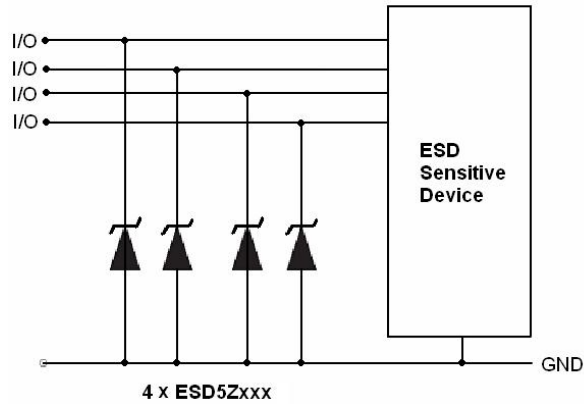
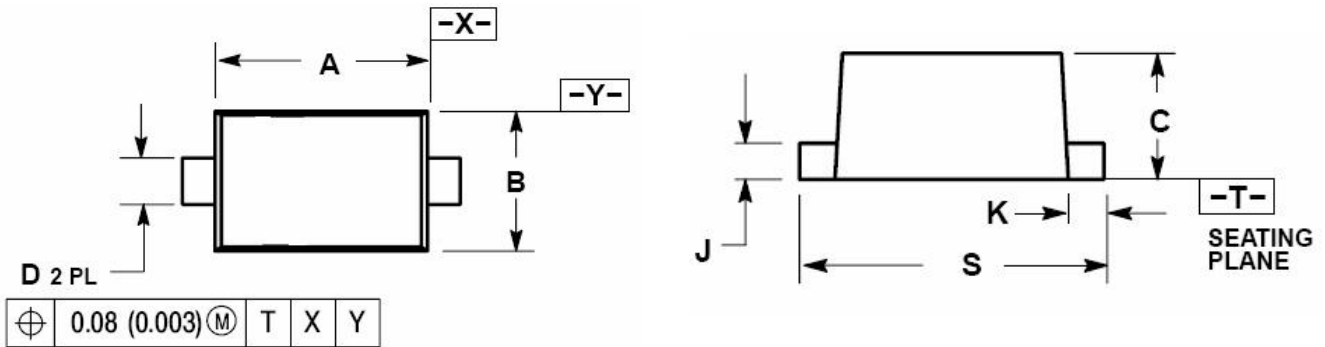
Part Numbers	$V_{BR}$			$I_T$	$V_{RWM}$	$I_R$	$V_F$	$I_F$	$C$
	Min.	Typ.	Max.				Max.		Typ. 0v bias
	V	V	V		V	$\mu A$	V		pF
ESD5Z3V3	5.0	6.0	7.0	1	3.0	1	1.25	200	35
ESD5Z5V	6.0	6.6	7.1	1	5.0	1	1.25	200	30
ESD5Z6V	6.8	7.4	7.9	1	6.0	1	1.25	200	30
ESD5Z7V	7.5	8.1	8.6	1	7.0	1	1.25	200	25
ESD5Z12V	13.5	14.2	15.0	1	12.0	1	1.25	200	25

\*Surge current waveform per Figure 1.

1.  $V_{BR}$  is measured with a pulse test current  $I_T$  at an ambient temperature of 25°C.

## TYPICAL CHARACTERISTICS



**SOD-523 MECHANICAL DATA**


Website: <http://www.jksemi.com>

For additional information, please contact your local Sales Representative.

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