

»Features

- 80Watts peak pulse power ($t_p = 8/20\mu s$)
- Tiny DFN1006 package
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 $\pm 15kV$ contact $\pm 25kV$ air
- IEC 61000-4-4 (EFT) 40A(5/50ns)
- IEC 61000-4-5 (Lightning) 10A (8/20 μs)



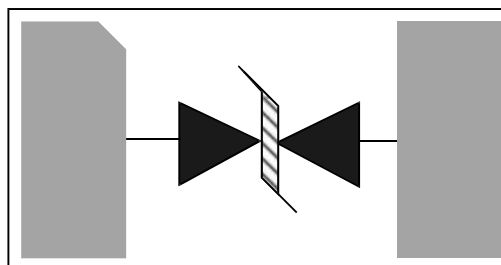
»Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation

»Mechanical Data

- DFN1006 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

»Schematic & PIN Configuration



DFN1006

»Absolute Maximum Rating

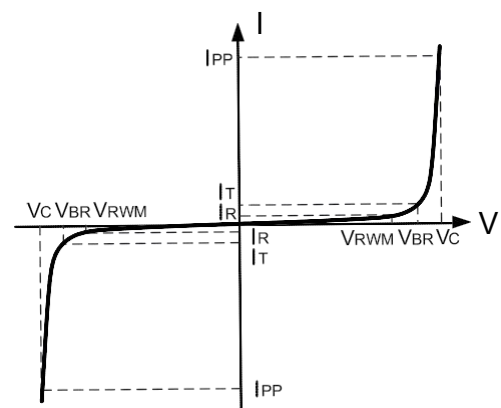
| Rating | Symbol | Value | Units |
|--|-----------|----------------|-------|
| Peak Pulse Power ($t_p=8/20\mu s$) | P_{PP} | 80 | Watts |
| Peak Pulse Current ($t_p=8/20\mu s$) (note1) | I_{PP} | 10 | A |
| ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact) | V_{ESD} | 25 15 | kV |
| Lead Soldering Temperature | T_L | 260(10seconds) | °C |
| Junction Temperature | T_J | -55 to + 125 | °C |
| Storage Temperature | T_{stg} | -55 to + 125 | °C |

»Electrical Characteristics

| Parameter | Symbol | Conditions | Min | Typical | Max | Units |
|----------------------------------|-----------|------------------------------|-----|---------|-----|----------|
| Reverse Stand-Off Voltage | V_{RWM} | | | | 3.3 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1mA$ | 3.8 | | | V |
| Reverse Leakage Current | I_R | $V_{RWM}=3.3V, T=25^\circ C$ | | 0.1 | 0.2 | μA |
| Peak Pulse Current | I_{PP} | $t_p=8/20\mu s$ | | | 10 | A |
| Clamping Voltage ¹⁾ | V_{CL} | $I_{PP}=16A, t_p=100ns$ | | 8 | | V |
| Clamping Voltage ²⁾ | V_C | $I_{PP}=5A, t_p=8/20\mu s$ | | | 6 | V |
| Clamping Voltage ²⁾ | | $I_{PP}=10A, t_p=8/20\mu s$ | | | 8 | V |
| Dynamic resistance ¹⁾ | R_{DYN} | | | 0.2 | | Ω |
| Junction Capacitance | C_j | $V_R = 0V, f = 1MHz$ | | 12 | 18 | pF |

»Electrical Parameters (TA = 25°C unless otherwise noted)

| Symbol | Parameter |
|-----------|---|
| I_{PP} | Maximum Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| V_{RWM} | Working Peak Reverse Voltage |
| I_R | Maximum Reverse Leakage Current @ V_{RWM} |
| V_{BR} | Breakdown Voltage @ I_T |
| I_T | Test Current |



Note: 8/20 μs pulse waveform.

»Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

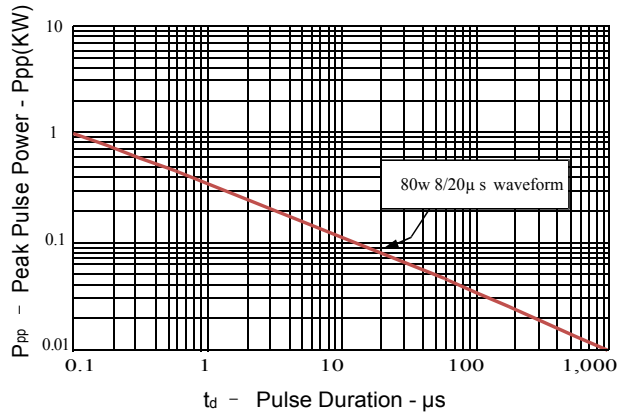


Figure 2: Power Derating Curve

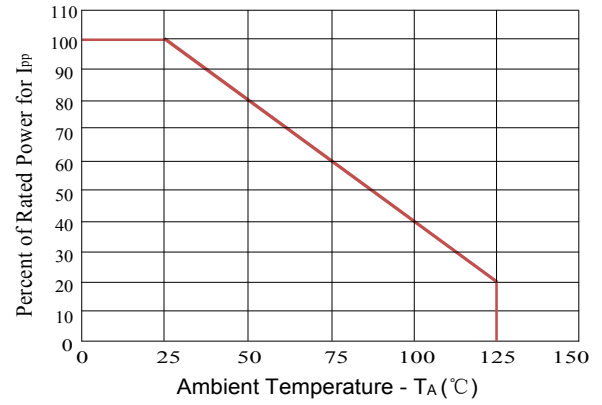


Figure3: Pulse Waveform

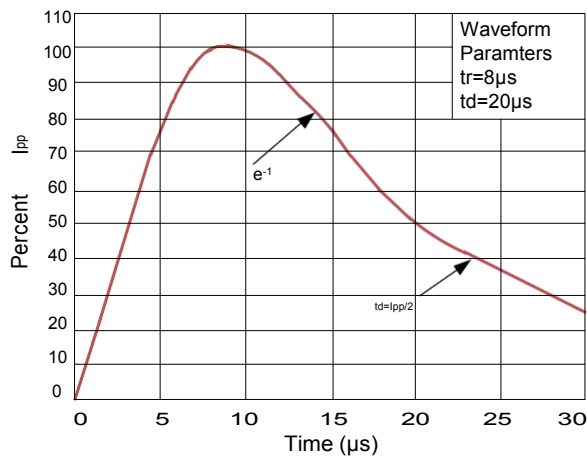
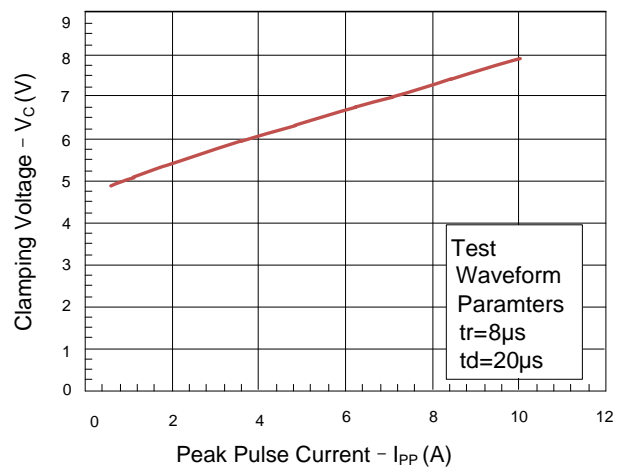
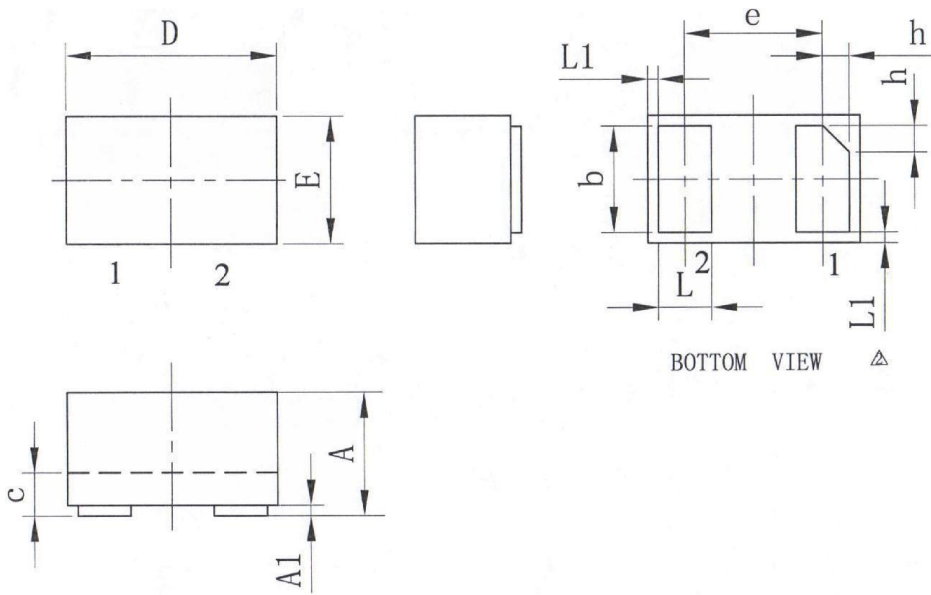


Figure 4: Clamping Voltage vs. Ipp

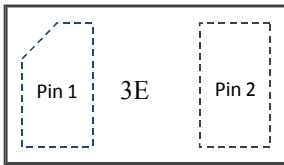


»Outline Drawing – DFN1006



| SYMBOL | MILLIMETER | | |
|------------|------------|------|------|
| | MIN | NOM | MAX |
| A | 0.45 | 0.50 | 0.55 |
| A1 | 0 | 0.02 | 0.05 |
| b | 0.45 | 0.50 | 0.55 |
| c | 0.12 | 0.15 | 0.18 |
| D | 0.95 | 1.00 | 1.05 |
| e | 0.65BSC | | |
| E | 0.55 | 0.60 | 0.65 |
| L | 0.20 | 0.25 | 0.30 |
| L1 | 0.05REF | | |
| h | 0.07 | 0.12 | 0.17 |
| 载体尺寸 (MIL) | 20*20 | | |

»Marking



»Ordering information

| Order code | Package | Base qty | Delivery mode |
|-------------|---------|----------|---------------|
| BCPDQ3V3-HF | DFN1006 | 10k | Tape and reel |

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