

## Features

- Ultra small package: 0.6x0.3x0.3mm
- Ultra low capacitance: 0.28pF typical
- Ultra low leakage: nA level
- Low operating voltage:  $\pm 5V$
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 25kV$
    - Contact discharge:  $\pm 15kV$
  - – IEC61000-4-5 (Lightning)4A (8/20  $\mu s$ )
- RoHS Compliant
- Lead Finish: NiPdAu

## Mechanical Characteristics

- Package: DFN0603-2 (0201)
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below

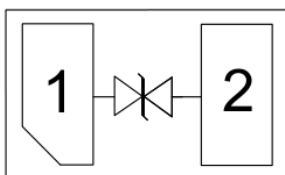
## Applications

- Cellular Handsets & Accessories
- Digital Visual Interface (DVI)
- Display Port
- MDDI Ports
- USB Ports

## Ordering Information

| Part Number    | Qty per Reel | Reel Size |
|----------------|--------------|-----------|
| ESD5V0B03-0201 | 15000        | 7"        |

## Dimensions and Pin Configuration



**Marking: Q**

**Absolute Maximum Ratings** (Tamb=25°C unless otherwise specified)

| Parameter                       | Symbol | Value       | Unit |
|---------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs)       | Ppk    | 70          | W    |
| Peak Pulse Current (8/20μs)     | Ipp    | 4           | A    |
| ESD per IEC 61000-4-2 (Air)     | VESD   | ±25         | kV   |
| ESD per IEC 61000-4-2 (Contact) |        | ±15         |      |
| Operating Temperature Range     | TJ     | -55 to +125 | °C   |
| Storage Temperature Range       | Tstg   | -55 to +150 | °C   |

**Electrical Characteristics** (TA=25°C unless otherwise specified)

| Parameter               | Symbol | Min | Typ  | Max  | Unit | Test Condition                 |
|-------------------------|--------|-----|------|------|------|--------------------------------|
| Reverse Working Voltage | VRWM   |     |      | 5    | V    |                                |
| Breakdown Voltage       | VBR    | 6.5 | 7.5  | 9.0  | V    | IT = 1mA                       |
| Reverse Leakage Current | IR     |     |      | 0.08 | μA   | VRWM = 5V                      |
| Clamping Voltage        | VC     |     |      | 14   | V    | Ipp=1A(8x 20us pulse)          |
|                         | VC     |     | 16   | 20   | V    | Ipp=4A(8x 20us pulse)          |
| Junction Capacitance    | CJ     |     | 0.28 |      | pF   | VR = 0V, f = 1MHz Pin1 to Pin2 |

**Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)**

Fig1. 8/20 $\mu\text{s}$  Pulse Waveform

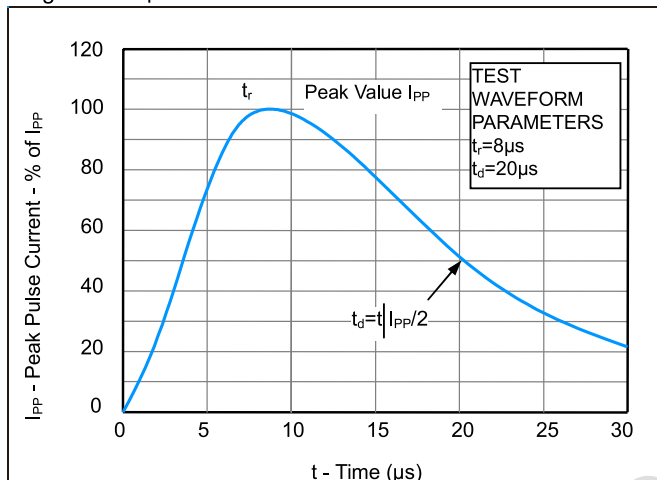


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

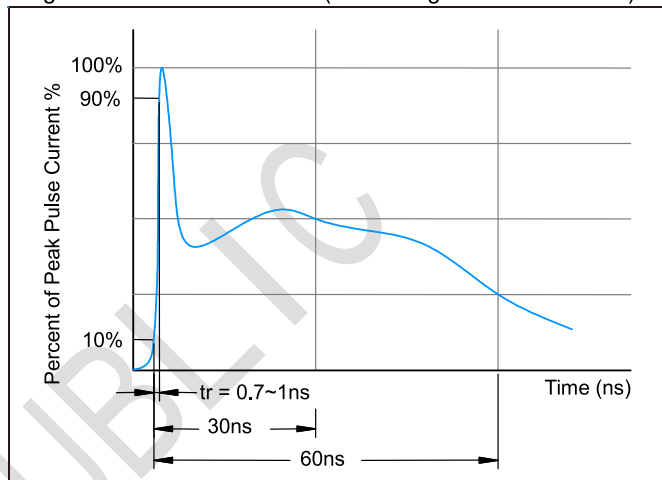
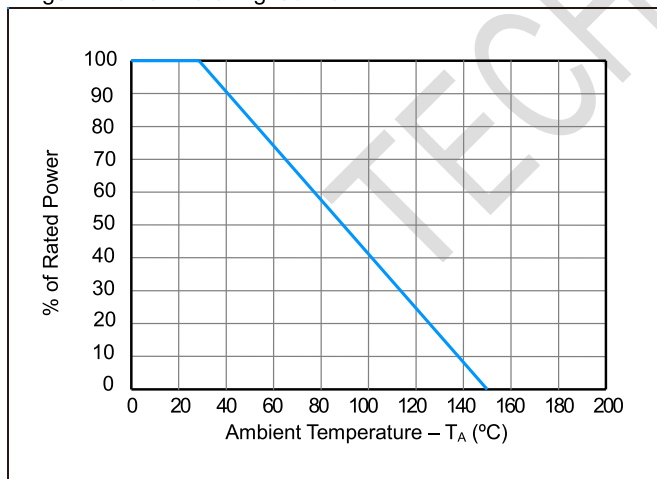
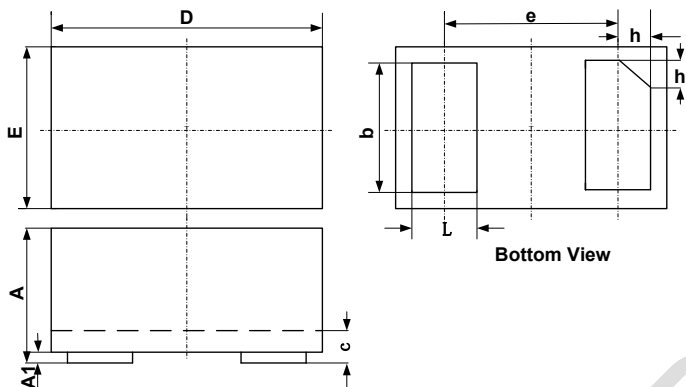


Fig3. Power Derating Curve

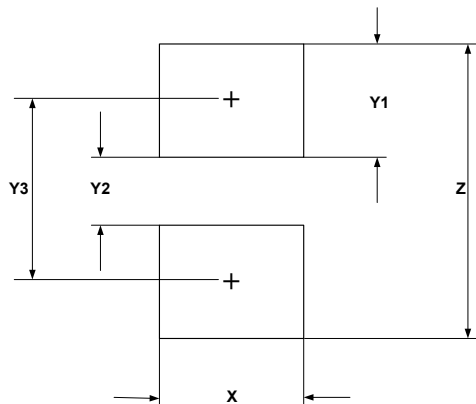


**DFN0603-2 Package Outline Drawing (0201)**



| SYM | DIMENSIONS  |       |       |
|-----|-------------|-------|-------|
|     | MILLIMETERS |       |       |
|     | MIN         | NOM   | MAX   |
| A   | 0.230       | 0.300 | 0.330 |
| A1  | 0.000       | 0.020 | 0.050 |
| b   | 0.215       | 0.245 | 0.275 |
| c   | 0.120       | 0.150 | 0.180 |
| D   | 0.550       | 0.600 | 0.650 |
| e   | 0.355 BSC   |       |       |
| E   | 0.250       | 0.300 | 0.350 |
| L   | 0.160       | 0.190 | 0.220 |
| h   | 0.079 BSC   |       |       |

**Suggested Land Pattern**



| SYM | DIMENSIONS  |        |
|-----|-------------|--------|
|     | MILLIMETERS | INCHES |
| X   | 0.30        | 0.012  |
| Y1  | 0.25        | 0.010  |
| Y2  | 0.15        | 0.006  |
| Y3  | 0.40        | 0.016  |
| Z   | 0.65        | 0.026  |