

Features

- * Ultra small package: 1.0x0.6x0.5mm
- * Ultra low capacitance: 0.18pF 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: $\pm 23kV$
 - Contact discharge: $\pm 20kV$
 - IEC61000-4-5 (Lightning) 3A (8/20 μs)
- * RoHS Compliant
- * Lead Finish: NiPdAu

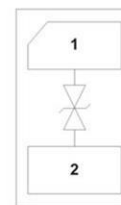
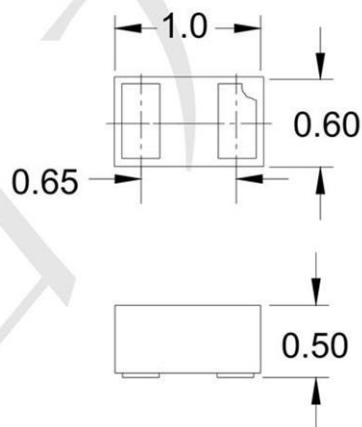
Mechanical Characteristics

- * Package: DFN1006-2 (0402)
- * Lead Finish: Matte Tin
- * Case Material: "Green" Molding Compound.
- * Moisture Sensitivity: Level 3 per J-STD-020
- * Terminal Connections: See Diagram Below
- * Shipping Qty :10000/7Inch Tape & Reel

Applications

- * Smart phones
- * Display Ports
- * MDDI Ports
- * USB Ports
- * Digital Video Interface (DVI)
- * PCI Express and Serial SATA Ports

Dimensions and Pin Configuration



Marking:G Or B*

*** =date code**

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

| Parameter | Symbol | Value | Unit |
|---------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs) | Ppk | 60 | W |
| Peak Pulse Current (8/20μs) | Ipp | 3 | A |
| ESD per IEC 61000-4-2 (Air) | VESD | ±23 | kV |
| ESD per IEC 61000-4-2 (Contact) | | ±20 | |
| 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 | 7.5 | 9 | V | IT = 1mA |
| Reverse Leakage Current | IR | | | 0.2 | μA | VRWM = 5V |
| Clamping Voltage | VC | | | 12 | V | I _{PP} = 1A (8 x 20μs pulse) |
| Clamping Voltage | VC | | | 19 | V | I _{PP} = 3A (8 x 20μs pulse) |
| Junction Capacitance | CJ | | 0.18 | | pF | VR = 0V, f = 1MHz IO to IO |

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

Fig1. 8/20 μs Pulse Waveform

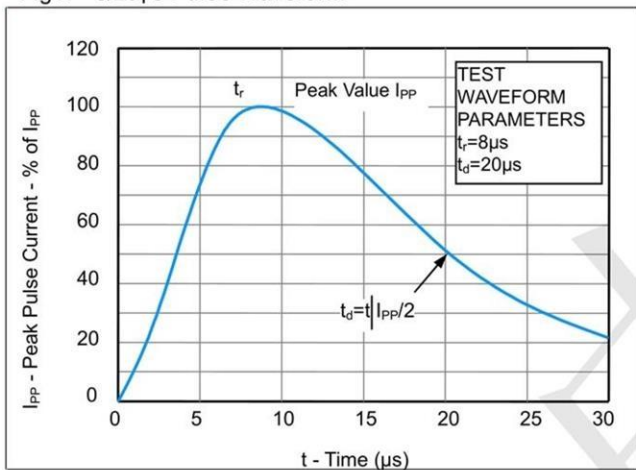


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

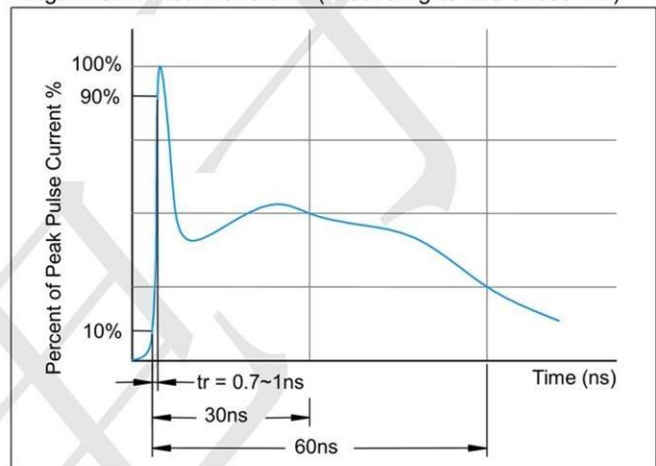
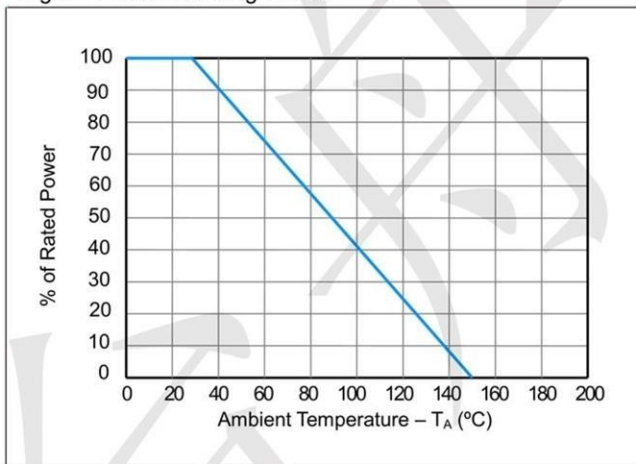
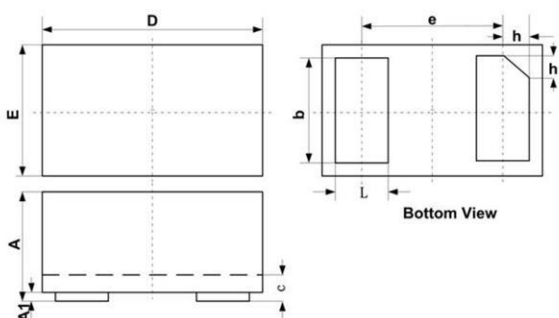


Fig3. Power Derating Curve

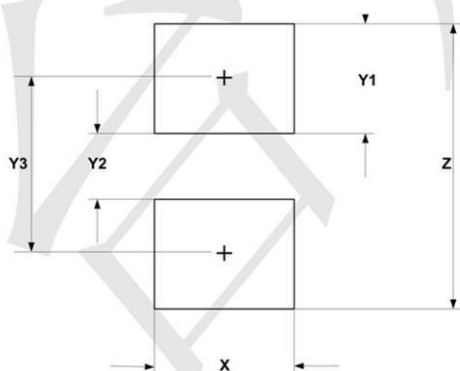


DFN1006-2 Package Outline Drawing (0402)



| 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 |

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