

## Product Summary

The SESDB5V0RD5 is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space comes at a premium.

This SESDB5V0RD5 has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD(electrostatic discharge), and EFT (electrical fast transients).

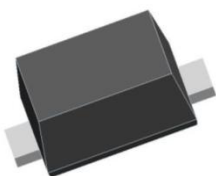
## Feature

- Stand-off voltage: 5V Max
- Peak Power Dissipation: 120W (8 x 20 us Waveform)
- Protects power & I/O Port
- Low Clamping Voltage
- Low Leakage
- ROHS compliant

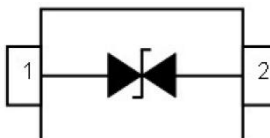
## Application

- Cellular handsets and accessories
- Portable instrumentation
- Peripherals
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV

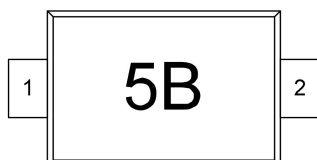
## Package

**SOD-523**

## Circuit diagram



## Marking





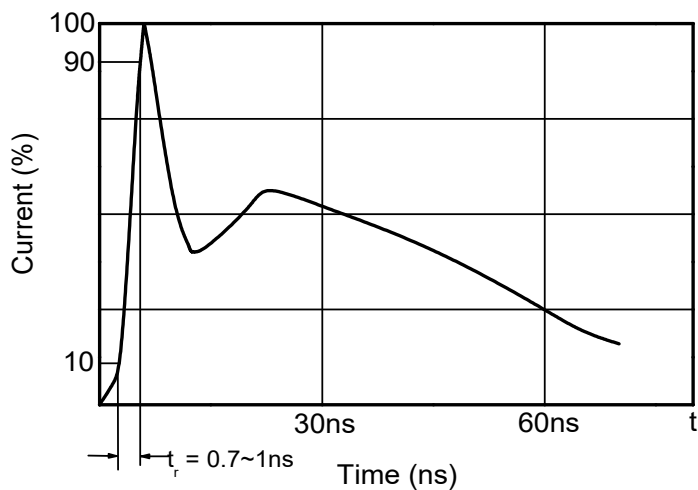
**Absolute Maximum Ratings ( $T_a=25^{\circ}\text{C}$  unless otherwise noted)**

Parameter	Symbol	Value	Unit
IEC 61000-4-2 ESD Voltage (Air Model)	$V_{\text{ESD}}^{1)}$	$\pm 30$	kV
IEC 61000-4-2 ESD Voltage (Contact Model)		$\pm 30$	
Peak Pulse Power	$P_{\text{PP}}^{2)}$	120	W
Peak Pulse Current	$I_{\text{PP}}^{2)}$	8	A
Lead Solder Temperature – Maximum (10 Second Duration)	TL	260	$^{\circ}\text{C}$
Junction Temperature	$T_j$	150	$^{\circ}\text{C}$
Storage Temperature	Tstg	-55~ +150	$^{\circ}\text{C}$

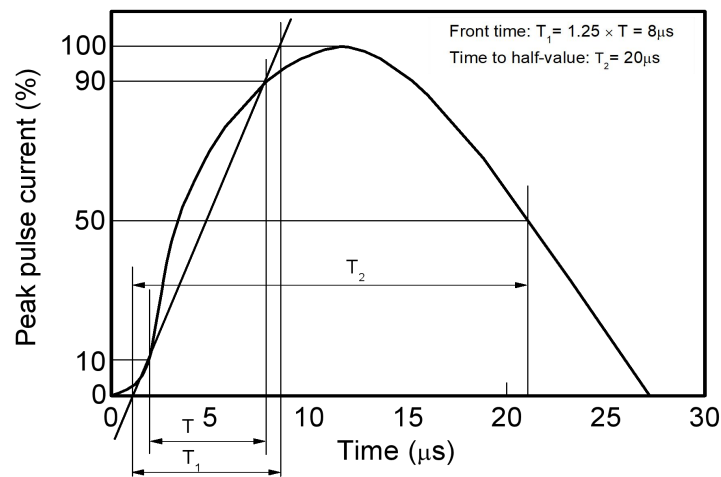
1) Device stressed with ten non-repetitive ESD pulses.

2) Non-repetitive current pulse 8/20 $\mu\text{s}$  exponential decay waveform according to IEC61000-4-5.

**Contact discharge current waveform per IEC61000-4-2**



**8/20 $\mu\text{s}$  waveform per IEC61000-4-5**

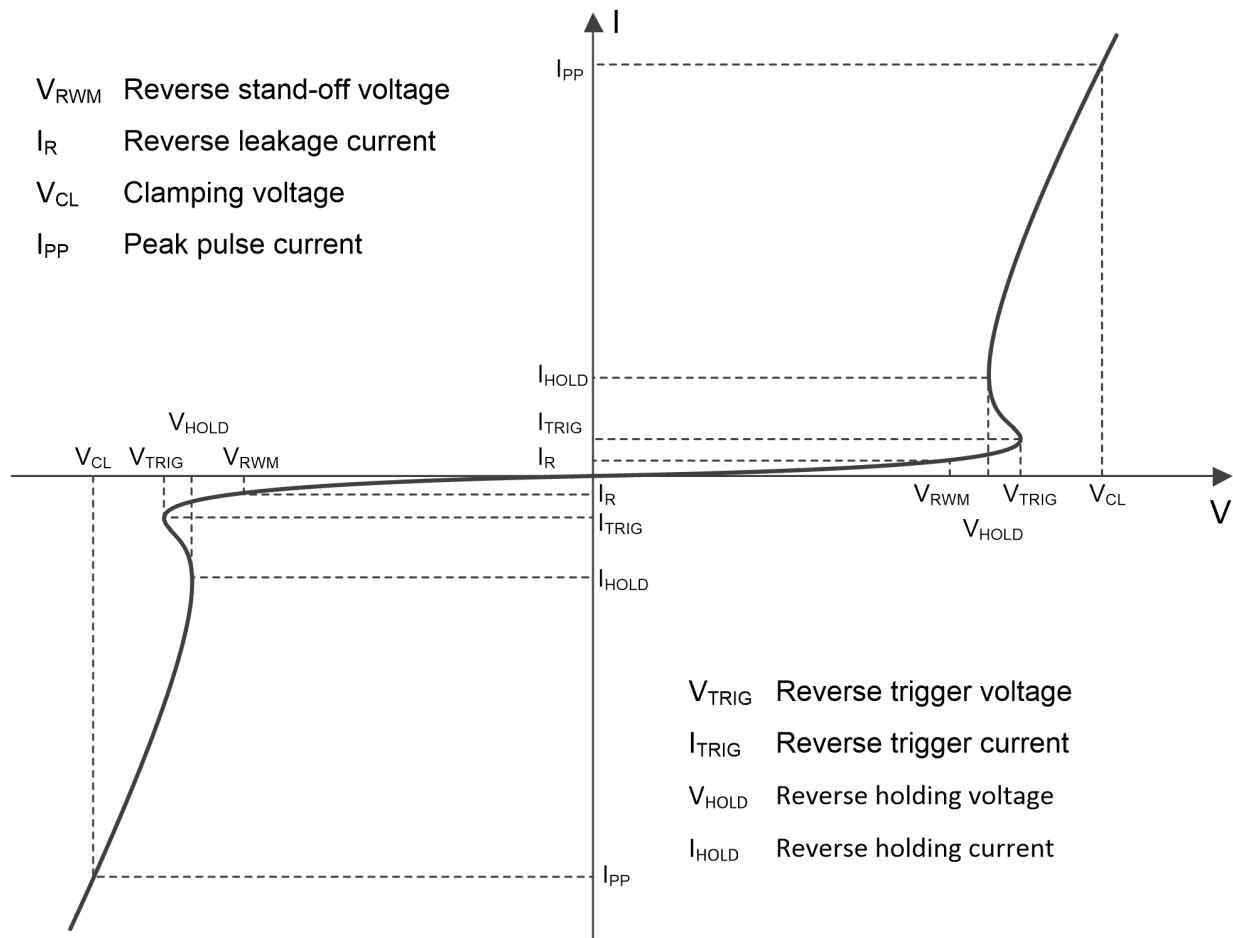




Electrical Characteristics (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	$V_{RWM}$				5	V
Reverse leakage current	$I_R$	$V_{RWM}=5V$			0.5	$\mu A$
Breakdown voltage	$V_{BR}$	$I_T=1mA$	5.5			V
Clamping voltage	$V_C$	$I_{PP}=1A$			7.5	V
		$I_{PP}=8A$			15	
Junction capacitance	$C_J$	$V_R = 0V, f = 1MHz$		15	18	pF

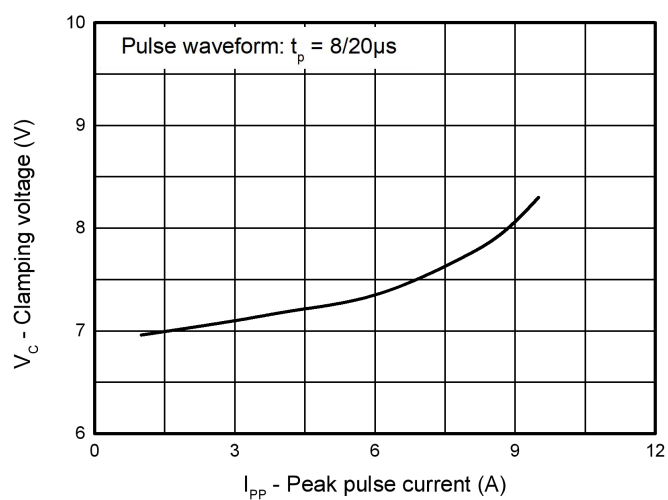
1) Non-repetitive current pulse 8/20 $\mu s$  exponential decay waveform according to IEC61000-4-5



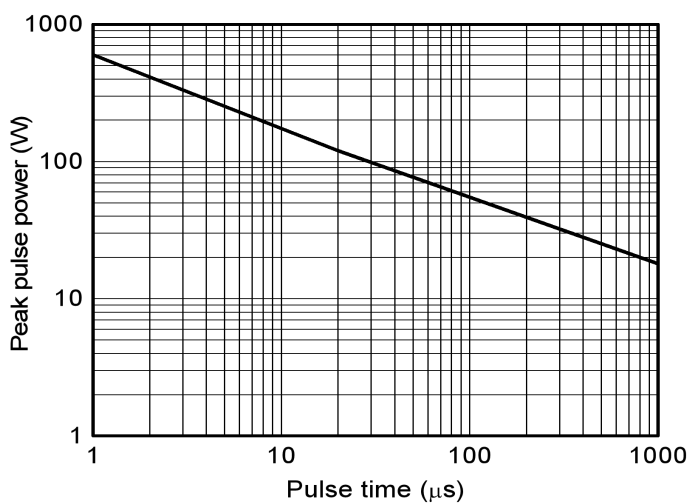
V-I characteristics for a Bi-directional TVS



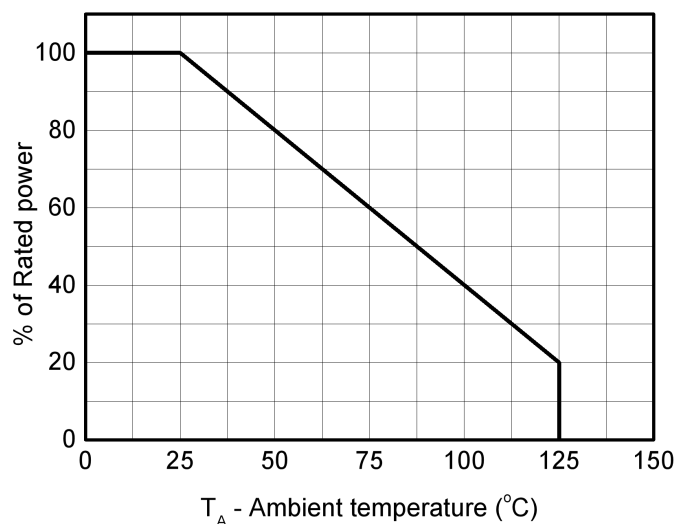
## Typical Characteristics



Clamping voltage vs. Peak pulse current



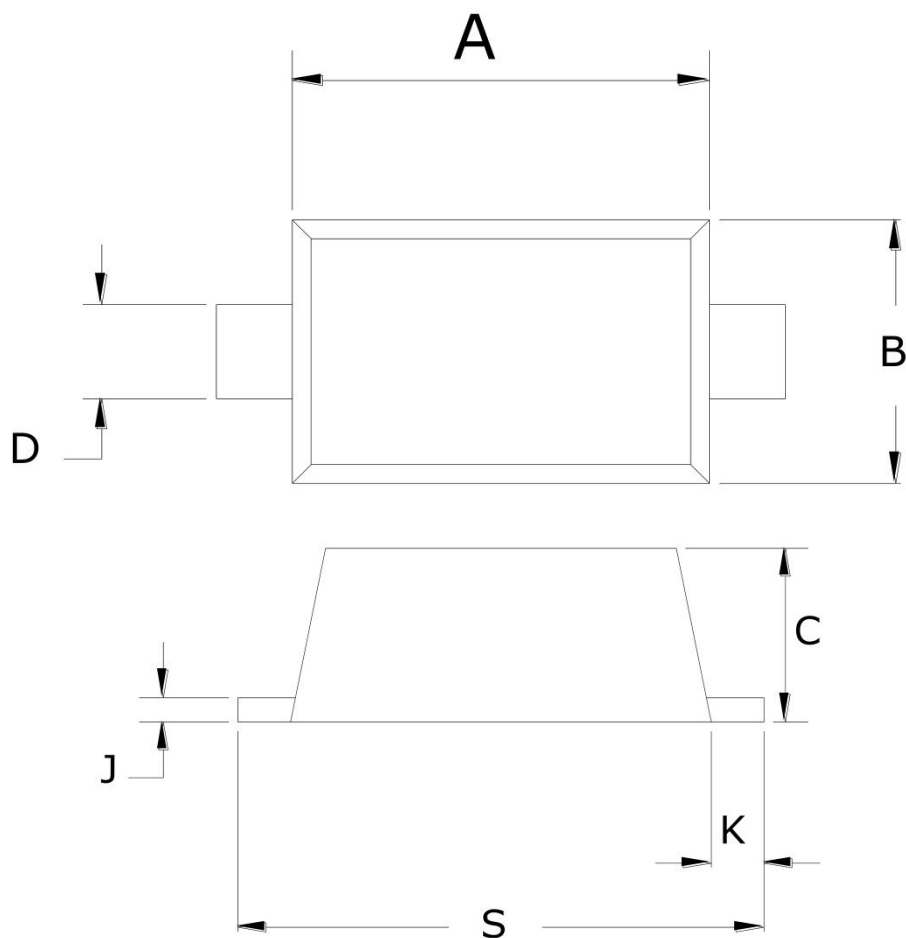
Non-repetitive peak pulse power vs. Pulse time



Power derating vs. Ambient temperature



SOD-523 Package Outline Dimensions



	Millimeters	
	Min	Max
A	1.10	1.30
B	0.75	0.85
C	0.51	0.70
D	0.25	0.35
J	0.08	0.15
K	0.15	0.25
S	1.50	1.70