

Features

- Low operating voltage: 30V
- Ultra low capacitance: 0.3pF (Typ)
- Ultra low leakage: nA level
- Low clamping voltage
- -IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 15\text{kV}$
 - Contact discharge: $\pm 12\text{kV}$
- -IEC61000-4-4 (EFT) 40A (5/50ns)
- -IEC61000-4-5 (Lightning) 2A (8/20 μs)
- 2-pin leadless package
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

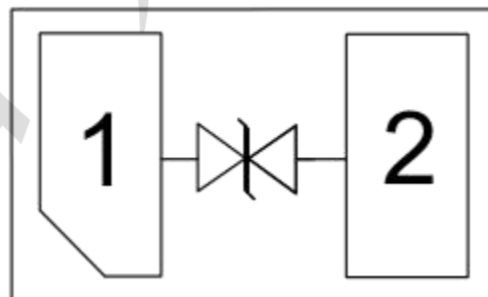
Mechanical Characteristics

- Package: DFN1006-2(0402)
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Terminal Connections: See Diagram Below
- -IEC 61000-4-2 (ESD) immunity test

Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- RF Signal ESD Protection
- Near Field Communications
- Active Antenna ESD Protection

Dimensions and Pin Configuration



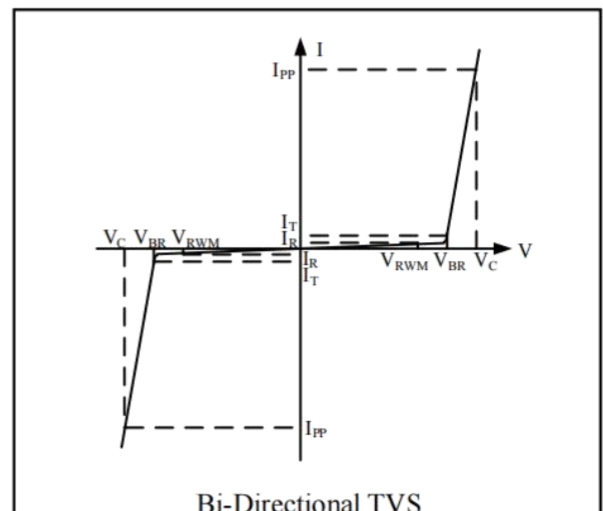
Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|--|--------|-------------|------|
| Peak Pulse Power (8/20μs) | Ppk | 100 | W |
| Peak Pulse Current (8/20μs) | Ipp | 2 | A |
| ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact) | VESD | ±15 ±12 | KV |
| 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 | -- | -- | 30 | V | |
| Breakdown Voltage | VBR | 33 | -- | -- | V | IT= 1mA |
| Reverse Leakage Current | IR | -- | -- | 0.1 | uA | VRWM=30V |
| Clamping Voltage | VC | -- | 45 | -- | V | Ipp=1A(8x 20us pulse) |
| Clamping Voltage | VC | -- | -- | 50 | V | Ipp=2A(8x 20us pulse) |
| Junction Capacitance | CJ | -- | 0.3 | 0.5 | pF | VR = 0V, f = 1MHz |

| Symbol | Parameter |
|--------|------------------------------------|
| VRWM | Nominal Reverse Working Voltage |
| IR | Reverse Leakage Current @ VRWM |
| VBR | Reverse Breakdown Voltage @ IT |
| IT | Test Current for Reverse Breakdown |
| VC | Clamping Voltage @ Ipp |
| Ipp | Maximum Peak Pulse Current |
| CESD | Parasitic Capacitance |
| VR | Reverse Voltage |
| f | Small Signal Frequency |



Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

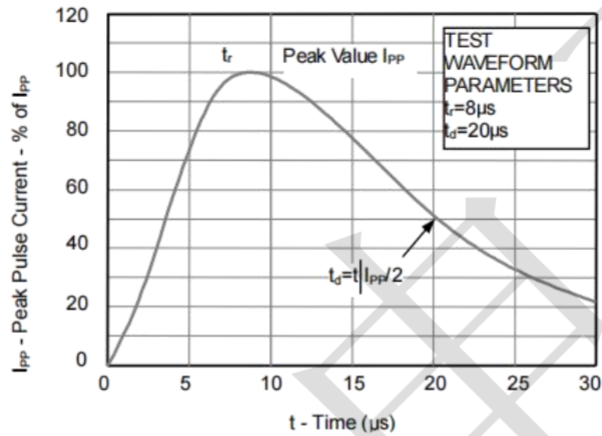


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

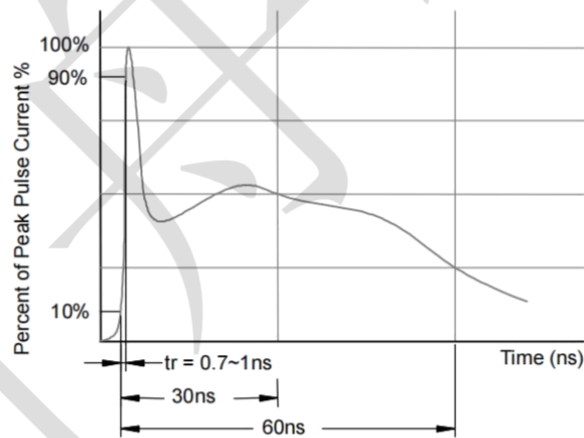
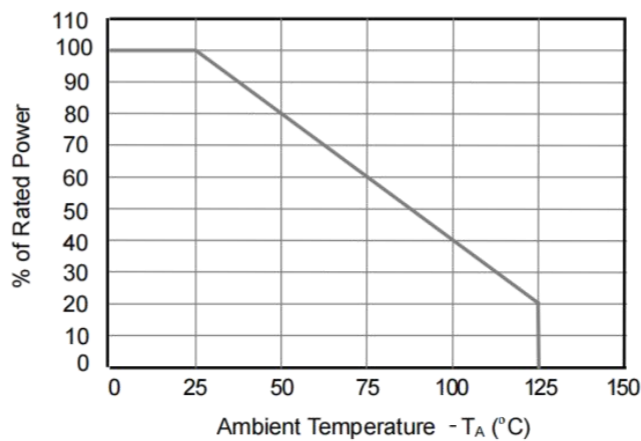
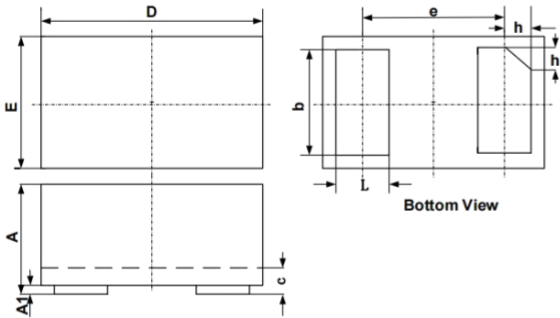


Fig3. Power Derating Curve



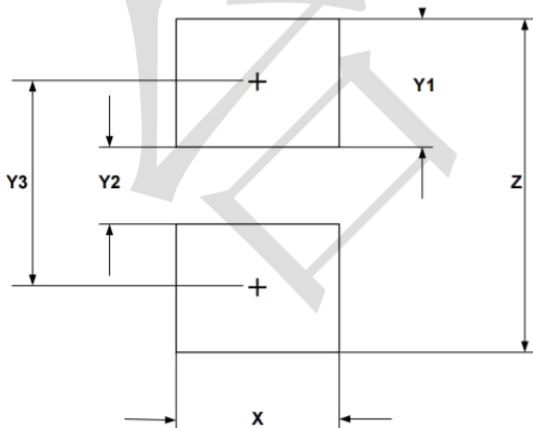
Package Outline & Dimensions

DFN1006-2 (0402)



| SYM | DIMENSIONS | | | | | |
|-----|-------------|------|------|-----------|-------|-------|
| | MILLIMETERS | | | INCHES | | |
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 0.45 | 0.50 | 0.55 | 0.018 | 0.020 | 0.022 |
| A1 | 0.00 | 0.02 | 0.05 | 0.000 | 0.001 | 0.002 |
| b | 0.45 | 0.50 | 0.55 | 0.018 | 0.020 | 0.022 |
| c | 0.12 | 0.15 | 0.18 | 0.005 | 0.006 | 0.007 |
| D | 0.95 | 1.00 | 1.05 | 0.037 | 0.039 | 0.041 |
| e | 0.65 BSC | | | 0.026 BSC | | |
| E | 0.55 | 0.60 | 0.65 | 0.022 | 0.024 | 0.026 |
| L | 0.20 | 0.25 | 0.30 | 0.008 | 0.010 | 0.012 |
| h | 0.07 | 0.12 | 0.17 | 0.003 | 0.005 | 0.007 |

Suggested Land Pattern



| SYM | DIMENSIONS | |
|-----|-------------|--------|
| | MILLIMETERS | INCHES |
| X | 0.60 | 0.024 |
| Y1 | 0.50 | 0.020 |
| Y2 | 0.30 | 0.012 |
| Y3 | 0.80 | 0.032 |
| Z | 1.30 | 0.052 |