

## Unidirectional TVS Diode

### DESCRIPTION

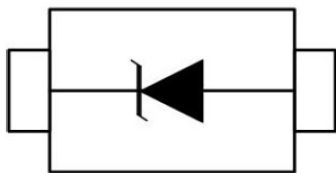
The GSD05S is designed for applications requiring transient overvoltage protection capability. It is intended for use in voltage and ESD sensitive equipment such as Laptop Computers, Cellular Phones, Digital Cameras, Personal Digital Assistant and other applications. This device is ideal for situations where board space is at a premium.

This GSD05S has been specifically designed to protect sensitive components which are connected to power, data and transmission lines from overvoltage caused by ESD(electrostatic discharge), CDE (Cable Discharge Events),and EFT (electrical fast transients).

### ORDERING INFORMATION

- ✧ Device: GSD05S
- ✧ Package: SOD-323
- ✧ Marking: FS
- ✧ Material: Halogen free
- ✧ Packing: Tape & Reel
- ✧ Quantity per reel: 3,000pcs

### PIN CONFIGURATION



### FEATURES

- ✧ IEC61000-4-2 (ESD) ±15kV (Contact), ±8kV (Air)
- ✧ IEC61000-4-4 (EFT) 110A (5/50ns)
- ✧ 1620 Watts Peak Pulse Power per (tp=8/20µs)
- ✧ Protects one Power or I/O line (unidirectional)
- ✧ Low clamping voltage
- ✧ Working voltages : 5V
- ✧ Low leakage current

### MACHANICAL DATA

- ✧ SOD-323 package
- ✧ Flammability Rating: UL 94V-0
- ✧ Packaging: Tape and Reel
- ✧ High temperature soldering guaranteed:  
260°C/10s
- ✧ Reel size: 7 inch

### APPLICATIONS

- ✧ Laptop Computer
- ✧ Cell Phone Handset
- ✧ Digital Camera
- ✧ Personal Digital Assistants (PDA)
- ✧ DC Power line

### PACKAGE OUTLINE



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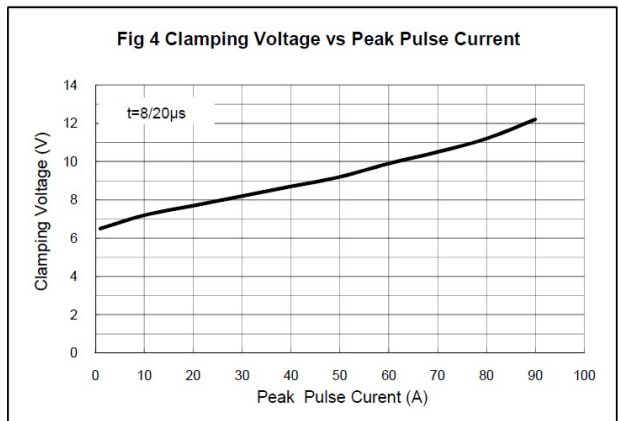
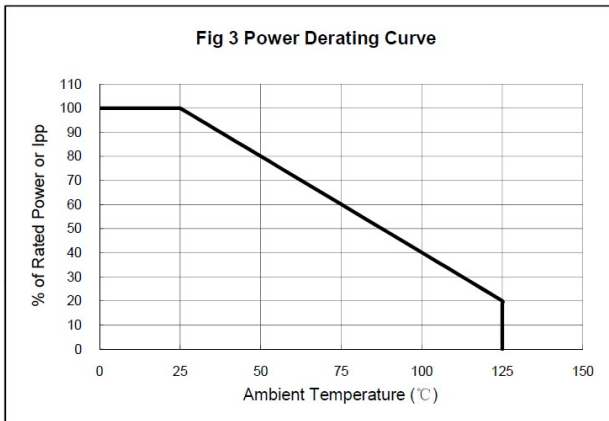
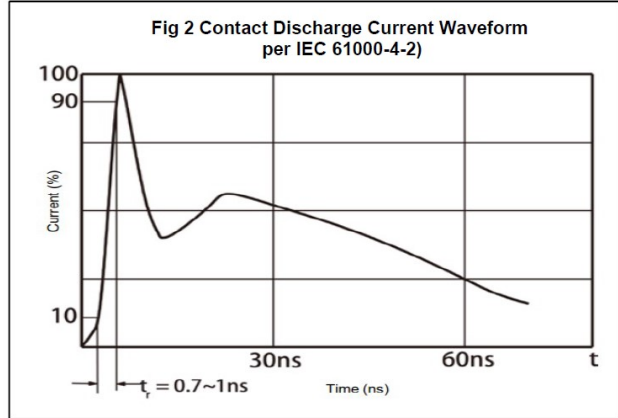
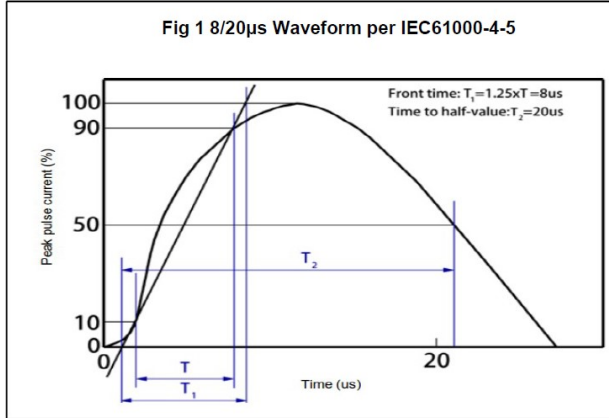
### ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
$V_{ESD}$	ESD per IEC 61000-4-2 (Contact)	$\pm 30$	kV
	ESD per IEC 61000-4-2 (Air)	$\pm 30$	
$P_{PP}$	Peak Pulse Power (8/20 $\mu$ s)	1620	W
$T_{OPT}$	Operating Temperature	-55~125	$^{\circ}$ C
$T_{STG}$	Storage Temperature	-55~150	$^{\circ}$ C

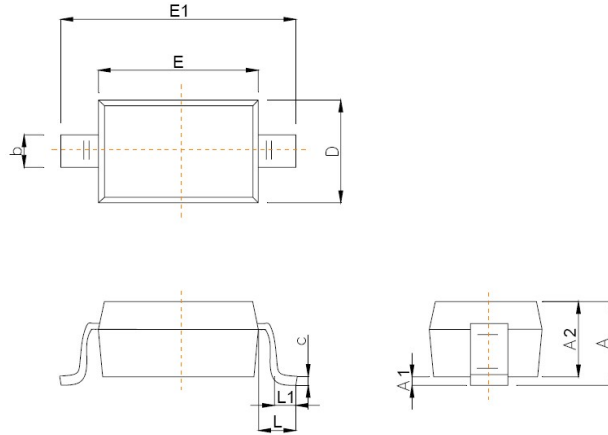
### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}$ C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
$V_{RWM}$	Reverse Working Voltage				5.0	V
$V_{BR}$	Reverse Breakdown Voltage	$I_T = 1mA$	6.0			V
$I_R$	Reverse Leakage Current	$V_{RWM} = 5V$			2	$\mu$ A
$V_C$	Clamping Voltage	$I_{PP} = 1A, t_p = 8/20\mu s$		6.5	7.5	V
		$I_{PP} = 10A, t_p = 8/20\mu s$		7.5	9.8	V
		$I_{PP} = 90A, t_p = 8/20\mu s$			18	V
$C_J$	Junction Capacitance	$V_R = 0V, f = 1MHz$		800		pF

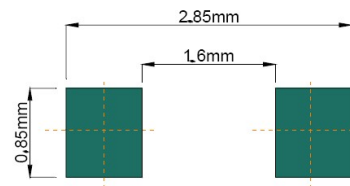
### ELECTRICAL CHARACTERISTICS CURVE



### SOD-323 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters	
	Min	Max
A		1.00
A1	0.000	0.100
A2	0.800	0.900
b	0.250	0.350
c	0.080	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.500	2.700
e	1.800	2.040
L	0.475 REF	
L1	0.250	0.400
θ	0°	8°



Recommended Pad outline