

### DESCRIPTION

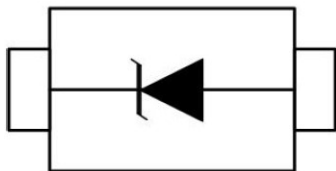
The SD05S is designed for applications requiring transient overvoltage protection capability. It is intended for use in voltage and ESD sensitive equipment such as Laptop Computers, Cellular Phones, Digital Cameras, Personal Digital Assistant and other applications. This device is ideal for situations where board space is at a premium.

This SD05S 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: SD05S
- ✧ Package: SOD-323
- ✧ Marking: FS
- ✧ Material: Halogen free
- ✧ Packing: Tape & Reel
- ✧ Quantity per reel: 3,000pcs

### PIN CONFIGURATION



### FEATURES

- ✧ IEC61000-4-2 (ESD)  $\pm 15\text{kV}$  (Contact),  $\pm 8\text{kV}$  (Air)
- ✧ IEC61000-4-4 (EFT) 110A (5/50ns)
- ✧ 1620 Watts Peak Pulse Power per (tp=8/20 $\mu\text{s}$ )
- ✧ 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



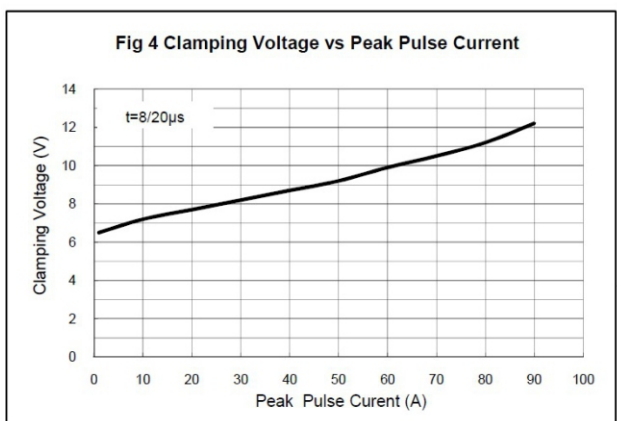
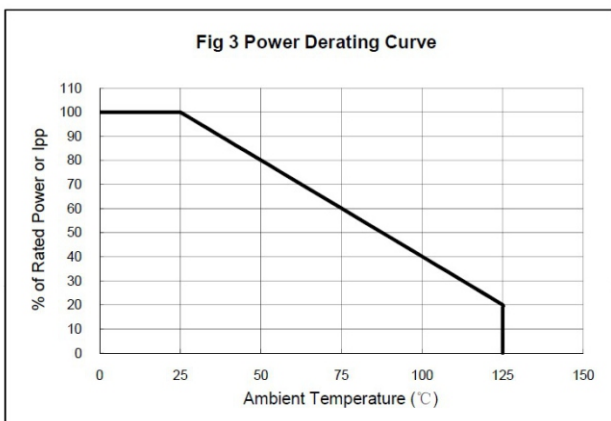
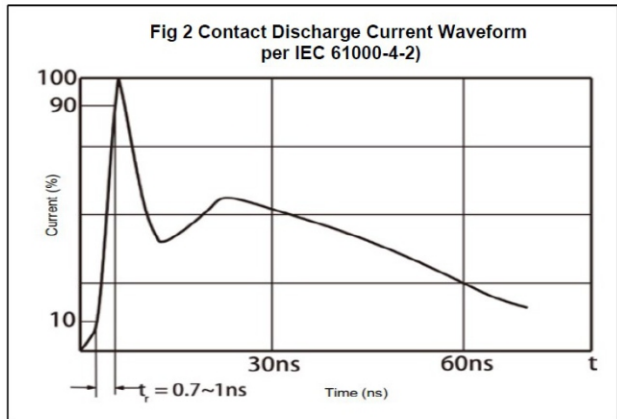
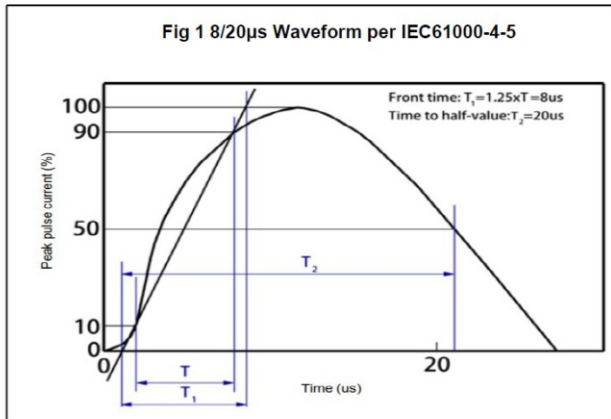
### ABSOLUTE MAXIMUM RATING

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

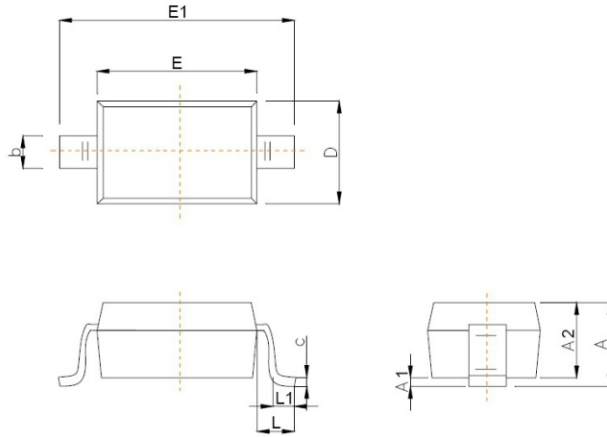
### ELECTRICAL CHARACTERISTICS (Tamb=25°C)

| 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   | μA    |
| $V_C$     | 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    |

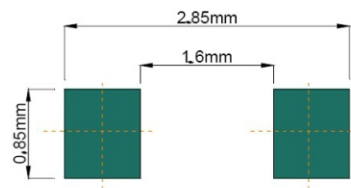
### ELECTRICAL CHARACTERISTICS CURVE



### 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 |
| $\theta$ | 0°                        | 8°    |



Recommended Pad outline