

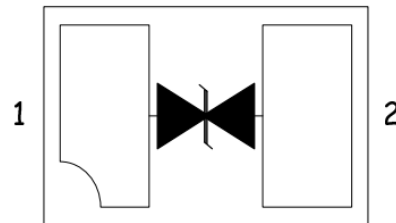
### Features

- Ultra low leakage: nA level
- Operating voltage: 3.3V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 25\text{kV}$
    - Contact discharge:  $\pm 20\text{kV}$
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 4A (8/20  $\mu\text{s}$ )
- RoHS Compliant

### Dimensions DFN1006



### Pin Configuration



### Applications

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

### Mechanical Characteristics

- Package: DFN1006
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 10,000 pcs
- Reel Size: 7 inch
- Device Marking: 3B

### Absolute Maximum Ratings (T<sub>amb</sub>=25°C unless otherwise specified)

| Parameter                              | Symbol           | Value       | Unit |
|--|------------------|-------------|------|
| Peak Pulse Power (8/20 $\mu\text{s}$ ) | P <sub>pp</sub>  | 56          | W    |
| ESD per IEC 61000-4-2 (Air)            | V <sub>ESD</sub> | $\pm 25$    | Kv   |
| ESD per IEC 61000-4-2 (Contact)        |                  | $\pm 20$    |      |
| Operating Temperature Range            | T <sub>J</sub>   | -55 to +125 | °C   |
| Storage Temperature Range              | T <sub>STJ</sub> | -55 to +150 | °C   |

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

| Symbol | Parameter                    | Conditions         | Min | Typ  | Max | Unit |
|--------|------------------------------|--------------------|-----|------|-----|------|
| VRWM   | Reverse Working Peak Voltage |                    |     |      | 3.3 | V    |
| VBR    | Reverse Breakdown Voltage    | IT = 1mA           | 4.2 |      |     | V    |
| IR     | Reverse Leakage Current      | VRWM = 3.3V        |     |      | 0.1 | μA   |
| VC     | Clamping Voltage             | IPP = 1 A (8/20μs) |     |      | 10  | V    |
| VC     | Clamping Voltage             | IPP = 4 A (8/20μs) |     |      | 14  | V    |
| CJ     | Capacitance                  | VR = 0V, f = 1MHz  |     | 0.45 | 0.6 | pF   |

## Characteristic Curves

Fig1. 8/20 $\mu$ s Pulse Waveform

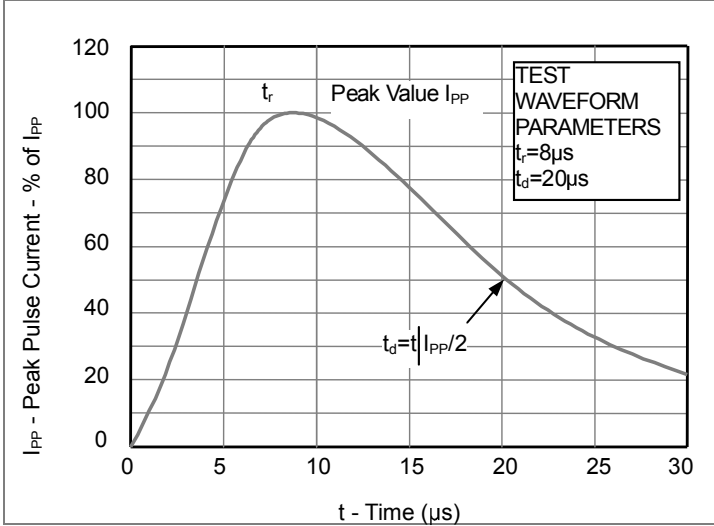


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

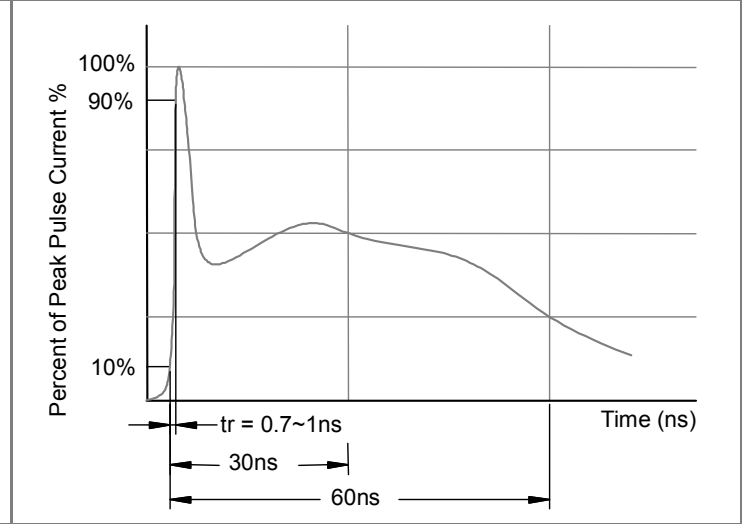
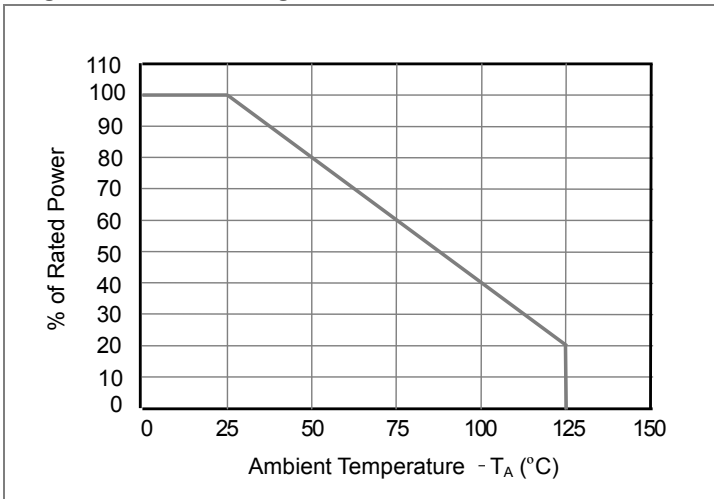
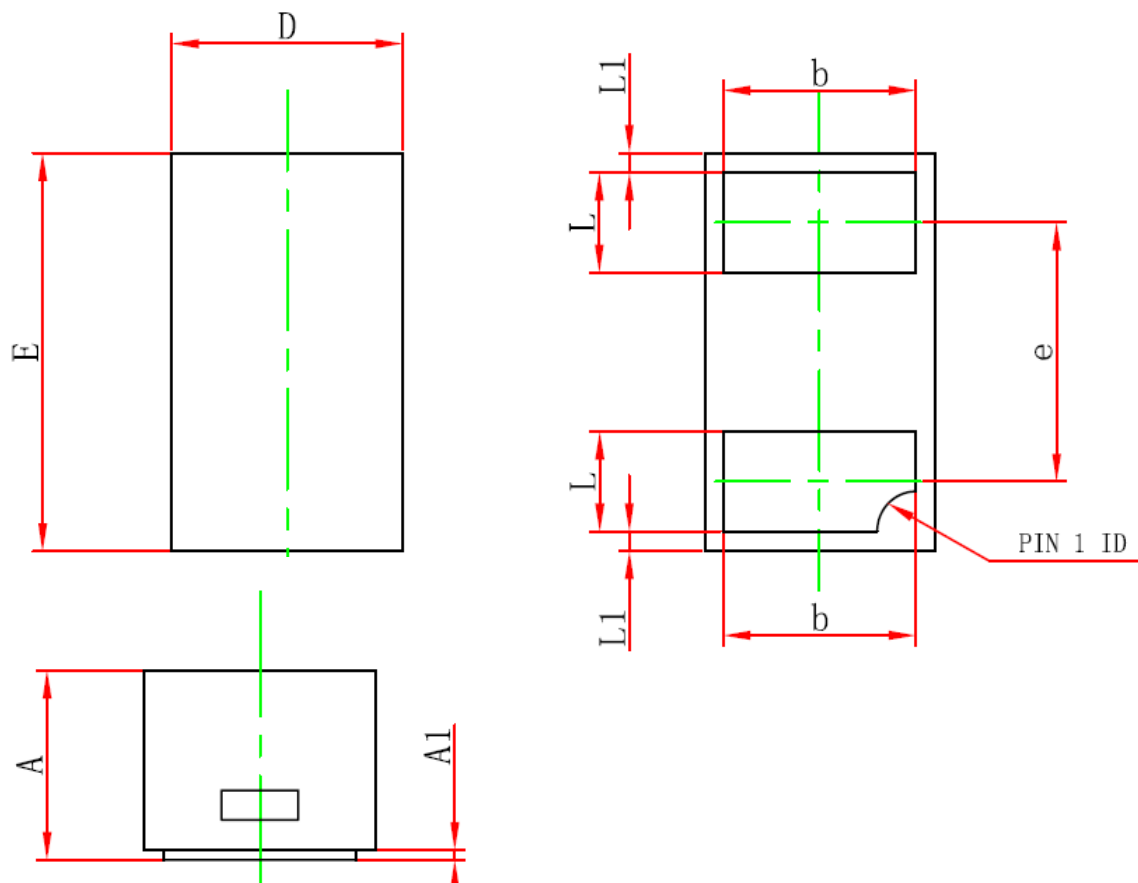


Fig3. Power Derating Curve



## DFN1006 PACKAGE OUTLINE & DIMENSIONS



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min.                      | Max.  | Min.                 | Max.  |
| A      | 0.400                     | 0.500 | 0.016                | 0.020 |
| A1     | 0.000                     | 0.050 | 0.000                | 0.002 |
| D      | 0.550                     | 0.650 | 0.022                | 0.026 |
| E      | 0.950                     | 1.050 | 0.037                | 0.041 |
| b      | 0.400                     | 0.600 | 0.016                | 0.024 |
| e      | 0.650TYP.                 |       | 0.026TYP.            |       |
| L      | 0.150                     | 0.350 | 0.006                | 0.014 |
| L1     | 0.050REF.                 |       | 0.002REF.            |       |

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