SOCAY

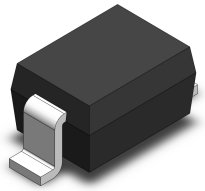
Bi-directional TVS Diode for ESD Protection

SE03D3V01GY

Features

- Protects one I/O or Power Line
- Low Clamping Voltage
- Working Voltage: 3.3V
- Low Leakage Current
- Response Time is Typically < 1 ns

SOD-323



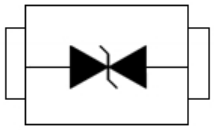
Main Applications

- Laptop Computers
- Cellular Phones
- Digital Cameras
- Personal Digital Assistants (PDA's)

Mechanical Characteristics

- JEDEC SOD-323 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel per EIA 481
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Absolute Maximum Ratings

Rating	Symbol	Value	Units
Operating Temperature Range	T_J	-40 to +125	℃
Storage Temperature Range	T_{STG}	-55 to +150	℃
ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	±30 ±30	kV

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Electrical Characteristics (T_A= 25℃)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Working Voltage	V_R	--	--	--	3.3	V
Reverse Breakdown Voltage	V_{BR}	I_T = 1 mA	3.6	--	--	V
Reverse Leakage Current	I_R	V_R = 3.3V	--	--	1	μA
Peak Pulse Current	I_{PP}	t_P = 8/20μs	--	--	27	A
Clamping Voltage	V_C	I_{PP} = 27A, tp = 8/20μs	--	10	--	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz	--	65	--	pF

Ratings and V-I Characteristics Curves (T_A=25℃, unless otherwise noted)

Fig. 1. V-I Curve Characteristics (Bi-directional)

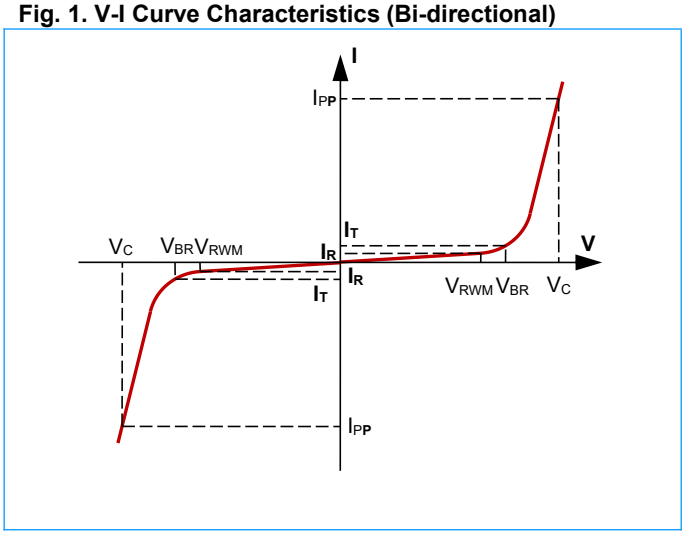


Fig. 2. Pulse Waveform (8/20μs)

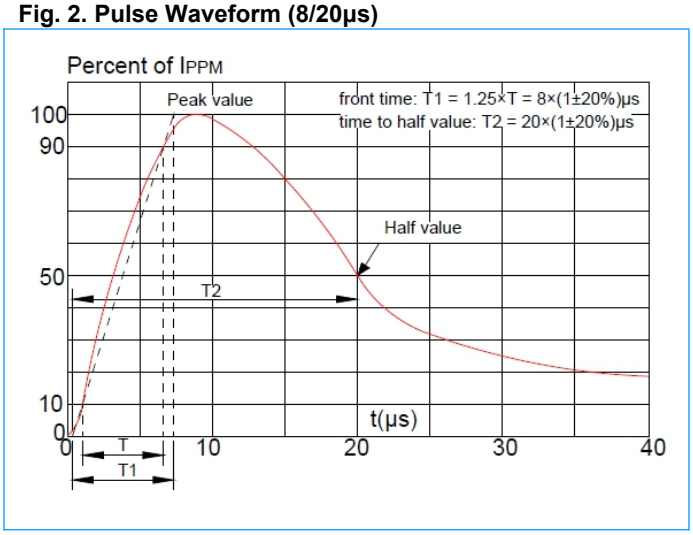


Fig. 3. Pulse Derating Curve

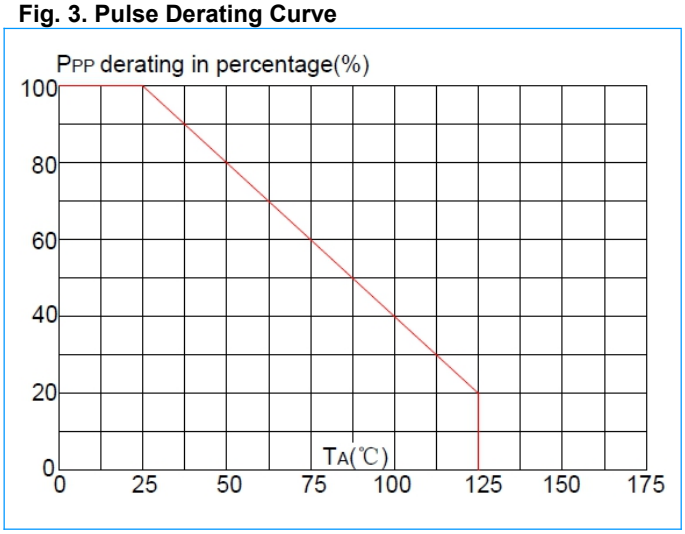
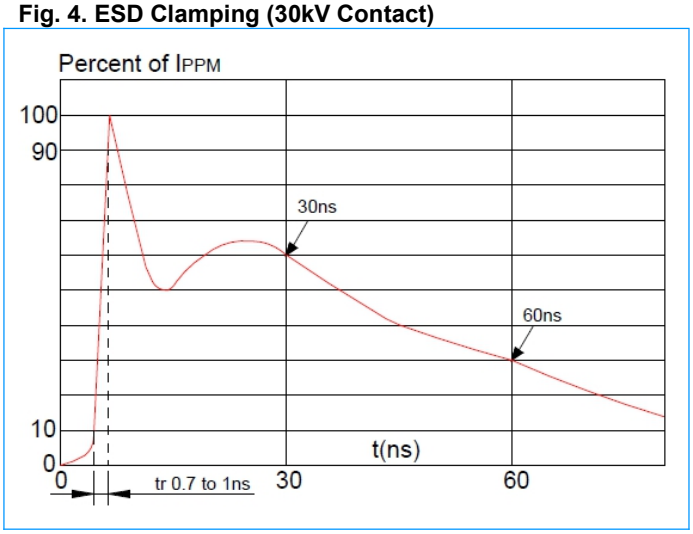


Fig. 4. ESD Clamping (30kV Contact)



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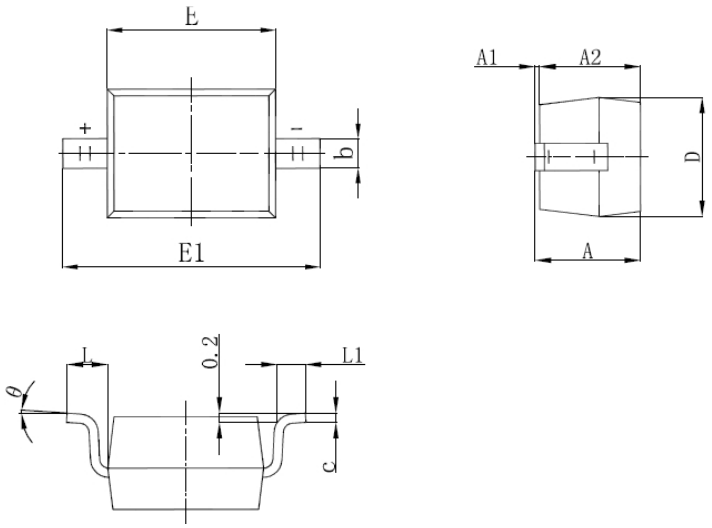
SOD-323 Package Outline Dimensions



Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	--	1.00	--	0.039
A1	0.00	0.10	0.000	0.004
A2	0.80	0.90	0.031	0.035
b	0.25	0.35	0.010	0.014
c	0.08	0.15	0.003	0.006
D	1.20	1.40	0.047	0.055
E	1.60	1.80	0.063	0.071
E1	2.55	2.75	0.100	0.108
L	0.475 REF.		0.019 REF.	
L1	0.25	0.40	0.010	0.016
θ	0°	8°	0°	8°

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