

## Features

- ESD / transient protection of high speed data lines
  - IEC 61000-4-2 (ESD):  $\pm 20$  kV (air),  $\pm 15$  kV (contact)
- Low capacitance
- Low leakage current

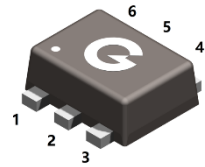
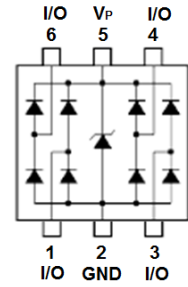
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## Typical Applications

- Computers and peripherals
- Notebooks
- Mobile Phones
- Digital Cameras

## Mechanical Data

- Case: SOT-563
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin-Plated Leads, Solderability-per MIL-STD-202, Method 208



SOT-563

## Ordering Information

| Part Number | Package | Shipping Quantity      | Marking Code |
|-------------|---------|------------------------|--------------|
| ESDU5V0AUV4 | SOT-563 | 3000 pcs / Tape & Reel | U5VA         |

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

| Parameter                                      | Symbol             | Value    | Unit |
|------------------------------------------------|--------------------|----------|------|
| IEC 61000-4-2; ESD (Air)                       | $V_{\text{ESD-A}}$ | $\pm 20$ | kV   |
| IEC 61000-4-2; ESD (Contact)                   | $V_{\text{ESD-C}}$ | $\pm 15$ | kV   |
| Peak Pulse Power ( $t_p = 8/20\mu\text{s}$ )   | $P_{\text{PP}}$    | 60       | W    |
| Peak Pulse Current ( $t_p = 8/20\mu\text{s}$ ) | $I_{\text{PP}}$    | 4        | A    |

## Thermal Characteristics

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

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

| Parameter                 | Symbol         | Test Condition                                                 | Min. | Typ. | Max. | Unit          |
|---------------------------|----------------|----------------------------------------------------------------|------|------|------|---------------|
| Reverse Stand-off Voltage | $V_{RWM}(V_P)$ |                                                                | -    | -    | 5    | V             |
| Reverse Breakdown Voltage | $V_{(BR)}$     | $I_T = 1\text{mA}$                                             | 6.5  | -    | 9    | V             |
| Reverse Leakage Current   | $I_R$          | $V_{RWM} = 5\text{V}$                                          | -    | -    | 0.5  | $\mu\text{A}$ |
| Clamping Voltage          | $V_C$          | $I_{PP} = 1\text{A}$ , $t_p = 8/20\mu\text{s}$                 | -    | -    | 10   | V             |
|                           |                | $I_{PP} = 4\text{A}$ , $t_p = 8/20\mu\text{s}$                 | -    | -    | 15   | V             |
| Junction Capacitance      | $C_J$          | $V_R = 0\text{V}$ , $f = 1\text{MHz}$<br>any I/O pin to Ground | -    | 0.6  | 0.8  | pF            |
| Junction Capacitance      | $C_J$          | $V_R = 0\text{V}$ , $f = 1\text{MHz}$<br>(I/O pin to I/O)      | -    | 0.35 | 0.40 | pF            |

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

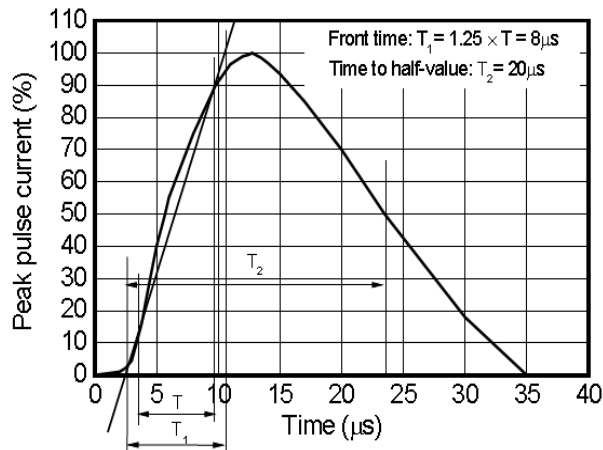


Fig 1 8/20  $\mu\text{s}$  waveform per IEC61000-4-5

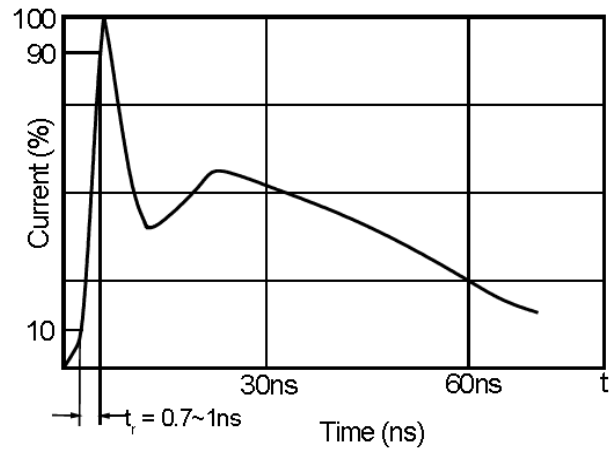


Fig 2 ESD pulse waveform according to IEC61000-4-2

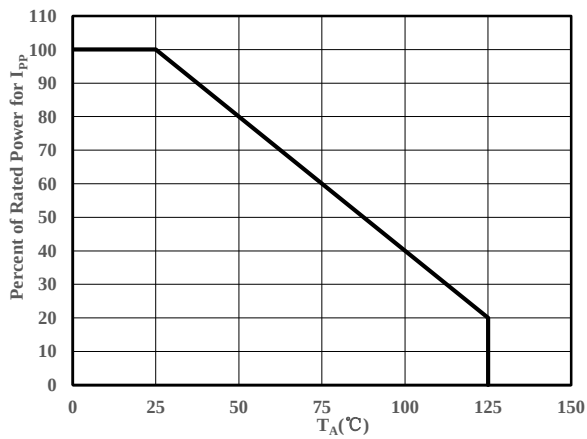
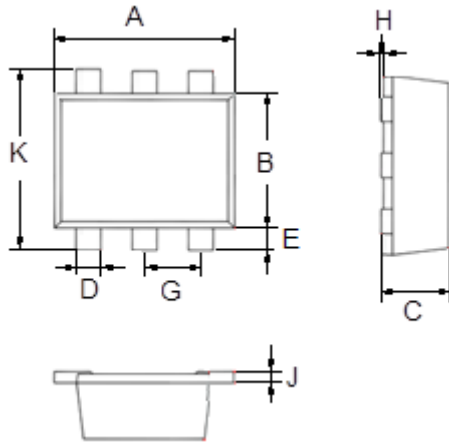


Fig 3 Power Derating Curve

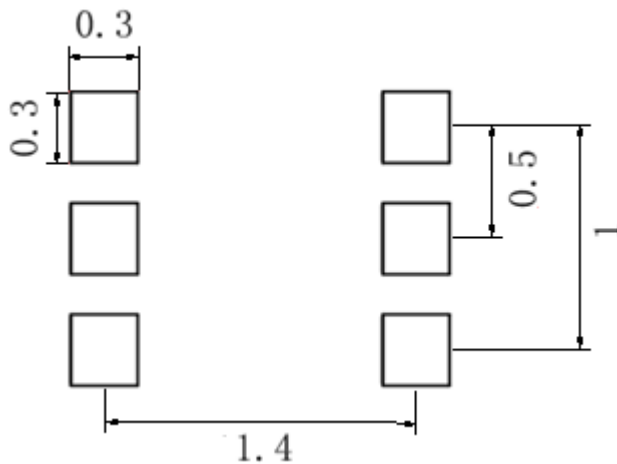
## Package Outline Dimensions (Unit: mm)



| SOT-563   |       |       |
|-----------|-------|-------|
| Dimension | Min.  | Max.  |
| A         | 1.500 | 1.700 |
| B         | 1.100 | 1.300 |
| C         | 0.525 | 0.600 |
| D         | 0.170 | 0.270 |
| E         | 0.100 | 0.300 |
| G         | 0.450 | 0.550 |
| H         | 0.000 | 0.050 |
| J         | 0.090 | 0.160 |
| K         | 1.500 | 1.700 |

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### SOT-563



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