



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).

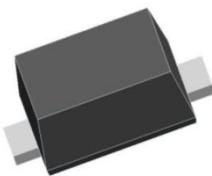
Feature

- 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

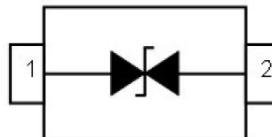
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV

Package



SOD-523

Circuit diagram



Marking





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Siliup Semiconductor

SESDB5V0RD5

Bi-direction, 5V TVS

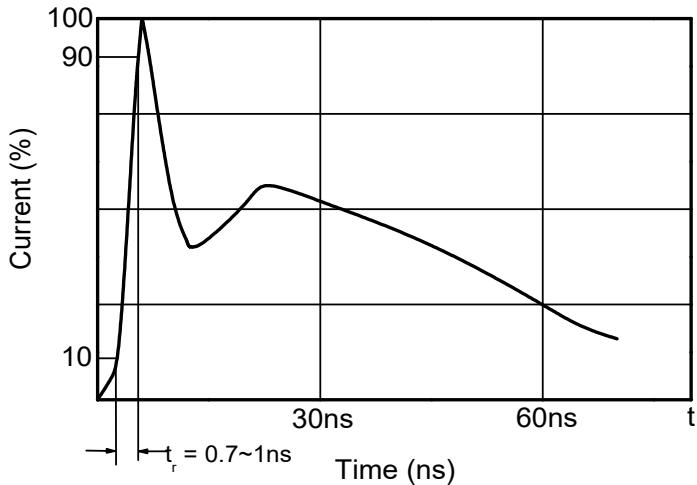
Absolute Maximum Ratings ($T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
IEC 61000-4-2 ESD Voltage (Air Model)	$V_{\text{ESD}}^{1)}$	± 30	kV
IEC 61000-4-2 ESD Voltage (Contact Model)		± 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	°C
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55~ +150	°C

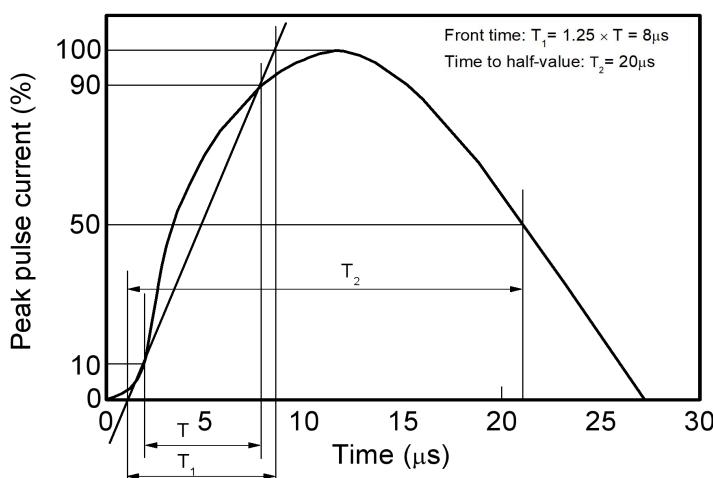
1) Device stressed with ten non-repetitive ESD pulses.

2) Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.

Contact discharge current waveform per IEC61000-4-2



8/20μs waveform per IEC61000-4-5

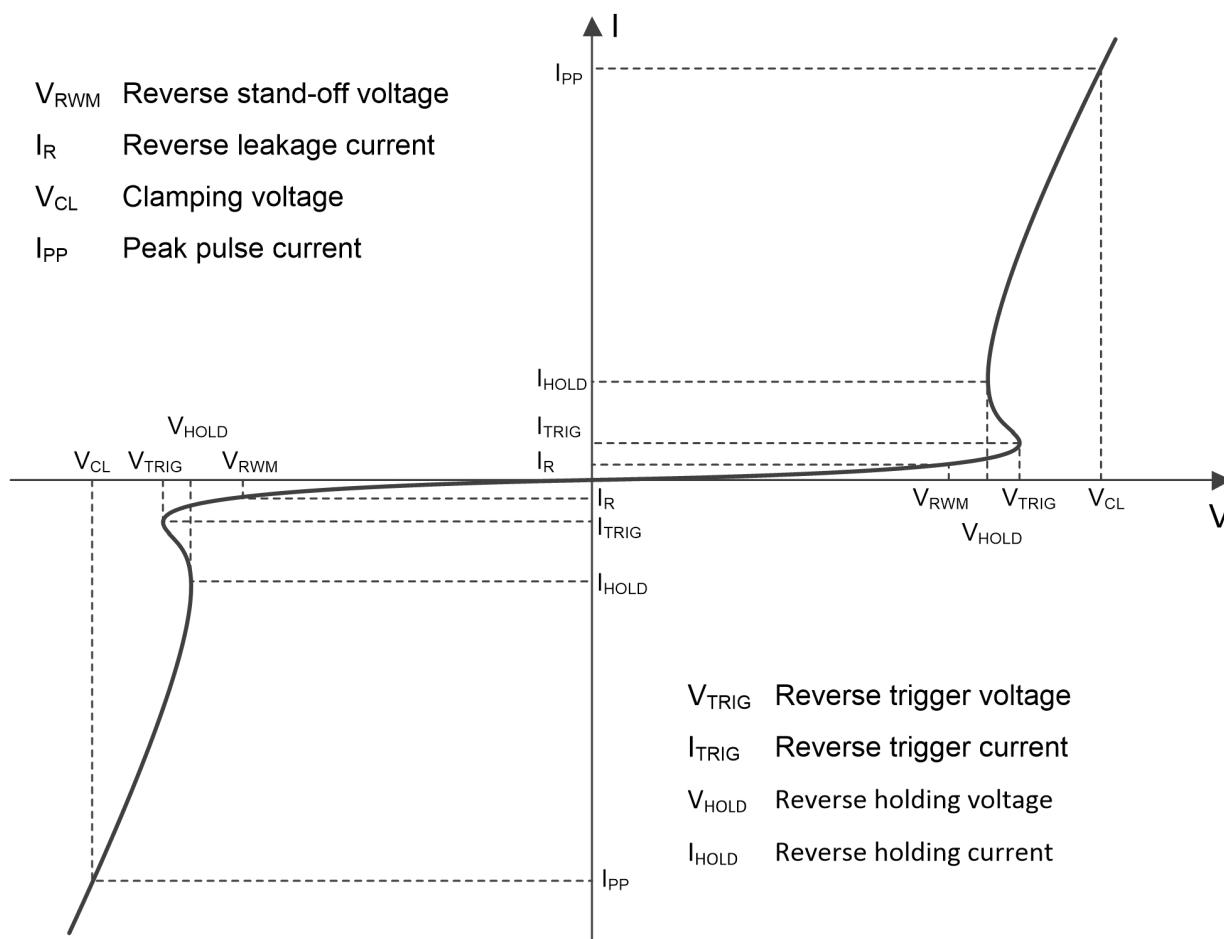




Electrical Characteristics (Ta=25°C unless otherwise specified)

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	uA
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 μ s exponential decay waveform according to IEC61000-4-5



V-I characteristics for a Bi-directional TVS



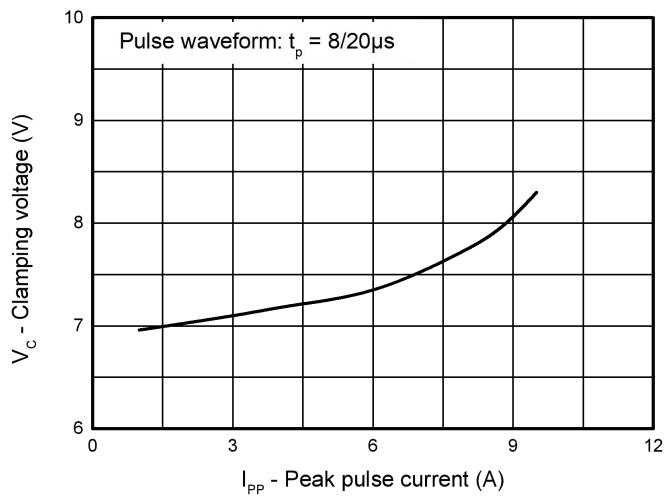
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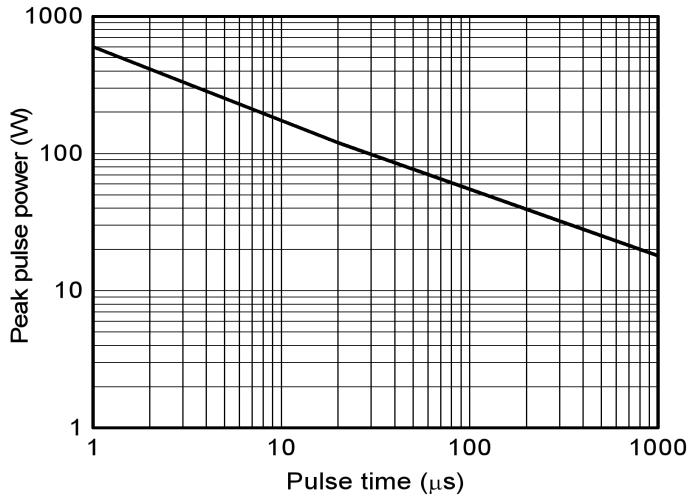
SESDB5V0RD5

Bi-direction, 5V TVS

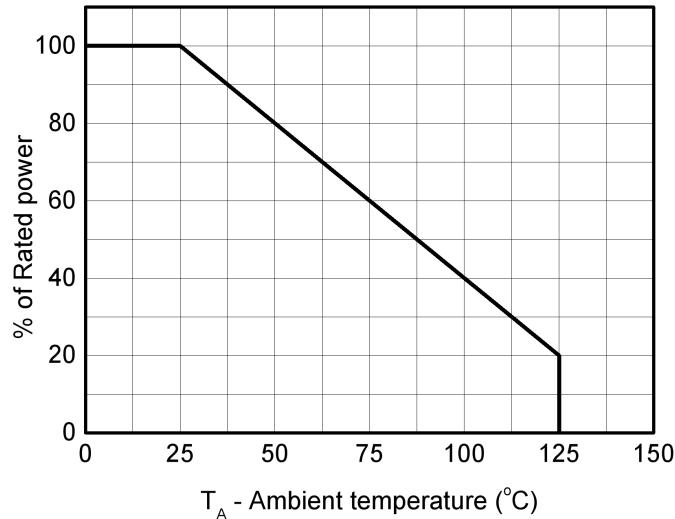
Typical Characteristics



Clamping voltage vs. Peak pulse current



Non-repetitive peak pulse power vs. Pulse time



Power derating vs. Ambient temperature



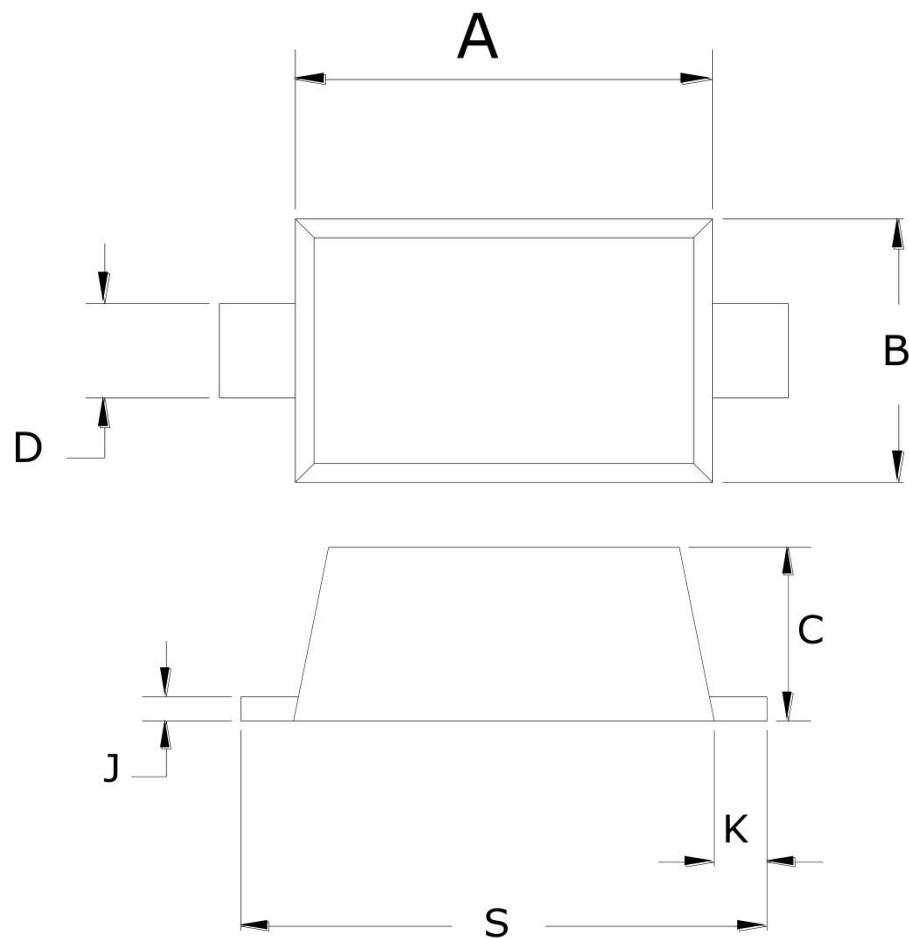
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SESDB5V0RD5

Bi-direction, 5V TVS

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