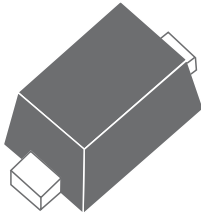
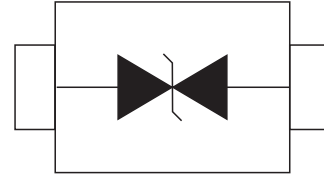


# Electro-Static Discharge TESD05EB Bidirectional TVS Diode

## SOD-523



## Pin Configuration



## Features

- 100 Watts Peak Pulse Power per Line ( $t_p=8/20\mu s$ )
- Protects one bidirectional I/O line
- Low clamping voltage
- Working voltages : 5V
- Low leakage current

## IEC Compatibility

- IEC61000-4-2 (ESD)  $\pm 30kV$  (air),  $\pm 30kV$  (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning) 7A (8/20 $\mu s$ )

## Applications

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

## Mechanical Characteristics

- SOD-523 Package
- Molding Compound Flammability Rating:L 94V-O
- Quantity Per Reel:8000pcs
- Reel Size:7 inch
- Lead Finish:Lead Free

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

| Maximum Ratings(@ $25^{\circ}\text{C}$ Unless Otherwise Specified) |           |              |                    |
|--|-----------|--------------|--------------------|
| Parameter  | Symbol    | Value        | Units              |
| Peak Pulse Power( $t_p=8/20\mu\text{s}$ waveform)                  | $P_{PP}$  | 100          | Watts              |
| Lead Soldering Temperature   | $T_L$     | 260(10 sec.) | $^{\circ}\text{C}$ |
| Operating Temperature Range  | $T_J$     | -55~150      | $^{\circ}\text{C}$ |
| Storage Temperature Range  | $T_{STG}$ | -55~150      | $^{\circ}\text{C}$ |

Electrical Characteristics( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

| TESD05EB(Marking: 0 )     |           |  |      |      |      |               |
|---------------------------|-----------|--|------|------|------|---------------|
| Parameter                 | Symbol    | Conditions                               | Min. | Typ. | Max. | Units         |
| Reverse Stand-off Voltage | $V_{RWM}$ |  |      |      | 5    | V             |
| Breakdown Voltage         | $V_{BR}$  | $I_T=1\text{mA}$                         | 5.4  |      |      | V             |
| Clamping Voltage          | $V_C$     | $I_{PP}=7\text{A}, t_p=8/20\mu\text{s}$  |      |      | 12   | V             |
| Reverse Leakage Current   | $I_R$     | @ $V_{RWM}$                              |      |      | 1    | $\mu\text{A}$ |
| Junction Capacitance      | $C_{I/O}$ | 0Vdc, f=1MHz<br>Between I/O Pins and GND |      | 12   |      | pF            |

Ratings and Characteristic Curves

Fig.1 Pulse Waveform

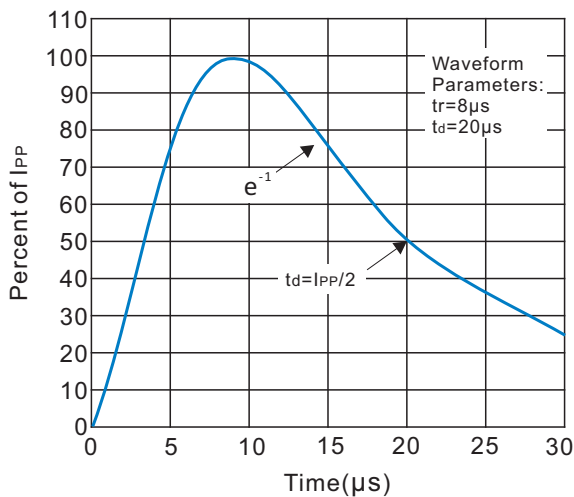
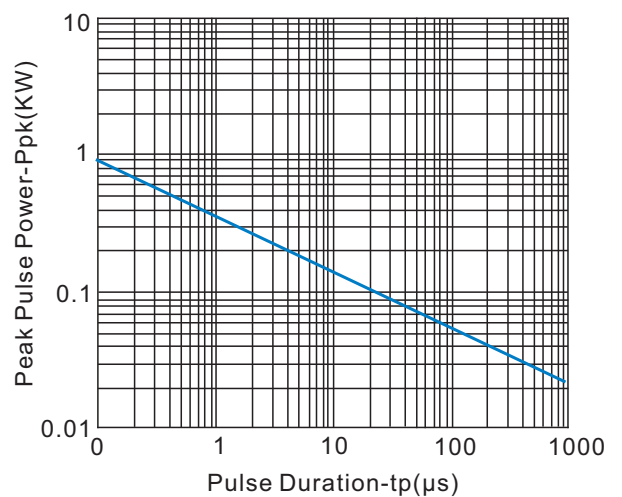
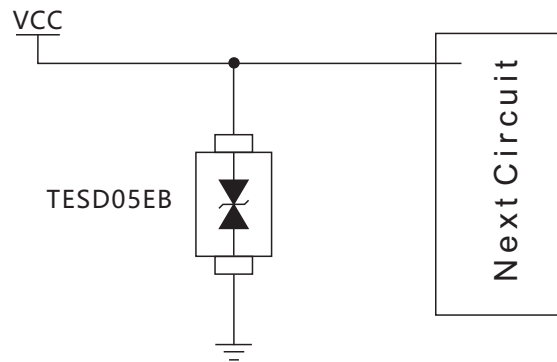


Fig.2 Non-Repetitive Peak Pulse Power vs. Pulse Time

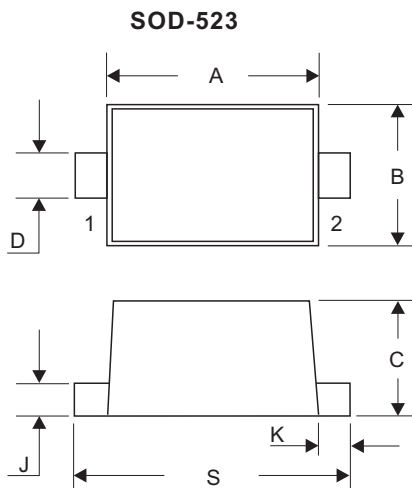


## Application

### Power Protection

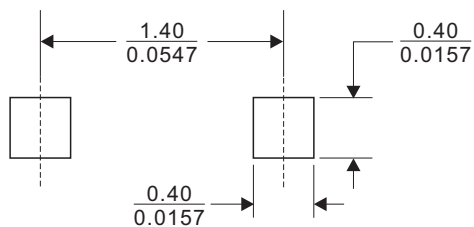


## Dimensions(SOD-523)



| DIM | Millimeters |      | Inches |        |
|-----|-------------|------|--------|--------|
|     | Min         | Max  | Min    | Max    |
| A   | 1.10        | 1.30 | 0.043  | 0.051  |
| B   | 0.70        | 0.90 | 0.028  | 0.035  |
| C   | 0.50        | 0.70 | 0.020  | 0.028  |
| D   | 0.25        | 0.35 | 0.010  | 0.014  |
| J   | 0.07        | 0.20 | 0.0028 | 0.0079 |
| K   | 0.15        | 0.25 | 0.006  | 0.010  |
| S   | 1.50        | 1.70 | 0.059  | 0.067  |

### Recommended Mounting Pad Layout



Dimensions in (  $\frac{\text{millimeters}}{\text{inches}}$  )