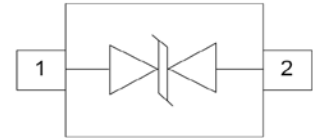


### Features

- ESD / transient protection of high speed data lines
  - IEC 61000-4-2 (ESD):  $\pm 15$  kV (air),  $\pm 8$  kV (contact)
- Working voltage:  $V_{RWM} = 12V$
- Low reverse clamping voltage

HF



DFN1006-2

### Mechanical Data

- Case: DFN1006-2
- 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 |
|-------------|-----------|-------------------------|--------------|
| GESD12VX1BL | DFN1006-2 | 10000 pcs / Tape & Reel | SS           |

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

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

### Thermal Characteristics

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

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

| Parameter                 | Symbol     | Test Condition                                 | Min. | Typ. | Max. | Unit          |
|---------------------------|------------|------------------------------------------------|------|------|------|---------------|
| Reverse Stand-off Voltage | $V_{RWM}$  |                                                | -    | -    | 12   | V             |
| Reverse Breakdown Voltage | $V_{(BR)}$ | $I_T = 1\text{mA}$                             | 13.3 | -    | 18   | V             |
| Reverse Leakage Current   | $I_R$      | $V_{RWM} = 12\text{V}$                         | -    | -    | 0.1  | $\mu\text{A}$ |
| Clamping Voltage          | $V_C$      | $I_{PP} = 1\text{A}$ , $t_p = 8/20\mu\text{s}$ | -    | -    | 20   | V             |
|                           |            | $I_{PP} = 2\text{A}$ , $t_p = 8/20\mu\text{s}$ | -    | -    | 30   | V             |
| Junction Capacitance      | $C_J$      | $V_R = 0\text{V}$ , $f = 1\text{MHz}$          | -    | 0.4  | 0.8  | pF            |

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

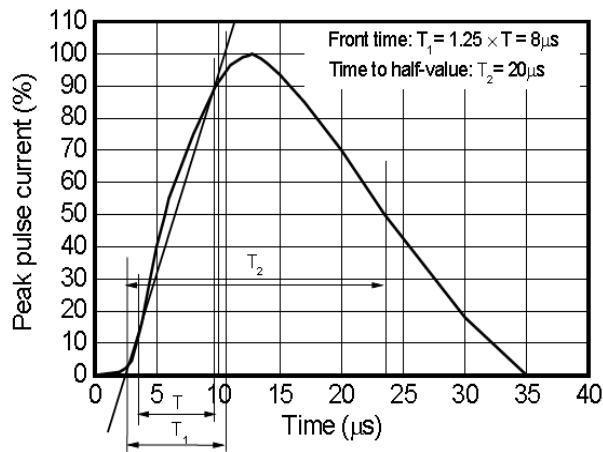


Fig 1 8/20  $\mu\text{s}$  waveform per IEC61000-4-5

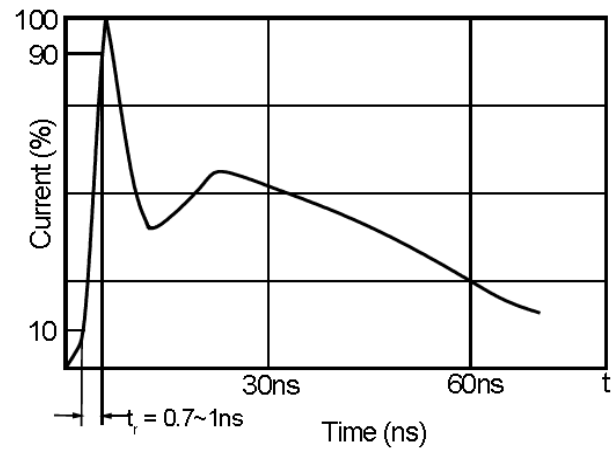


Fig 2 ESD pulse waveform according to IEC61000-4-2

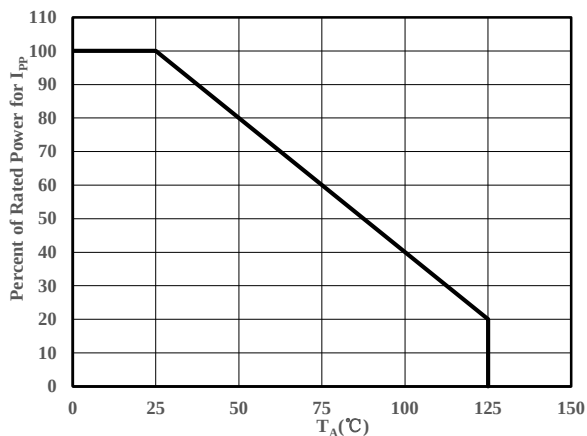
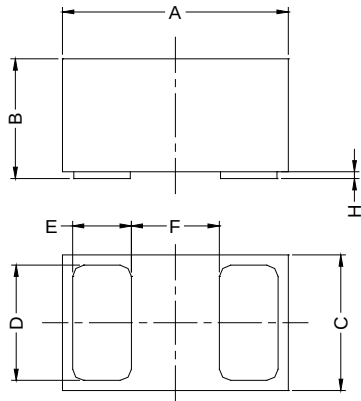


Fig 3 Power Derating Curve

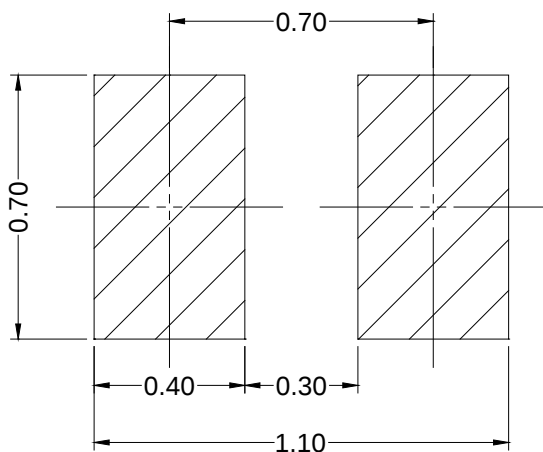
## Package Outline Dimensions (Unit: mm)



| DFN1006-2 |      |      |       |
|-----------|------|------|-------|
| Dimension | Min. | Typ. | Max.  |
| A         | 0.95 | 1.00 | 1.075 |
| B         | 0.47 | 0.50 | 0.53  |
| C         | 0.55 | 0.60 | 0.675 |
| D         | 0.45 | 0.50 | 0.55  |
| E         | 0.20 | 0.25 | 0.30  |
| F         | -    | 0.40 | -     |
| H         | 0    | 0.03 | 0.05  |

## Package Outline Dimensions (Unit: mm)

### DFN1006-2



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