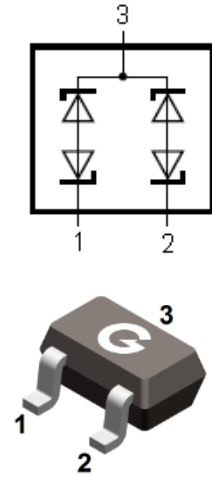


## Features

- ESD / transient protection of high speed data lines
  - IEC 61000-4-2 (ESD):  $\pm 30$  kV (air),  $\pm 30$  kV (contact)
- Working voltage:  $V_{RWM} = 32V$
- Low reverse clamping voltage
- Low Leakage Current
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

HF



SOT-323

## Mechanical Data

- Case: SOT-323
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

## Ordering Information

| Part Number | Package | Shipping Quantity      | Marking Code |
|-------------|---------|------------------------|--------------|
| TSOT32BCW   | SOT-323 | 3000 pcs / Tape & Reel | T32B         |

## Maximum Ratings (@ $T_A = 25^\circ\text{C}$ 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 ( $t_p = 8/20\mu\text{s}$ )   | $P_{PP}$    | 200      | W    |
| Peak Pulse Current ( $t_p = 8/20\mu\text{s}$ ) | $I_{PP}$    | 2.5      | A    |

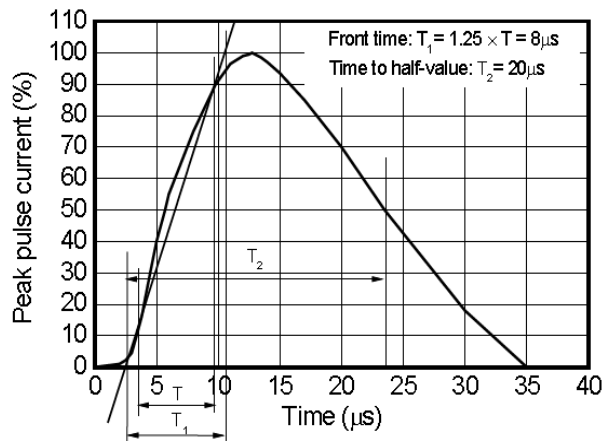
## Thermal Characteristics

| Parameter                 | Symbol    | Value           | Unit             |
|---------------------------|-----------|-----------------|------------------|
| Junction Temperature      | $T_J$     | $-55 \sim +125$ | $^\circ\text{C}$ |
| Storage Temperature Range | $T_{STG}$ | $-55 \sim +150$ | $^\circ\text{C}$ |

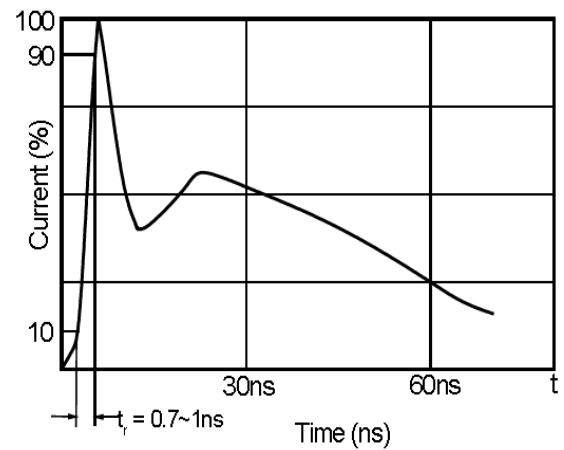
**Electrical Characteristics** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)

| Parameter                 | Symbol     | Test Condition                                               | Min. | Typ. | Max. | Unit          |
|---------------------------|------------|--------------------------------------------------------------|------|------|------|---------------|
| Reverse Stand-off Voltage | $V_{RWM}$  |                                                              | -    | -    | 32   | V             |
| Reverse Breakdown Voltage | $V_{(BR)}$ | $I_T = 1\text{mA}$                                           | 35   | -    | 40   | V             |
| Reverse Leakage Current   | $I_R$      | $V_{RWM} = 32\text{V}$                                       | -    | -    | 1    | $\mu\text{A}$ |
| Clamping Voltage          | $V_C$      | $I_{PP} = 2.5\text{A}$ , $t_p = 8/20\mu\text{s}$             | -    | -    | 70   | V             |
| Junction Capacitance      | $C_J$      | $V_R = 0\text{V}$ , $f = 1\text{MHz}$<br>Pin 1 or 2 to Pin 3 | -    | -    | 30   | pF            |

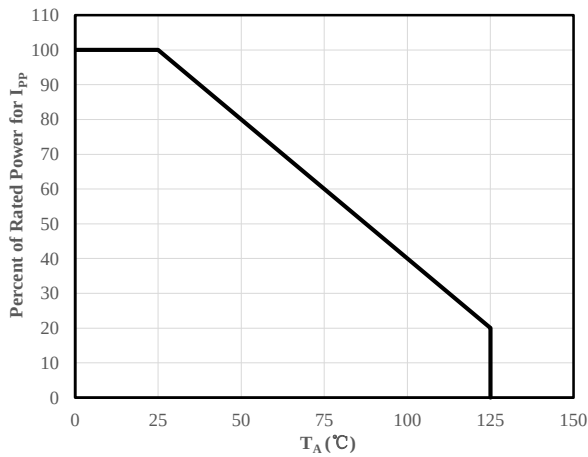
**Ratings and Characteristic Curves** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)



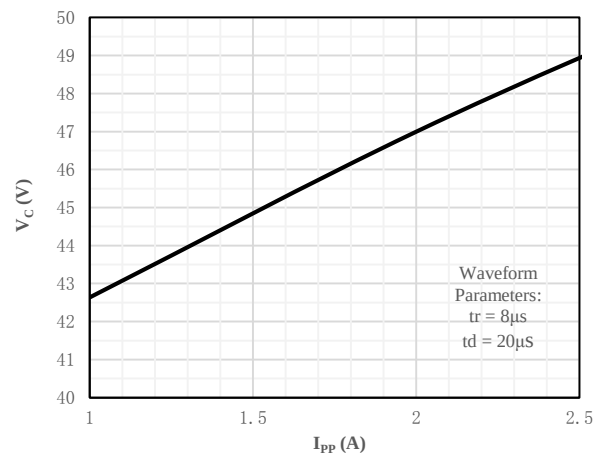
**Fig 1 8/20 $\mu\text{s}$  waveform per IEC61000-4-5**



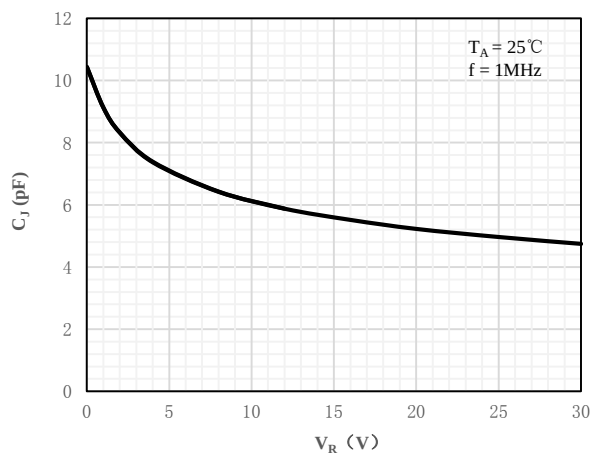
**Fig 2 ESD pulse waveform according to IEC61000-4-2**



**Fig 3 Power Derating Curve**

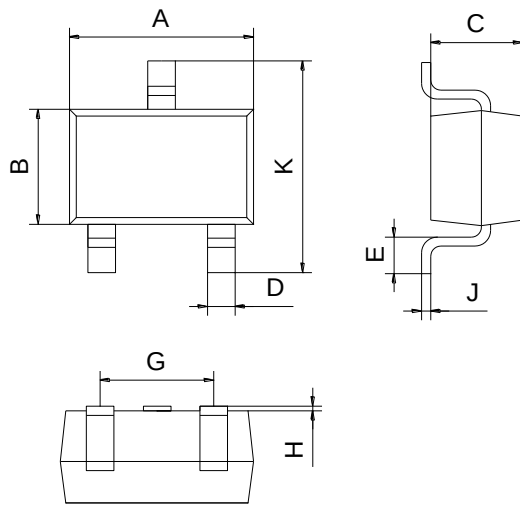


**Fig 4 Clamping Voltage vs. Peak Pulse Current**



**Fig 5 Junction Capacitance vs. Reverse Voltage**

**Package Outline Dimensions** (Unit: mm)



| SOT-323   |      |      |
|-----------|------|------|
| Dimension | Min. | Max. |
| A         | 2.00 | 2.20 |
| B         | 1.15 | 1.35 |
| C         | 0.90 | 1.10 |
| D         | 0.15 | 0.35 |
| E         | 0.25 | 0.40 |
| G         | 1.20 | 1.40 |
| H         | 0.02 | 0.10 |
| J         | 0.05 | 0.15 |
| K         | 2.20 | 2.40 |

**Mounting Pad Layout** (Unit: mm)

**SOT-323**

