

Transient Voltage Suppressors for ESD Protection

SE05D3S01HE

Feature

- ◆ Protects One I/O Line (Bidirection)
- ◆ Low Clamping Voltage
- ◆ Working Voltages : 5.0V
- ◆ Low Leakage Current

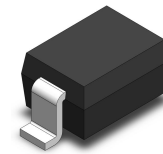
Applications

- ◆ Cellular Handsets and Accessories
- ◆ High Speed I/O Lines
- ◆ Notebooks & Handhelds
- ◆ Peripherals
- ◆ Personal Digital Assistants (PDA)
- ◆ Servers, Notebook, and Desktop PC

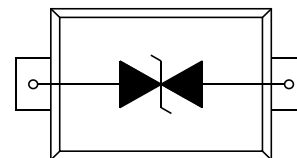
Mechanical Characteristics

- ◆ JEDEC SOD-323 Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch

SOD-323



Functional Diagram

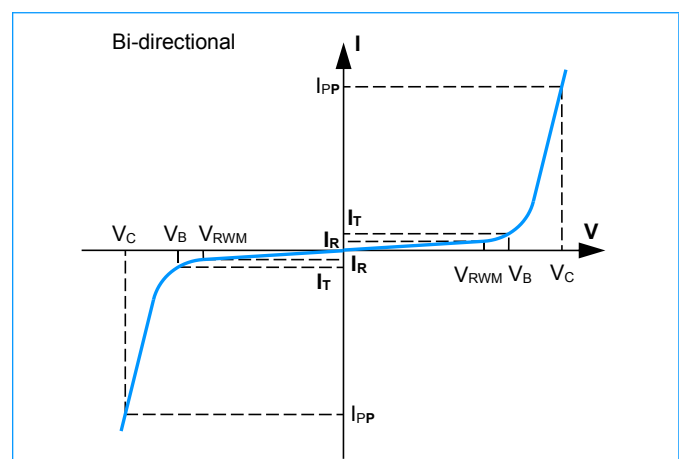


Mechanical Characteristics

Symbol	Parameter	Value	Units
T_L	Lead Soldering Temperature	260 (10sec)	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C
T_{OP}	Operating Temperature Range	-55 to +150	°C
	IEC61000-4-2 (ESD)		
	Air Discharge	±30	KV
	Contact Discharge	±30	

I-V Curve Characteristics

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_B	Breakdown Voltage @ I_T



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Electrical Characteristics (T = 25°C)

Symbol	Test Condition	Minimum	Typical	Maximum	Units
V_{RWM}	—	—	—	5	V
V_{BR}	$I_T=1mA$	6.0	—	—	V
I_R	$V_{RWM}=5V, T=25^\circ C$	—	—	0.5	μA
V_C	$I_{PP}=1A, t_p=8/20\mu s$	—	7	—	V
V_C	$I_{PP}=8.5A, t_p=8/20\mu s$	—	11	—	V
C_J	$V_R=0V, f=1MHz$	—	16	—	pF

Characteristic Curves

Fig1. 8/20 μs Pulse Waveform

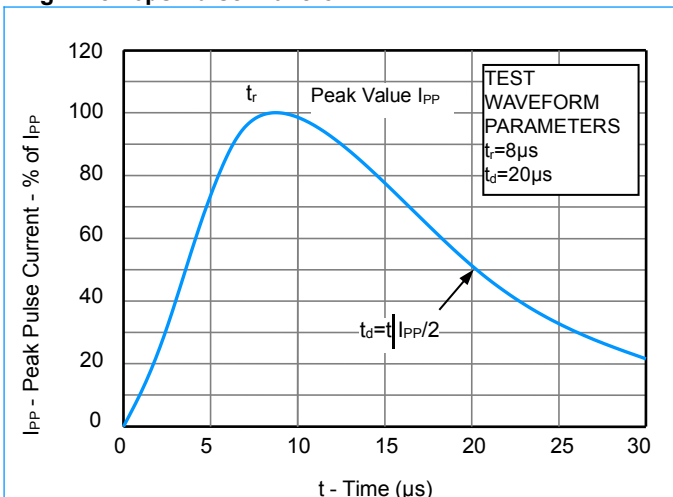


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

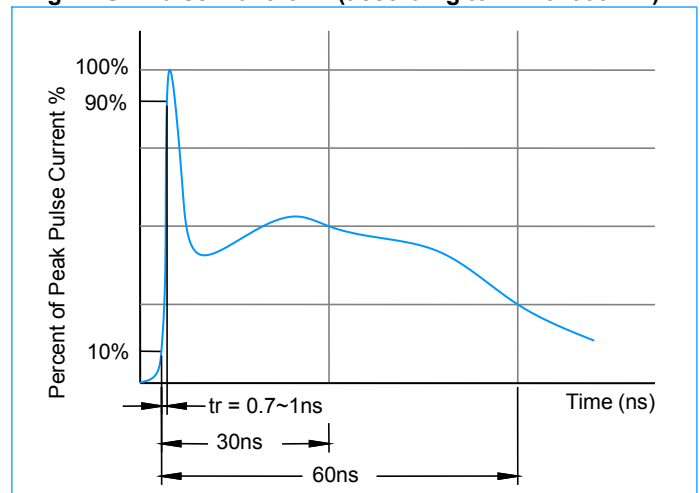


Fig3. ESD Clamping (+8KV Contac per IEC61000-4-2)

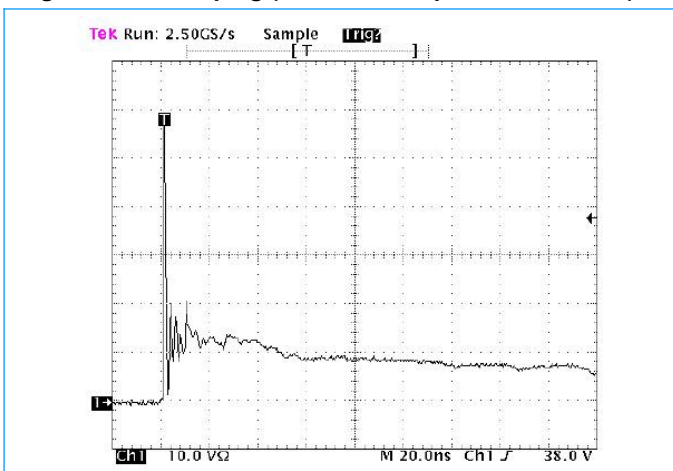
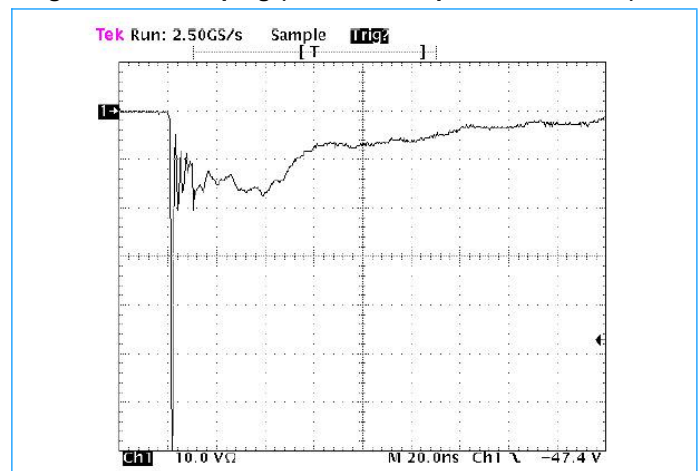


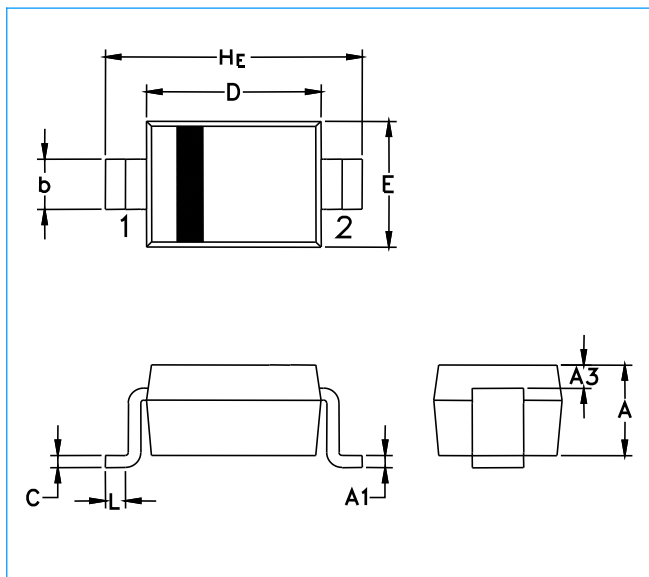
Fig4. ESD Clamping (-8KV Contac per IEC61000-4-2)



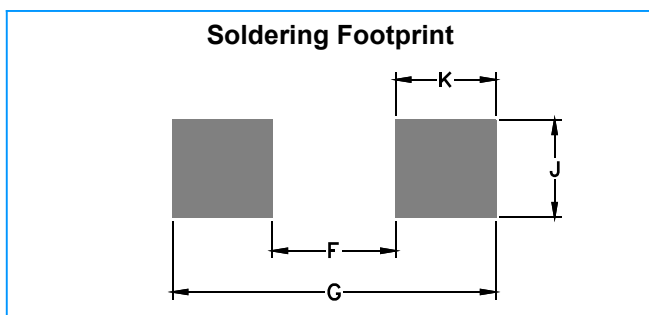
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SOD-323 Package Outline & Dimensions



Symbol	Millimeters			Inches		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.80	0.90	1.00	0.031	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A3	0.15 REF			0.006 REF		
b	0.25	0.32	0.40	0.010	0.012	0.016
C	0.089	0.12	0.177	0.003	0.005	0.007
D	1.60	1.70	1.80	0.062	0.066	0.070
E	1.15	1.25	1.35	0.045	0.049	0.053
L	0.08			0.003		
HE	2.30	2.50	2.70	0.090	0.098	0.105



Symbol	Millimeters	Inches
F	1.60	0.063
G	2.85	0.112
J	0.83	0.033
K	0.63	0.025