

Transient Voltage Suppressors for ESD Protection

Low Capacitance

SE05D3D01GC

Feature

- ◆ Protects one bi-directional I/O line
- ◆ Low clamping voltage
- ◆ Working voltages: 5V
- ◆ Low leakage current

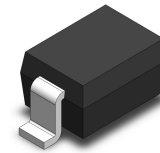
Applications

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

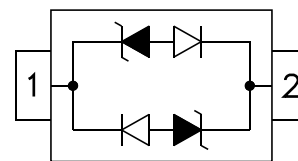
Mechanical Characteristics

- ◆ SOD-323 Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Weight 5.0 Milligrams (Approximate)
- ◆ Quantity Per Reel : 3,000pcs

SOD-323



Functional Diagram

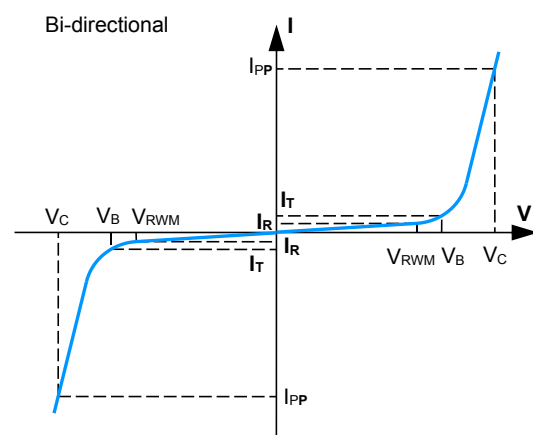


Absolute Maximum Ratings (T_A=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Units
Storage Temperature Range	T _{STG}	-55 to +150	°C
Operating Junction Temperature Range	T _J	-55 to +150	°C
Lead Soldering Temperature	T _L	260 (10sec.)	°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}
I _T	Test Current
I _h	Holding Current @ V _h
V _B	Breakdown Voltage @ I _T



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Electrical Characteristics (T = 25°C)

Symbol	Test Condition	Minimum	Typical	Maximum	Units
V_{RWM}	—	—	—	5.0	V
V_{BR}	$I_T=1mA$	6.0	—	—	V
I_R	$V_{RWM}=5V, T=25^\circ C$	—	—	0.05	μA
V_C	$I_{PP}=1A, t_p=8/20\mu s$	—	—	9.8	V
V_C	$I_{PP}=17A, t_p=8/20\mu s$	—	—	18	V
C_J	$V_R=0V, f=1MHz$	—	1	—	pF

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

Fig1. Pulse Waveform

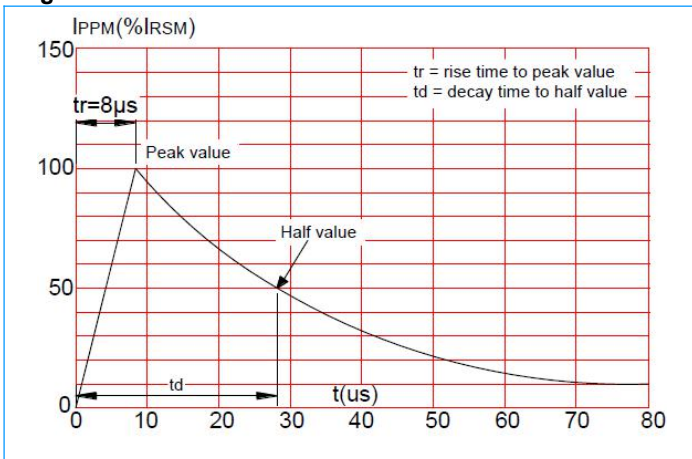


Fig2. Pulse Derating Curve

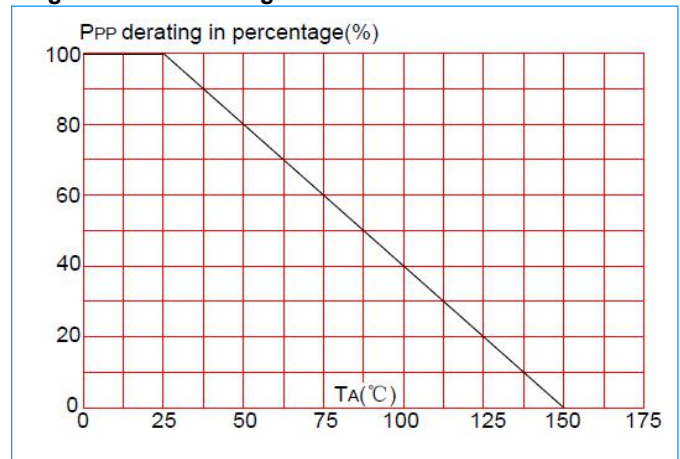
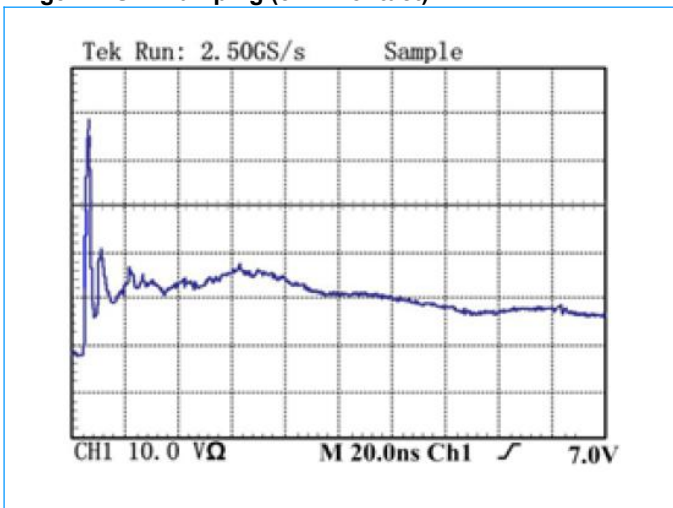
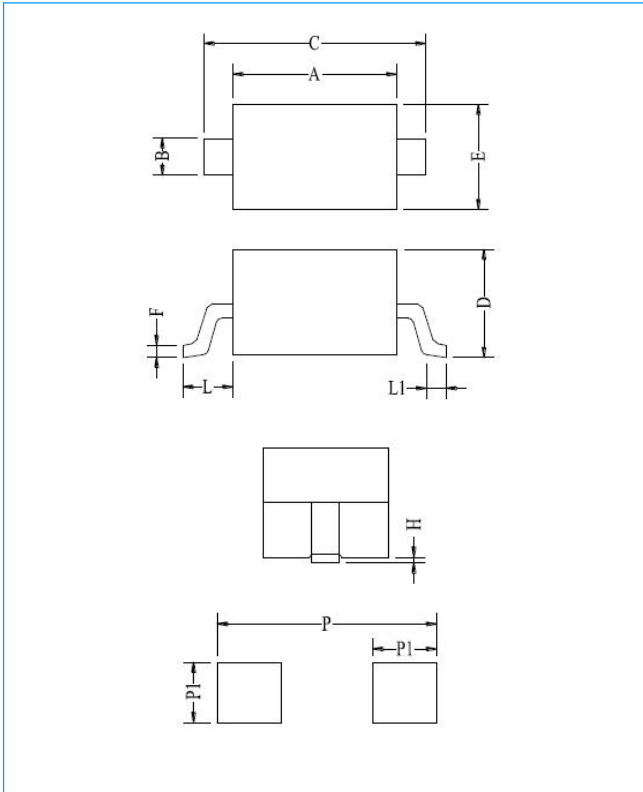


Fig3. ESD Clamping (8KV Contact)



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Package Mechanical Data


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	