

## ESD5V0D06B

### Features

- Ultra small package: 0.6x0.3x0.3mm
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30\text{kV}$
    - Contact discharge:  $\pm 30\text{kV}$
  - IEC61000-4-5 (Lightning) 7A (8/20 $\mu\text{s}$ )
- RoHS Compliant

### Description

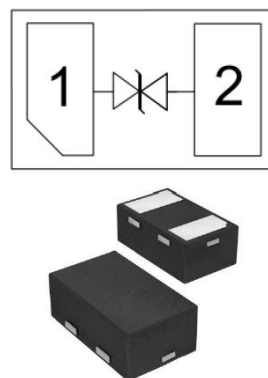
The ESD5V0D06B in a DFN0603 package and will protect bidirectional line. These devices are designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computers, and PDA's. They offer superior electrical characteristics such as lower clamping voltage and no device degradation when compared to MLVs, The ESD5V0D06B are designed to protect sensitive

semiconductor components from damage or upset due to electrostatic discharge (ESD), and other voltage induced transient events.

### Applications

- Smart Phone and Tablet PC
- TV and Set Top Box
- Wearable Devices
- PDA

### Circuit Diagram



### Absolute Maximum Ratings

Tamb=25°C unless otherwise specified

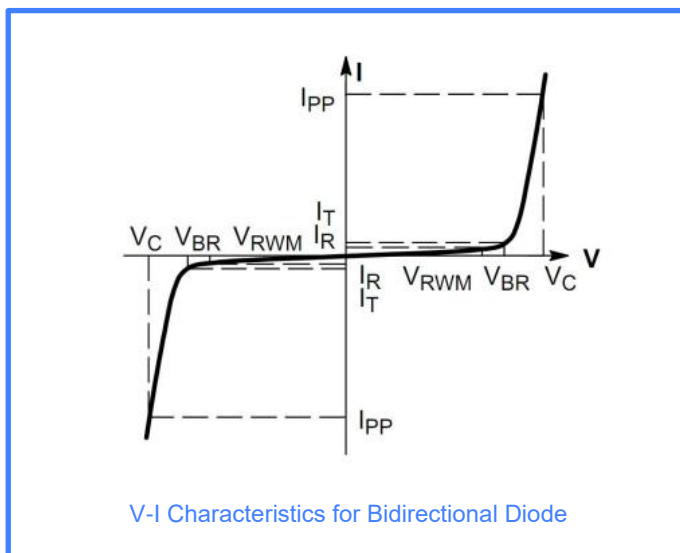
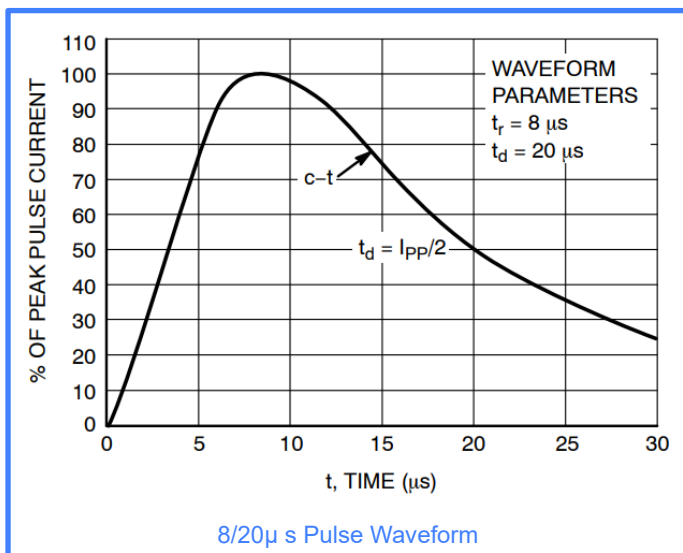
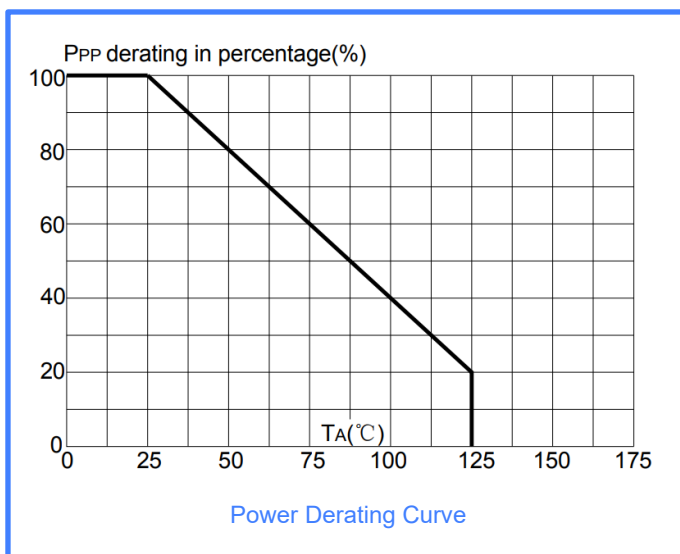
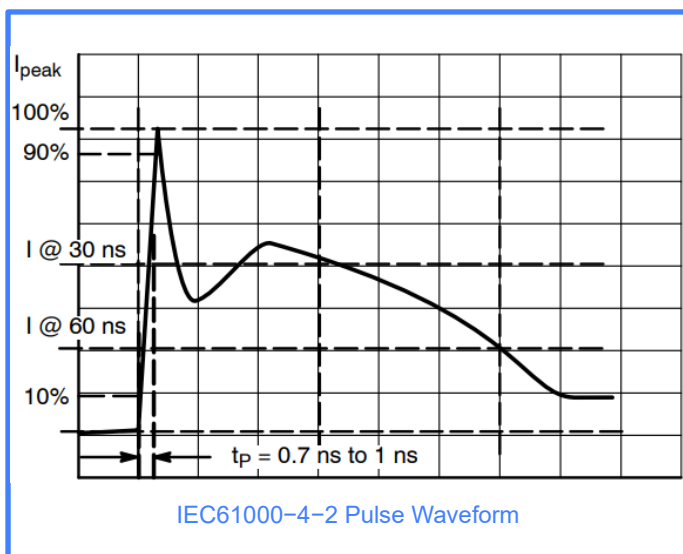
| Parameter                              | Symbol             | Value       | Unit |
|----------------------------------------|--------------------|-------------|------|
| Peak Pulse Power (8/20 $\mu\text{s}$ ) | Ppp                | 60          | W    |
| Maximum Reverse Peak Pulse Current     | I <sub>PP</sub> *1 | 7           | A    |
| ESD per IEC 61000-4-2 (Air)            | V <sub>ESD</sub>   | $\pm 30$    | KV   |
| ESD per IEC 61000-4-2 (Contact)        |                    | $\pm 30$    |      |
| Storage Temperature Range              | T <sub>STJ</sub>   | -55 to +150 | °C   |
| Operating Temperature Range            | T <sub>J</sub>     | -55 to +125 | °C   |

### Electrical Characteristics

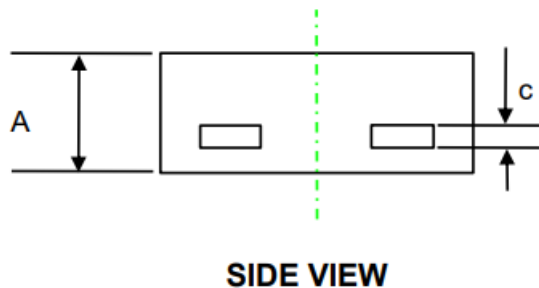
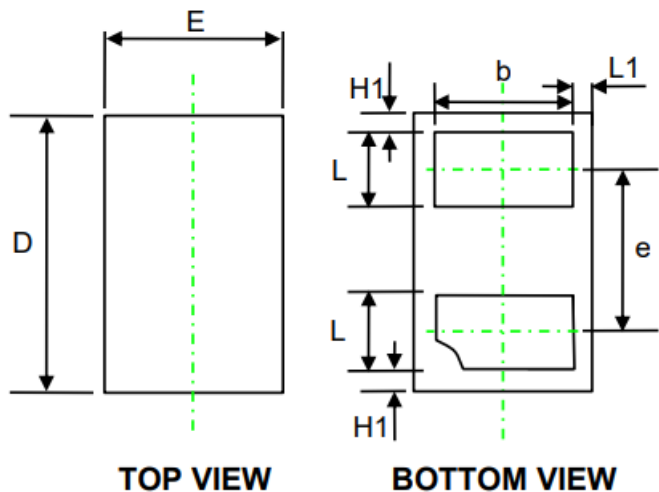
TA=25°C unless otherwise specified

| Symbol           | Parameter                    | Conditions                                              | Min | Typ | Max | Units         |
|------------------|------------------------------|---------------------------------------------------------|-----|-----|-----|---------------|
| V <sub>RWM</sub> | Reverse Working Peak Voltage | -                                                       |     |     | 5.0 | V             |
| V <sub>BR</sub>  | Reverse Breakdown Voltage    | I <sub>T</sub> = 1mA                                    | 6   | --  | 8.5 | V             |
| I <sub>R</sub>   | Reverse Current              | V <sub>RWM</sub> = 5V                                   |     |     | 0.2 | $\mu\text{A}$ |
| V <sub>C</sub>   | Clamping Voltage             | I <sub>PP</sub> =1A, t <sub>P</sub> =8/20 $\mu\text{s}$ |     |     | 7   | V             |
| V <sub>C</sub>   | Clamping Voltage             | I <sub>PP</sub> =3A, t <sub>P</sub> =8/20 $\mu\text{s}$ |     |     | 8   | V             |
| V <sub>C</sub>   | Clamping Voltage             | I <sub>PP</sub> =7A, t <sub>P</sub> =8/20 $\mu\text{s}$ |     |     | 9   | V             |
| C <sub>D</sub>   | Diode Capacitance            | VR = 0V, f = 1MHz                                       |     | 15  |     | pF            |

## Characteristic Curves



## DFN0603 Package Outline & Dimensions



| SYM | DIMENSIONS  |      |      |
|-----|-------------|------|------|
|     | MILLIMETERS |      |      |
|     | MIN         | NOM  | MAX  |
| A   | 0.27        | 0.30 | 0.34 |
| E   | 0.25        | 0.30 | 0.35 |
| D   | 0.55        | 0.60 | 0.65 |
| b   | 0.20        | 0.25 | 0.30 |
| c   | 0.050 REF.  |      |      |
| e   |             | 0.35 |      |
| L   | 0.13        | 0.18 | 0.23 |
| L1  | 0.03 REF.   |      |      |
| H1  | 0.045 REF.  |      |      |

## Disclaimer

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.