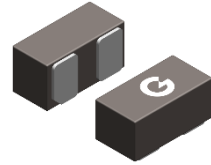
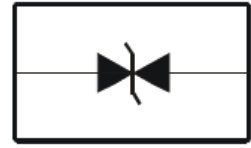


### Features

- ESD / transient protection of high speed data lines
  - IEC 61000-4-2 (ESD):  $\pm 30$  kV (air),  $\pm 30$  kV (contact)
- Working voltage:  $V_{RWM} = 5V$
- Low leakage current
- Very low load capacitance
- Halogen free
- Qualified to AEC-Q101 standards for high reliability

HF



DFN0603-2L

### Mechanical Data

- Case: DFN0603-2L
- 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 |
|---------------|------------|-------------------------|--------------|
| TGESD5V0B2LP3 | DFN0603-2L | 10000 pcs / Tape & Reel | N            |

### 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 ( $t_p = 8/20\mu\text{s}$ )   | $P_{PP}$    | 70       | W    |
| Peak Pulse Current ( $t_p = 8/20\mu\text{s}$ ) | $I_{PP}$    | 8        | A    |

### Thermal Characteristics

| Parameter                           | Symbol          | Value           | Unit               |
|-------------------------------------|-----------------|-----------------|--------------------|
| Power Dissipation                   | $P_D$           | 0.25            | W                  |
| Thermal Resistance Junction-to-Air  | $R_{\theta JA}$ | 400             | $^\circ\text{C/W}$ |
| Thermal Resistance Junction-to-Lead | $R_{\theta JL}$ | 204             | $^\circ\text{C/W}$ |
| Thermal Resistance Junction-to-Case | $R_{\theta JC}$ | 240             | $^\circ\text{C/W}$ |
| 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 | $V_{RWM}$  |                                                | -    | -    | 5    | V    |
| Reverse Breakdown Voltage | $V_{(BR)}$ | $I_T = 1\text{mA}$                             | 6    | -    | 8    | V    |
| Reverse Leakage Current   | $I_R$      | $V_{RWM} = 5\text{V}$                          | -    | -    | 100  | nA   |
| Clamping Voltage          | $V_C$      | $I_{PP} = 1\text{A}$ , $t_p = 8/20\mu\text{s}$ | -    | -    | 8.5  | V    |
|                           |            | $I_{PP} = 7\text{A}$ , $t_p = 8/20\mu\text{s}$ | -    | -    | 12.0 | V    |
|                           |            | $I_{PP} = 8\text{A}$ , $t_p = 8/20\mu\text{s}$ | -    | -    | 14.0 | V    |
| Junction Capacitance      | $C_J$      | $V_R = 0\text{V}$ , $f = 1\text{MHz}$          | -    | 15   | 18   | pF   |

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

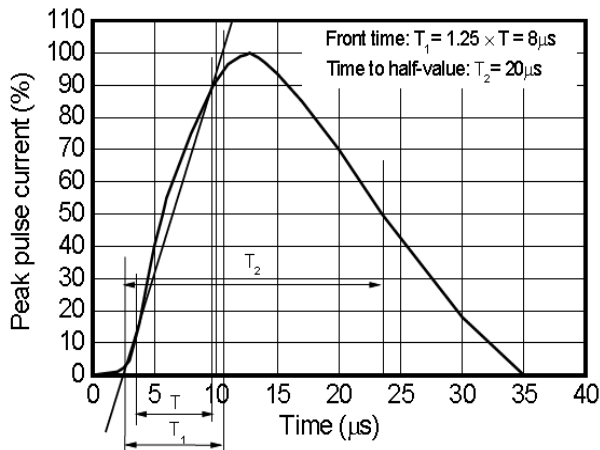


Fig 1 8/20  $\mu\text{s}$  waveform per IEC61000-4-5

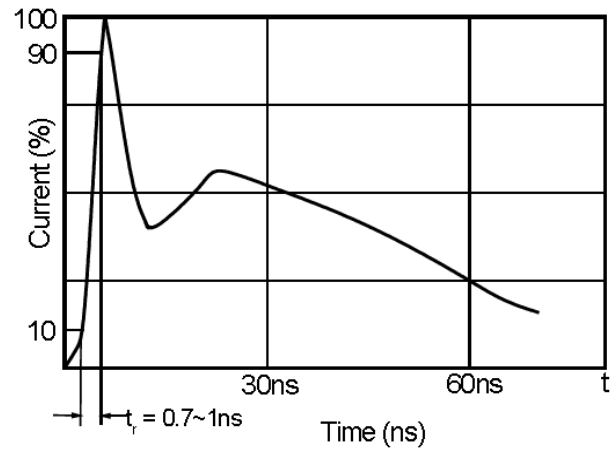


Fig 2 ESD pulse waveform according to IEC61000-4-2

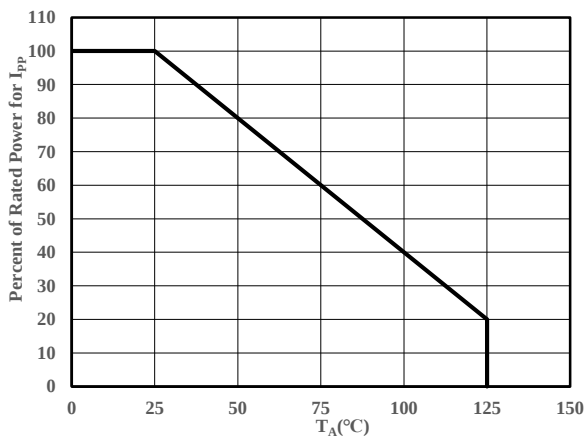


Fig 3 Power Derating Curve

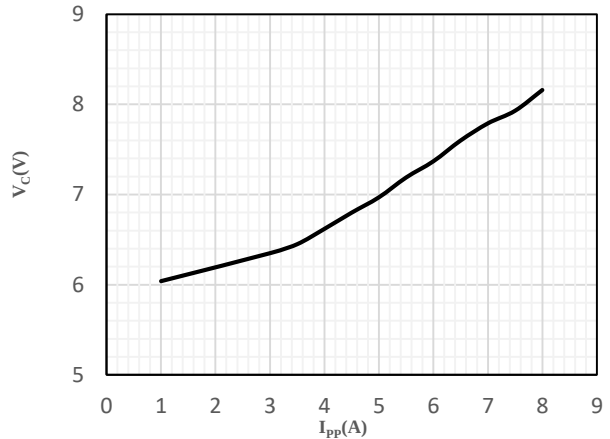


Fig 4 Clamping Voltage vs. Peak Pulse Current

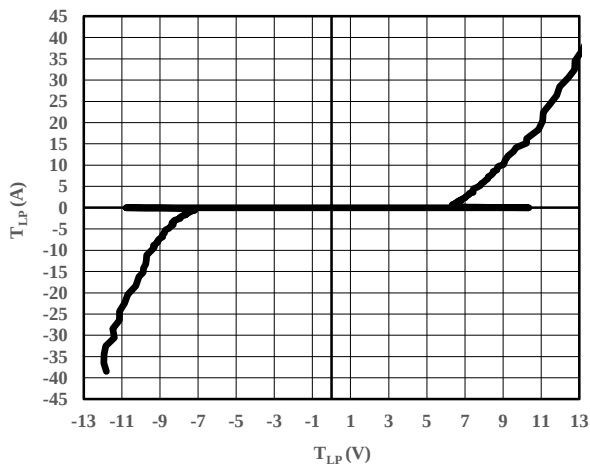
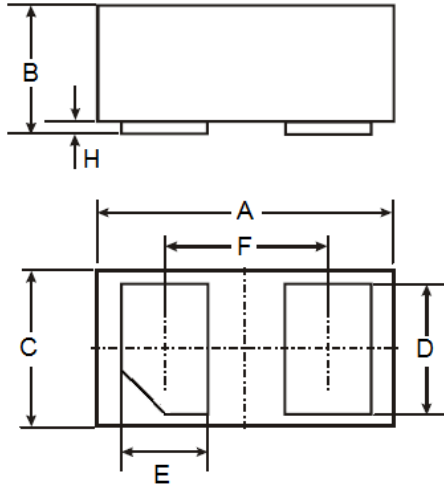


Fig 5 TLP Measurement

## Package Outline Dimensions (Unit: mm)

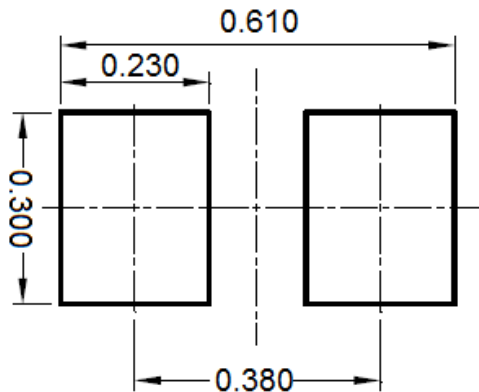
### DFN0603-2L



| DFN0603-2L |       |       |       |
|------------|-------|-------|-------|
| Dim        | Min   | Typ   | Max   |
| A          | 0.595 | 0.620 | 0.645 |
| B          | 0.270 | 0.300 | 0.350 |
| C          | 0.295 | 0.320 | 0.345 |
| D          | 0.190 | 0.240 | 0.290 |
| E          | 0.140 | 0.190 | 0.240 |
| F          | -     | 0.355 | -     |
| H          | 0     | 0.020 | 0.030 |

## Package Outline Dimensions (Unit: mm)

### DFN0603-2L



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