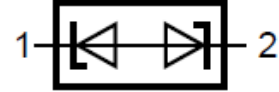


### Features

- ESD / transient protection of high speed data lines
  - IEC 61000-4-2 (ESD):  $\pm 30$  kV (air),  $\pm 30$  kV (contact)
- Max. peak pulse power:  $P_{PP} = 160W$  at  $t_p = 8/20\mu s$
- Low clamping voltage:  $V_{CL} = 40$  V at  $I_{PP} = 1$  A
- ESD protection of up to 23 kV
- RoHS compliant (non-Halogen)
- Qualified to AEC-Q101 standards for high reliability

HF



### Mechanical Data

- Case: SOD-123
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

SOD-123

### Ordering Information

| Part Number   | Package | Shipping Quantity     | Marking Code |
|---------------|---------|-----------------------|--------------|
| TGESD1524VB1G | SOD-123 | 3000pcs / Tape & Reel | AM           |

### Maximum Ratings (@ $T_A = 25^\circ C$ unless otherwise specified)

| Parameter                                | Symbol      | Value    | Unit |
|------------------------------------------|-------------|----------|------|
| IEC 61000-4-2; ESD (Air)                 | $V_{ESD-A}$ | $\pm 30$ | kV   |
| IEC 61000-4-2; ESD (Contact)             | $V_{ESD-C}$ | $\pm 30$ | kV   |
| Peak Pulse Power ( $t_p = 8/20\mu s$ )   | $P_{PP}$    | 160      | W    |
| Peak Pulse Current ( $t_p = 8/20\mu s$ ) | $I_{PP}$    | 3        | A    |

### Thermal Characteristics

| Parameter                 | Symbol    | Value      | Unit       |
|---------------------------|-----------|------------|------------|
| Junction Temperature      | $T_J$     | 150        | $^\circ C$ |
| Storage Temperature Range | $T_{STG}$ | -40 ~ +150 | $^\circ C$ |

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

| Parameter                 | Symbol     | Test Condition                                                                 | Min.         | Typ.   | Max.         | Unit          |
|---------------------------|------------|--------------------------------------------------------------------------------|--------------|--------|--------------|---------------|
| Reverse Stand-off Voltage | $V_{RWM}$  | Pin1 to Pin2<br>Pin2 to Pin1                                                   | -            | -      | 15<br>24     | V             |
| Reverse Breakdown Voltage | $V_{(BR)}$ | Pin1 to Pin2 @ $I_T = 1\text{mA}$<br>Pin2 to Pin1 @ $I_T = 1\text{mA}$         | 17.1<br>25.4 | -<br>- | 20.7<br>30.7 | V             |
| Reverse Leakage Current   | $I_R$      | Pin1 to Pin2 @ $V_{RWM} = 15\text{V}$<br>Pin2 to Pin1 @ $V_{RWM} = 24\text{V}$ | -<br>-       | -<br>- | 1<br>1       | $\mu\text{A}$ |
| Clamping Voltage          | $V_C$      | Pin1 to Pin2 @ $I_{PP} = 1\text{A}$                                            | -            | -      | 30           | V             |
|                           |            | Pin1 to Pin2 @ $I_{PP} = 5\text{A}$                                            | -            | -      | 40           | V             |
|                           |            | Pin2 to Pin1 @ $I_{PP} = 1\text{A}$                                            | -            | -      | 45           | V             |
|                           |            | Pin2 to Pin1 @ $I_{PP} = 3\text{A}$                                            | -            | -      | 55           | V             |
| Junction Capacitance      | $C_J$      | $V_R = 0\text{V}$ , $f = 1\text{MHz}$                                          | -            | -      | 17           | pF            |

## Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

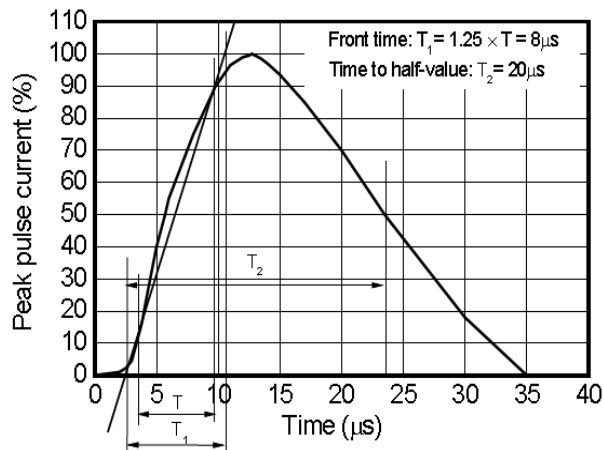


Fig 1 8/20  $\mu\text{s}$  waveform per IEC61000-4-5

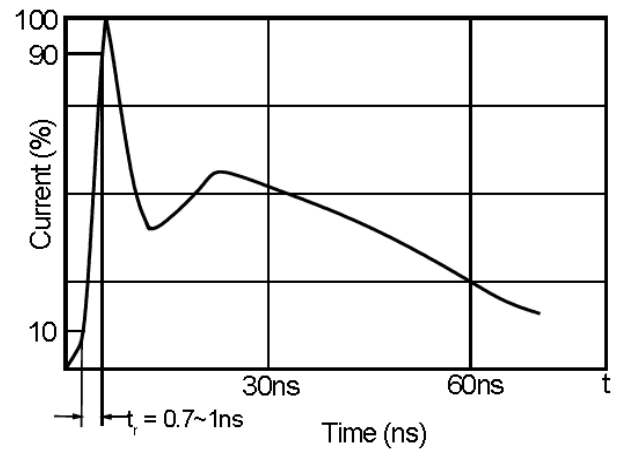
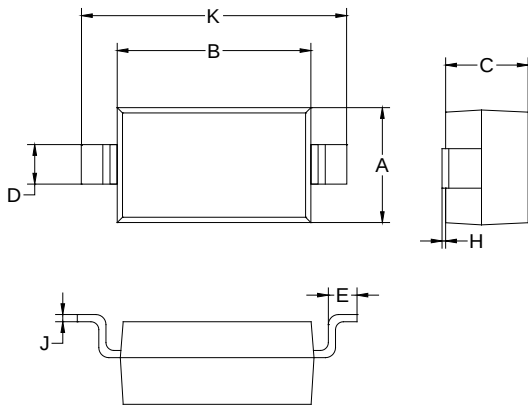


Fig 2 ESD pulse waveform according to IEC61000-4-2

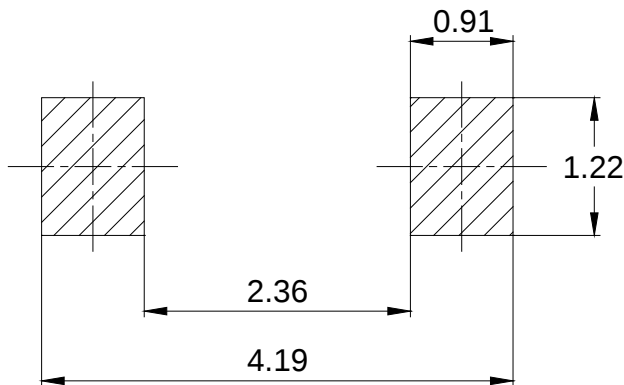
## Package Outline Dimensions (Unit: mm)



| SOD-123   |      |      |
|-----------|------|------|
| Dimension | Min. | Max. |
| A         | 1.45 | 1.75 |
| B         | 2.55 | 2.85 |
| C         | 1.00 | 1.30 |
| D         | 0.50 | 0.60 |
| E         | 0.25 | 0.45 |
| H         | 0.02 | 0.10 |
| J         | 0.05 | 0.15 |
| K         | 3.55 | 3.85 |

## Package Outline Dimensions (Unit: mm)

### SOD-123



## IMPORTANT NOTICE

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