

Bi-directional TVS Diode for ESD Protection

SE15D3T01GE

Features

- ◆ Protects one bi-directional I/O line
- ◆ Low clamping voltage
- ◆ Working voltages : 15V
- ◆ Low leakage current

Main Applications

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

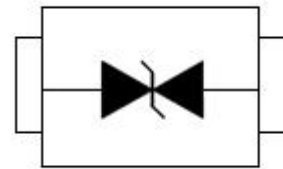
Mechanical Characteristics

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

SOD-323



Functional Diagram

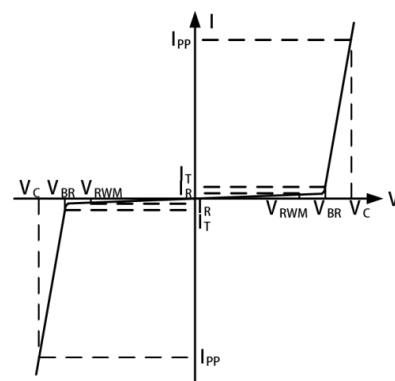


Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Units
Storage Temperature Range	T_{STG}	-55 to +150	$^{\circ}\text{C}$
Operating Junction Temperature Range	T_J	-55 to +125	$^{\circ}\text{C}$
Lead Soldering Temperature	T_L	260 (10 sec.)	$^{\circ}\text{C}$
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 30	KV
ESD per IEC 61000-4-2 (Contact)		± 30	

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_{BR}	Breakdown Voltage @ I_T
I_T	Test Current



Bi-Directional TVS

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Electrical Characteristics ($T_A = 25^\circ\text{C}$)

Symbol	Test Condition	Minimum	Typical	Maximum	Units
V_{RWM}	—	—	—	15	V
V_{BR}	$I_T = 1\text{mA}$	16.7	—	—	V
I_R	$V_{RWM} = 15\text{V}, T = 25^\circ\text{C}$	—	—	0.5	μA
I_{PP}	$t_p = 8/20\mu\text{s}$	—	—	9	A
V_C	$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$	—	—	20	V
V_C	$I_{PP} = 9\text{A}, t_p = 8/20\mu\text{s}$	—	—	30	V
C_J	$V_R = 0\text{V}, f = 1\text{MHz}$	—	—	30	pF

Ratings and V-I Characteristics Curves ($T_A = 25^\circ\text{C}$, unless otherwise noted)

Fig1. Pulse Waveform

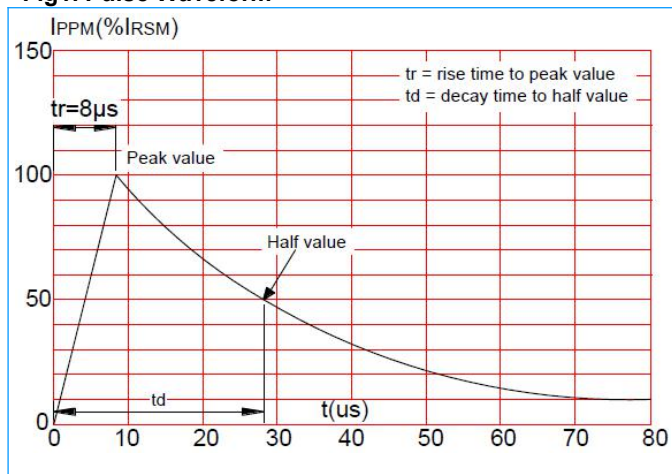


Fig2. Pulse Derating Curve

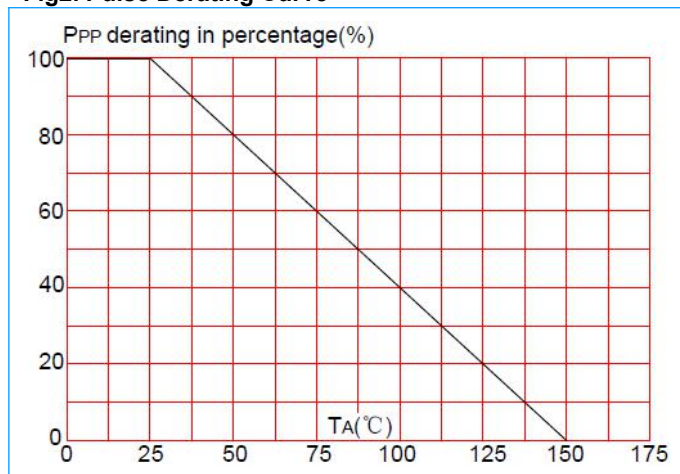
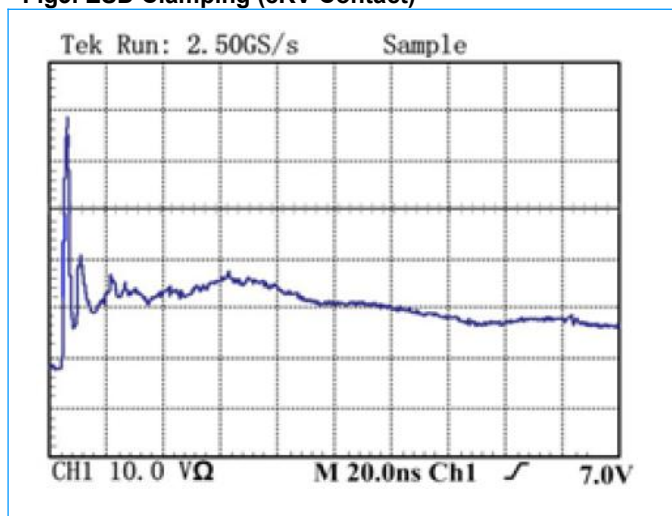


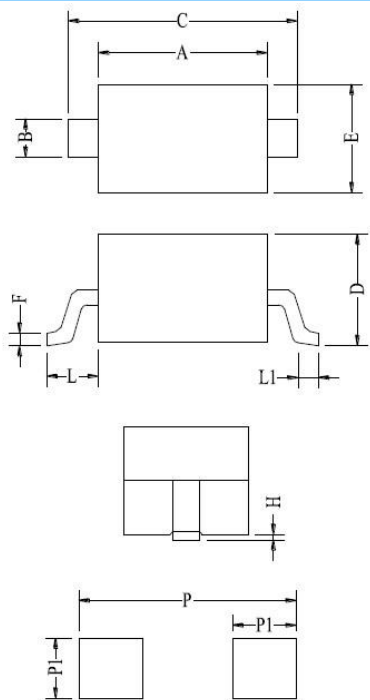
Fig3. ESD Clamping (8KV Contact)



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SOD-323 Package Mechanical Data



Land Pattern

Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.60	1.80	0.063	0.071
B	0.25	0.35	0.010	0.014
C	2.50	2.70	0.098	0.106
D	0.00	1.00	0.000	0.039
E	1.20	1.40	0.047	0.055
F	0.08	0.15	0.003	0.006
L	0.475REF		0.019REF	
L1	0.25	0.40	0.010	0.016
H	0.00	0.10	0.000	0.004
P	3.00		0.118	
P1	0.80		0.031	