

Transient Voltage Suppressors for ESD Protection

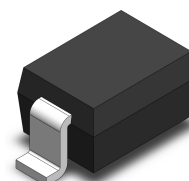
Low Capacitance

SE05D3V01GY

Features

- ◆ Protects one bi-directional I/O line
- ◆ Low clamping voltage
- ◆ Working voltage: 5V
- ◆ Low leakage current
- ◆ RoHS compliant
- ◆ IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC61000-4-5 (Lightning) 20A(8/20 μs)

SOD-323



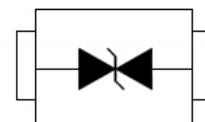
Applications

- ◆ 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
- ◆ Lead finish: lead free
- ◆ Reel size: 7 inch

Pin Configuration



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

Parameter	Symbol	Value	Units
Peak Pulse Current ($t_P = 8/20\mu\text{s}$)	I_{PP}	20	A
Lead Soldering Temperature	T_L	260 (10 sec.)	$^\circ\text{C}$
Operating Junction Temperature Range	T_J	$-55 \sim +125$	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	$-55 \sim +150$	$^\circ\text{C}$

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V_{RWM}	--	--	--	5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	5.5	--	--	V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$	--	--	1.0	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$, $t_P = 8/20\mu\text{s}$	--	7	--	V
		$I_{PP} = 20\text{A}$, $t_P = 8/20\mu\text{s}$	--	12.5	--	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$	--	75	--	pF

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

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

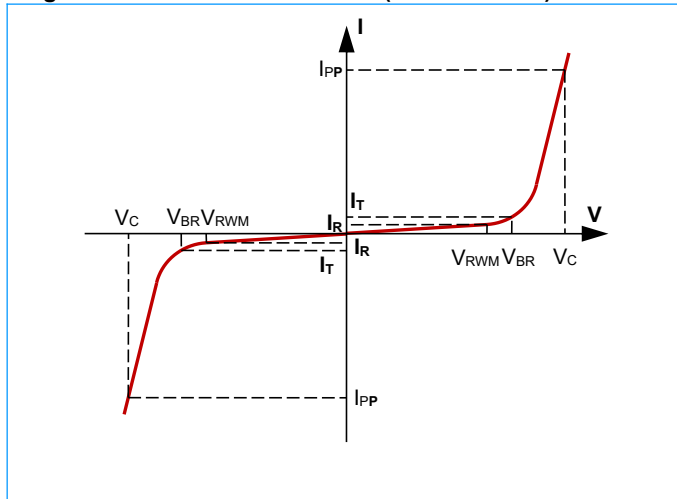


Fig.2 Pulse Waveform (8/20 μs)

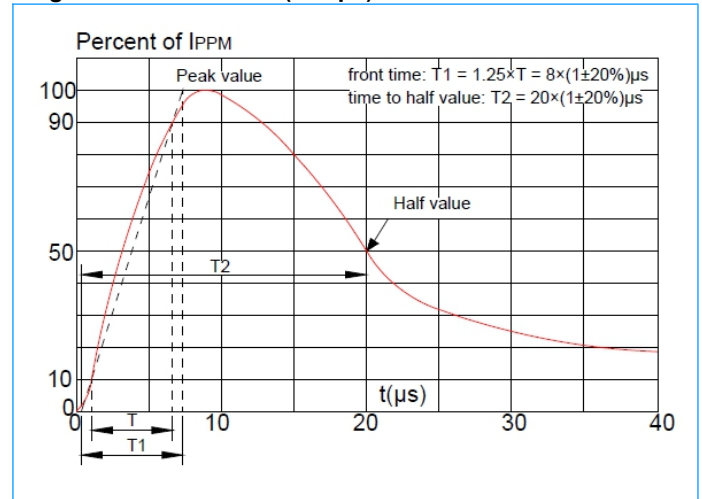


Fig. 3 Pulse Derating Curve

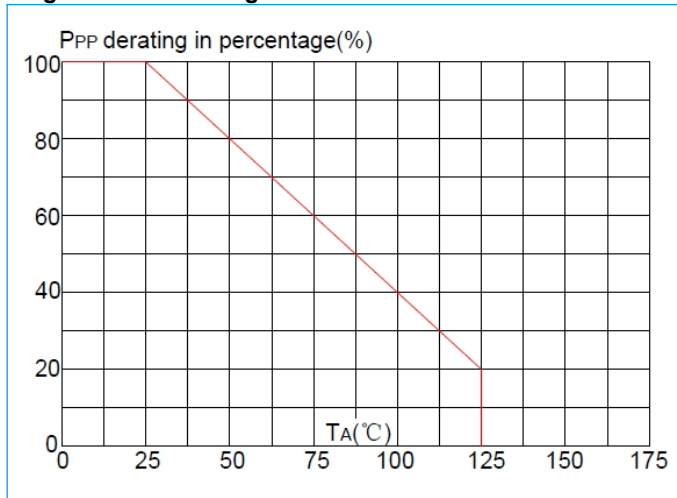
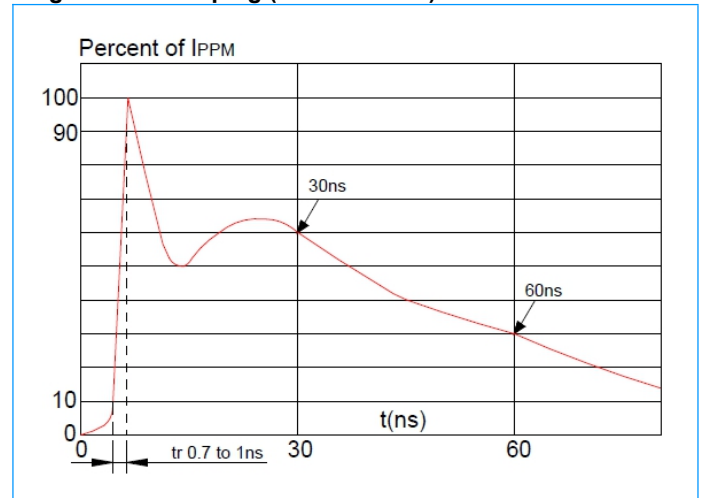
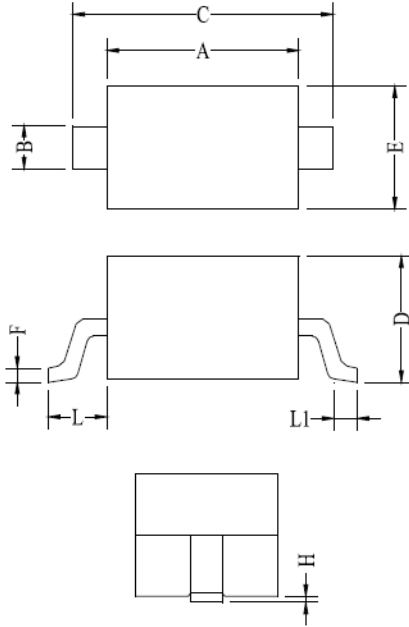


Fig. 4 ESD Clamping (30kV Contact)



SOD-323 Package Outline Dimensions


Symbol	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.60	1.70	1.80	0.063	0.067	0.071
B	0.25	0.32	0.40	0.010	0.013	0.016
C	2.30	2.60	2.80	0.091	0.102	0.110
D	0.80	0.95	1.10	0.031	0.037	0.043
E	1.20	1.30	1.40	0.047	0.051	0.055
F	0.08	0.13	0.18	0.003	0.005	0.007
L	0.475 REF			0.019REF		
L1	0.25	0.33	0.40	0.010	0.013	0.016
H	0.00	0.06	0.14	0.000	0.002	0.006

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