

# Transient Voltage Suppressors for ESD Protection

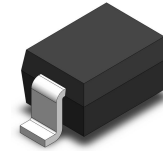
Low Capacitance

## SE05D3L01GE

### Features

- ◆ Working voltage : 5V
- ◆ Low capacitance: 1.2pF (Typical)
- ◆ Low leakage current: 1.0 $\mu$ A @  $V_{RWM}$
- ◆ Low clamping voltage
- ◆ Response Time is < 1 ns

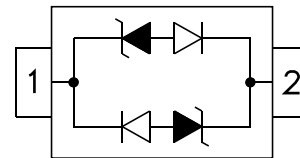
### SOD-323



### Applications

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

### Pin Configuration



### Mechanical Characteristics

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

### Absolute Maximum Rating

Symbol	Parameter	Value	Units
$T_{LST}$	Lead Soldering Temperature	260 (10sec)	$^{\circ}$ C
$T_{STG}$	Storage Temperature Range	-55 to +150	$^{\circ}$ C
$T_{OPT}$	Operating Temperature Range	-55 to +150	$^{\circ}$ C
$V_{ESD}$	ESD per IEC 61000-4-2(Air)	$\pm 15$	KV
	ESD per IEC 61000-4-2 (Contact)	$\pm 8$	

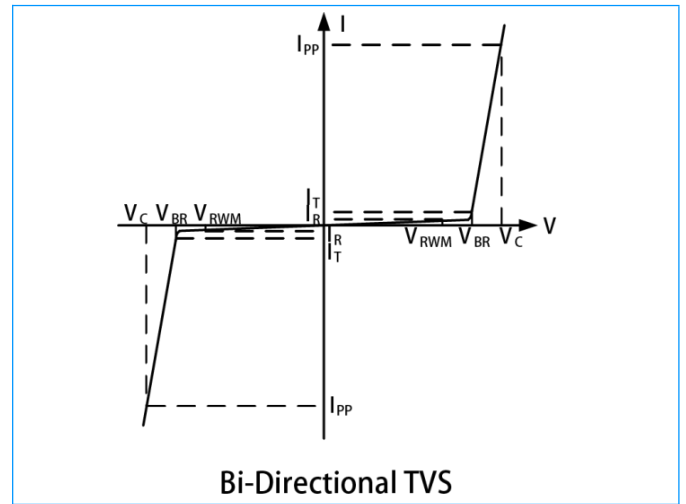
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## I-V Curve Characteristics

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



## Electrical Characteristics (@ $T_A=25^{\circ}C$ Unless Otherwise Specified )

Symbol	Test Condition	Minimum	Typical	Maximum	Units
$V_{RWM}$	--	--	--	5	V
$I_R$	$V_{RWM}=5V, T=25^{\circ}C$	--	--	1	$\mu A$
$V_{BR}$	$I_T = 1mA$	6	--	--	V
$V_C$	$I_{PP}=1A, t_p=8/20\mu s$	--	--	9	V
$V_C$	$I_{PP}=18A, t_p=8/20\mu s$	--	--	19	V
$C_J$	$V_R=0V, f=1MHz$	--	1.2	--	pF

## Characteristic Curves

Fig1. 8/20 $\mu s$  Pulse Waveform

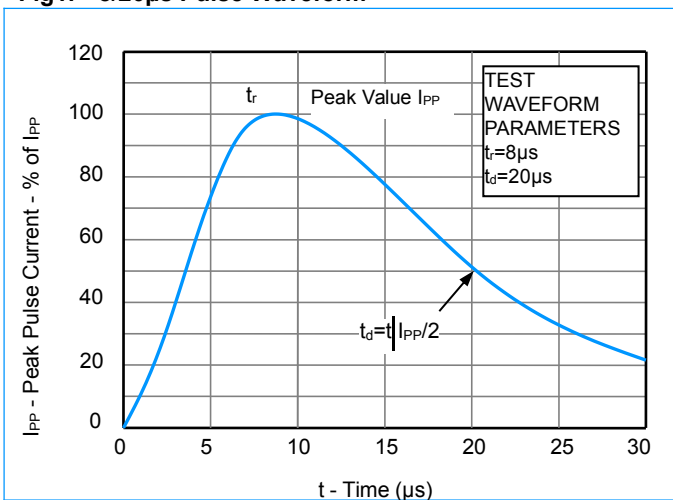
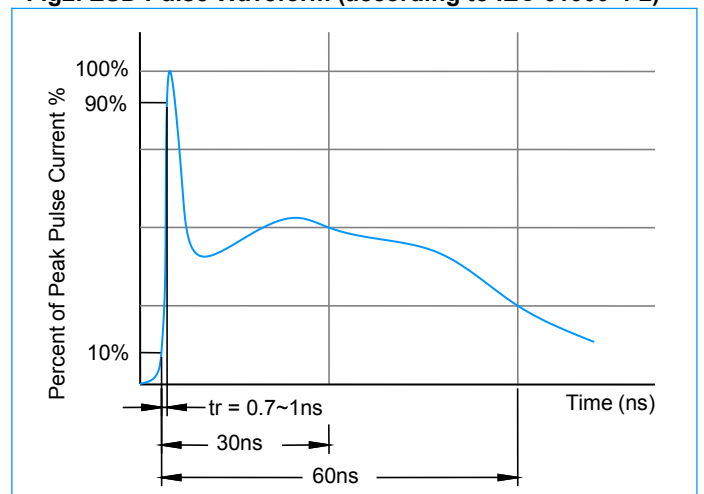


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)



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### Characteristic Curves (Continue)

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

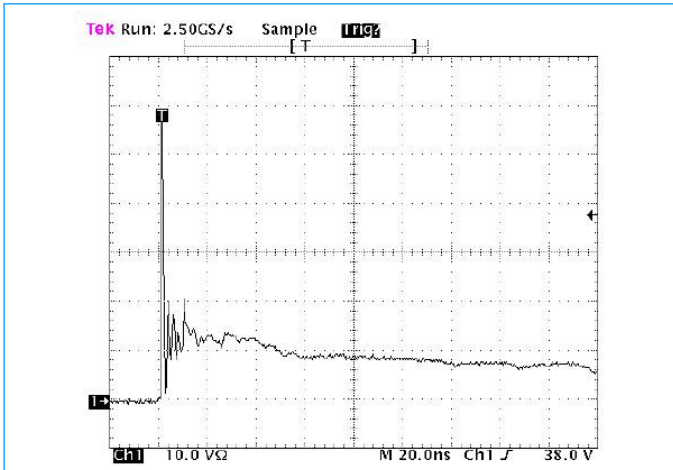
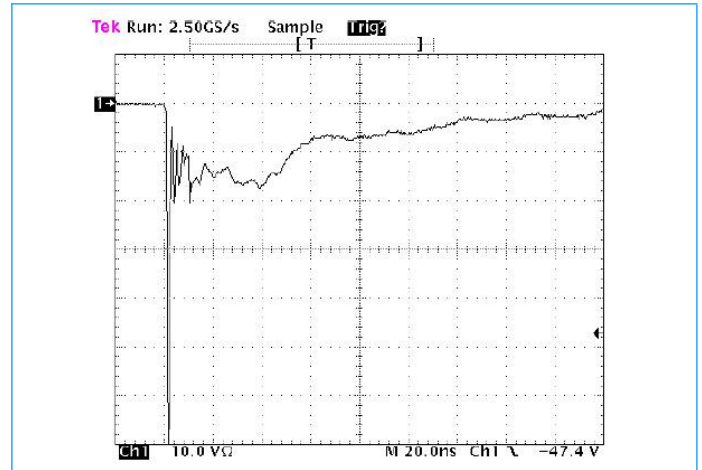
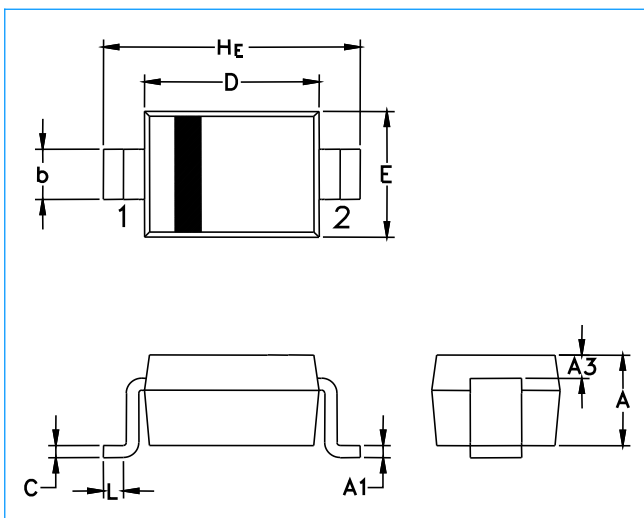


Fig4. ESD Clamping (-8KV Contac per IEC61000-4-2)

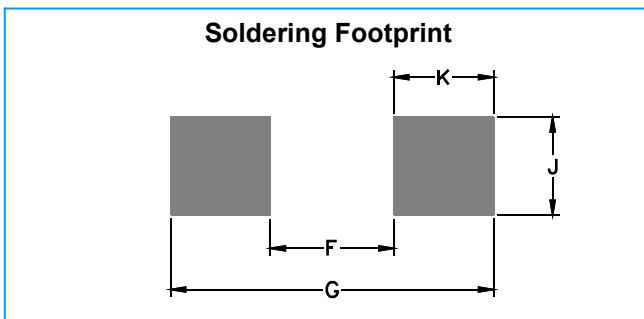


### SOD-323 Package Outline & Dimensions



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

### Soldering Footprint



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