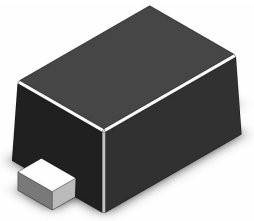
Transient Voltage Suppressors for ESD Protection

SE05D5S21HZ

Features

- Working voltage : 5.0V
- Low leakage current : 0.1μA @ V_{RWM}
- Low clamping voltage
- Response Time is < 1 ns

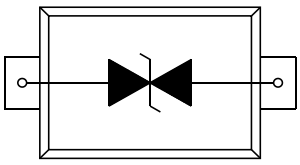
SOD-523



Applications

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

Pin Configuration



Mechanical Characteristics

- SOD-523 Package
- Molding Compound Flammability Rating : UL 94V-0
- Quantity Per Reel : 5,000pcs
- Reel Size : 7 inch
- Marking Code：5XB

Absolute Maximum Rating

Symbol	Parameter	Value	Units
T_{LST}	**Lead Soldering Temperature**	260 (10sec)	℃
T_{STG}	**Storage Temperature Range**	-55 to +150	℃
T_{OPT}	**Operating Temperature Range**	-55 to +125	℃
V_{ESD}	**ESD per IEC 61000-4-2(Air)** **ESD per IEC 61000-4-2 (Contact)**	±30 ±30	KV

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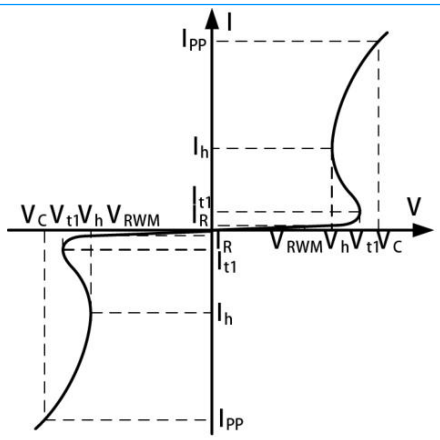
I-V Curve Characteristics

Symbol	Parameter
I_{PP}	Maximum Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{t1}	Trigger Voltage
I_{t1}	Trigger Current @ V_{t1}
V_h	Holding Voltage
I_h	Holding Current @ V_h



Bi-Directional TVS

Electrical Characteristics (@ T_A=25℃ Unless Otherwise Specified)

Symbol	Test Condition	Minimum	Typical	Maximum	Units
V_{RWM}	--	--	--	5.0	V
I_R	V_{RWM}=5V, T=25℃	--	--	0.1	μA
V_{BR}	I_T = 1mA	5.6	--	8.7	V
V_C	I_{PP}=5A, t_p=8/20μs	--	--	14	V
C_J	V_R=0V, f=1MHz	--	14	--	pF

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

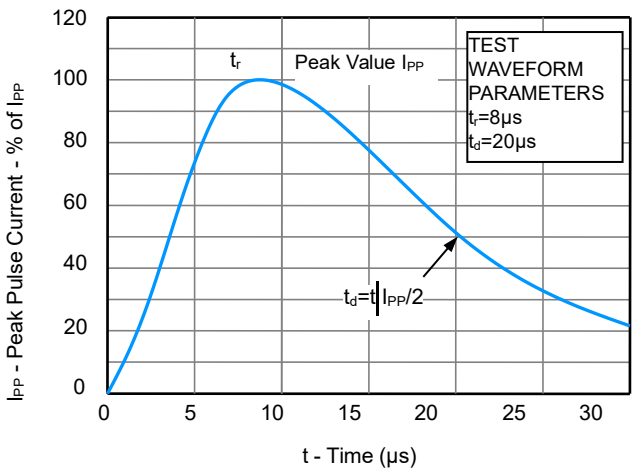
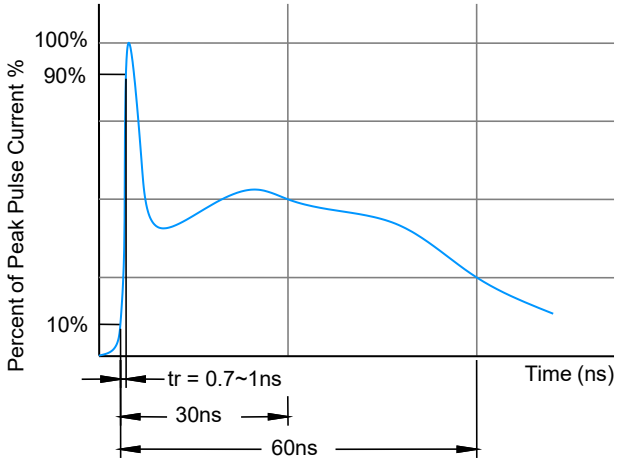


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)



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Characteristic Curves (Continue)

Fig3. ESD Clamping (+8KV Contac per IEC61000-4-2)

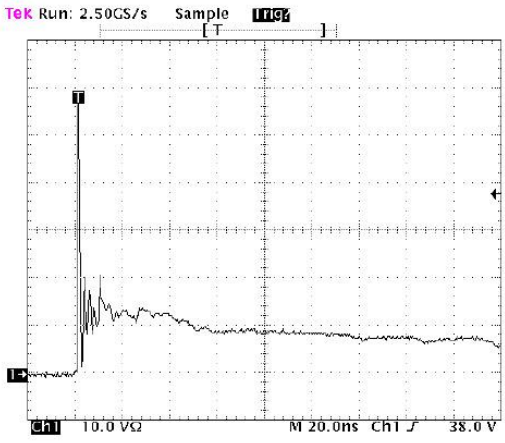
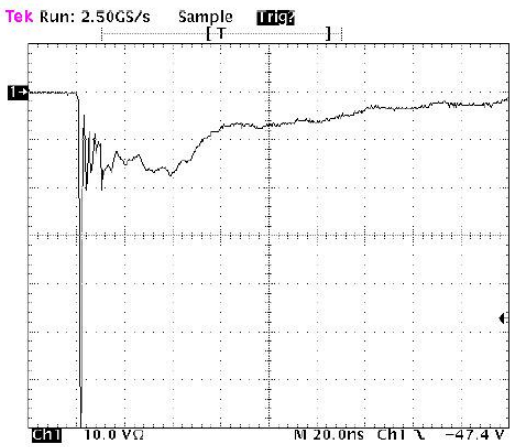
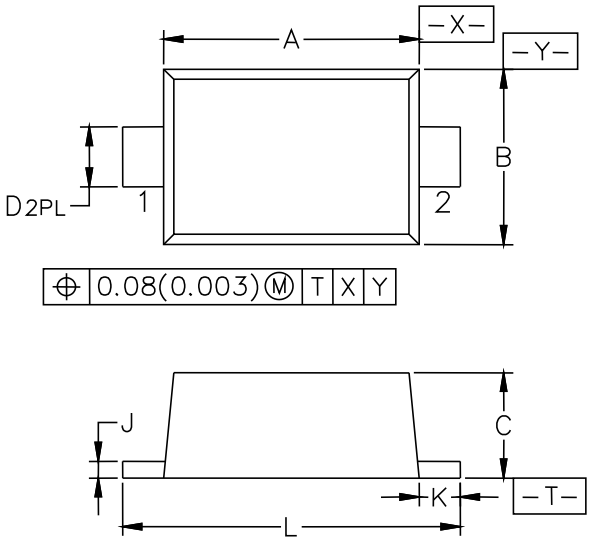


Fig4. ESD Clamping (-8KV Contac per IEC61000-4-2)

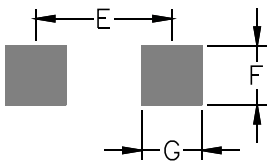


SOD-523 Package Outline & Dimensions



Symbol	Millimeters			Inches		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	1.10	1.20	1.30	0.043	0.047	0.051
B	0.70	0.80	0.90	0.028	0.032	0.035
C	0.50	0.60	0.70	0.020	0.024	0.028
D	0.25	0.30	0.35	0.010	0.012	0.014
J	0.07	0.14	0.20	0.0028	0.0055	0.0079
K	0.15	0.20	0.25	0.006	0.008	0.010
L	1.50	1.60	1.70	0.059	0.063	0.067

Soldering Footprint



Symbol	Millimeters	Inches
E	1.40	0.0547
F	0.40	0.0157
G	0.40	0.0157

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