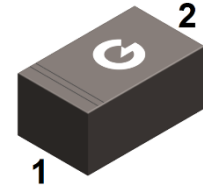


## Features

- ESD / transient protection of high speed data lines
  - IEC 61000-4-2 (ESD):  $\pm 30$  kV (air),  $\pm 30$  kV (contact)
- Working voltage:  $V_{RWM} = 24V$
- Low leakage current
- Low clamping voltage
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

HF

Cathode 1  Anode 2



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 |
|-------------|-----------|-------------------------|--------------|
| TGESD24VDL  | DFN1006-2 | 10000 pcs / Tape & Reel | N5           |

## 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       |
|-----------------------|-----------|-----------------|------------|
| Operating Temperature | $T_J$     | $-55 \sim +150$ | $^\circ C$ |
| Storage Temperature   | $T_{STG}$ | $-55 \sim +150$ | $^\circ C$ |

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

| Symbol    | Parameter                 | Test Condition                                 | Min. | Typ. | Max. | Unit          |
|-----------|---------------------------|------------------------------------------------|------|------|------|---------------|
| $V_{RWM}$ | Reverse Stand-off Voltage |                                                | -    | -    | 24   | V             |
| $V_{BR}$  | Reverse Breakdown Voltage | $I_T = 5\text{mA}$                             | 26.5 | -    | -    | V             |
| $I_R$     | Reverse Leakage Current   | $V_{RWM} = 24\text{V}$                         | -    | -    | 0.05 | $\mu\text{A}$ |
| $V_C$     | Clamping Voltage          | $I_{PP} = 1\text{A}$ , $t_p = 8/20\mu\text{s}$ | -    | -    | 36   | V             |
|           |                           | $I_{PP} = 3\text{A}$ , $t_p = 8/20\mu\text{s}$ | -    | -    | 42   | V             |
| $C_J$     | Junction Capacitance      | $V_R = 0\text{V}$ , $f = 1.0\text{MHz}$        | -    | -    | 50   | pF            |

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

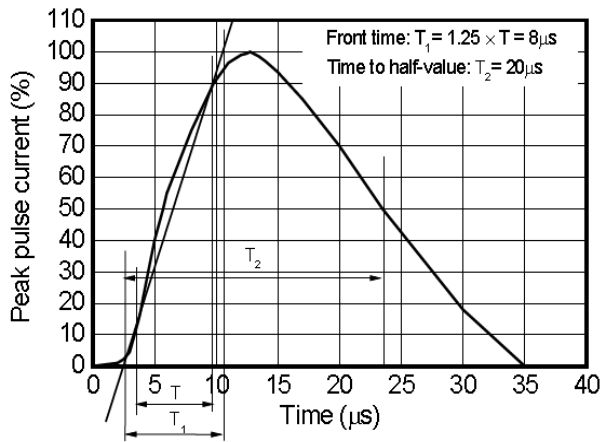


Fig 1 8/20  $\mu\text{s}$  waveform per IEC61000-4-5

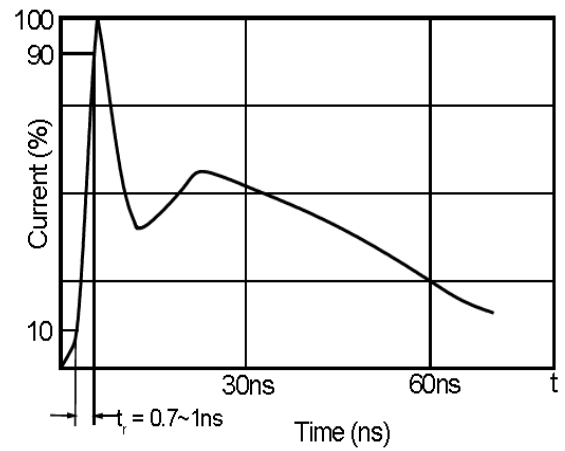


Fig 2 ESD pulse waveform according to IEC61000-4-2

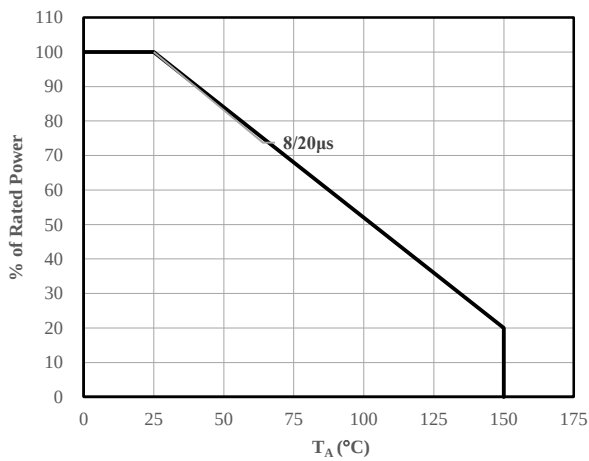


Fig 3 Power Derating Curve

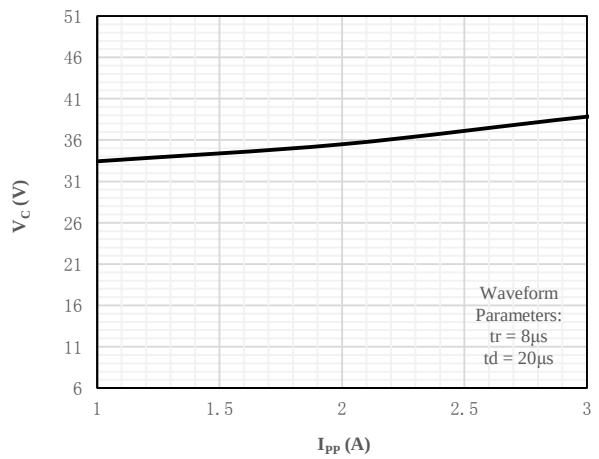


Fig 4 Clamping Voltage vs. Peak Pulse Current

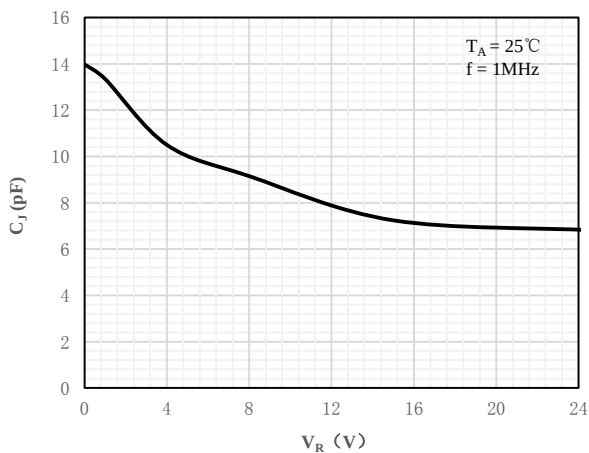
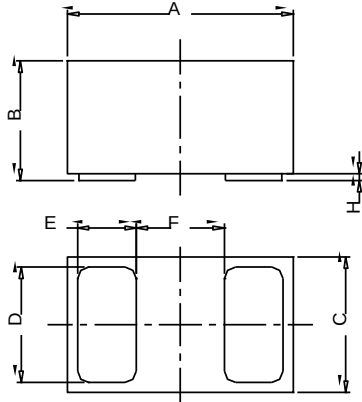


Fig 5 Junction Capacitance vs. Reverse Voltage

### Package Outline Dimensions (Unit: mm)



| DFN1006-2 |      |      |       |
|-----------|------|------|-------|
| Dimension | Min. | Typ. | Max.  |
| A         | 0.95 | 1.00 | 1.075 |
| B         | 0.45 | 0.50 | 0.55  |
| 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

