

»Features

- 60Watts 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
- Low capacitance ($C_j=0.6pF$ typ. IO to IO)
- Protection one data/power line
- IEC 61000-4-2 $\pm 20kV$ contact $\pm 20kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 3.5A (8/20 μs)



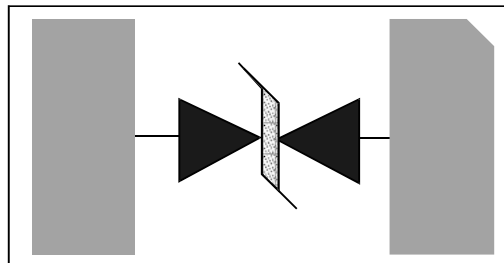
»Applications

- 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

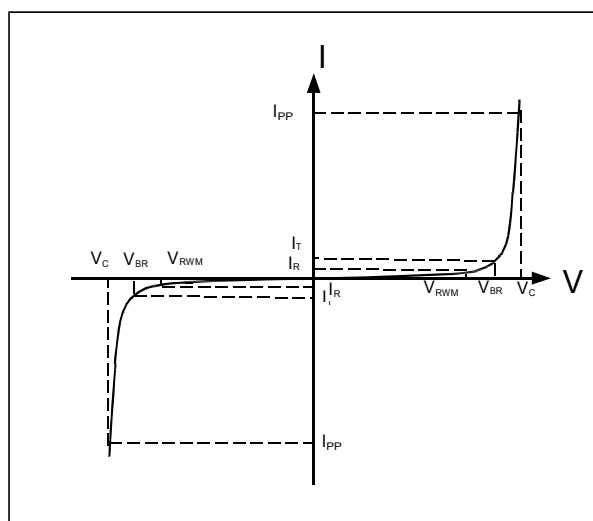
| Rating | Symbol | Value | Units |
|--|-----------|----------------|-------|
| Peak Pulse Power ($t_p = 8/20\mu s$) | P_{PP} | 60 | Watts |
| Peak Pulse Current ($t_p = 8/20\mu s$)(note1) | I_{PP} | 3.5 | A |
| ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact) | V_{ESD} | 20 20 | kV |
| Lead 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} | | | | 5.0 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T = 1mA$ | 6.0 | 8.0 | | V |
| Reverse Leakage Current | I_R | $V_{RWM} = 5V, T = 25^\circ C$ | | 0.1 | 0.5 | μA |
| Peak Pulse Current | I_{PP} | $t_p = 8/20\mu s$ | | | 3.5 | A |
| Clamping Voltage | V_C | $I_{PP} = 3.5A, t_p = 8/20\mu s$ | | | 15 | V |
| Junction Capacitance | C_j | IO to IO $V_R = 0V, f = 1MHz$ | | 0.5 | 0.9 | 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

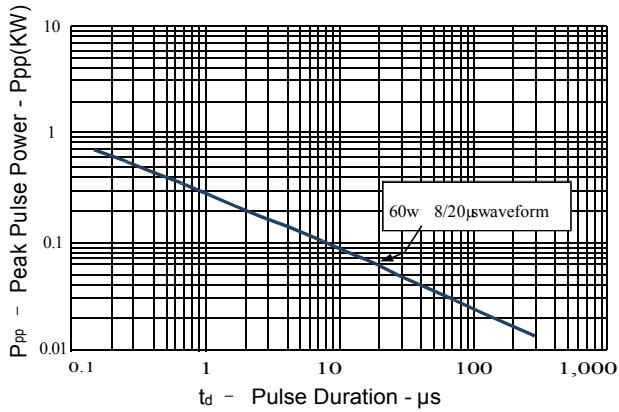


Figure 2: Power Derating Curve

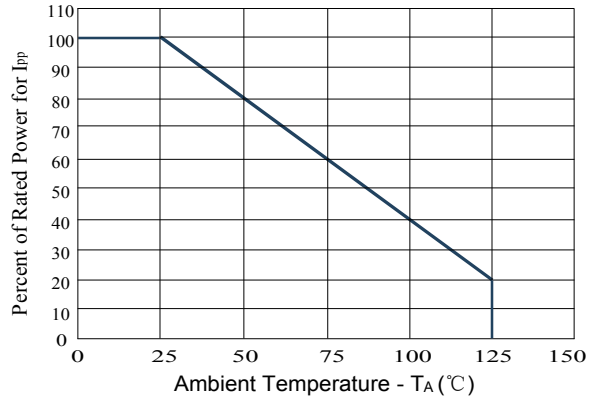


Figure3: Pulse Waveform

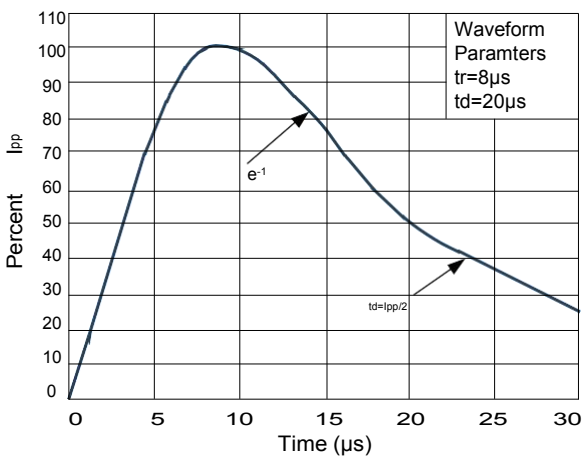


Figure 4: Clamping Voltage vs.Ipp

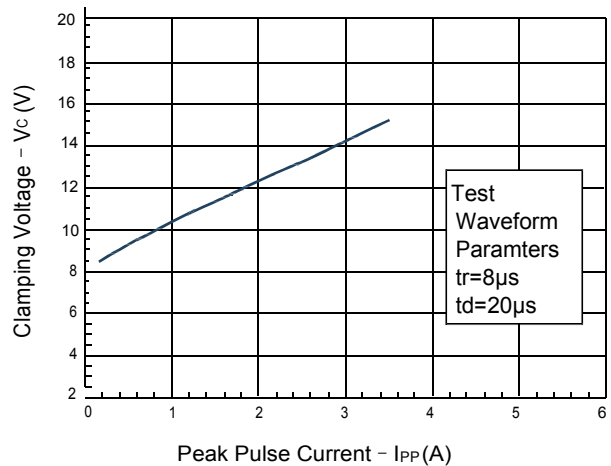


Figure5: Positive Clamping voltage (TLP)

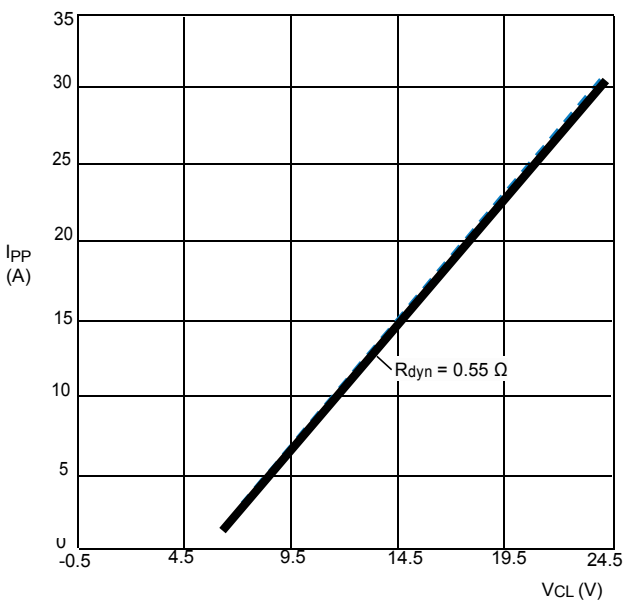
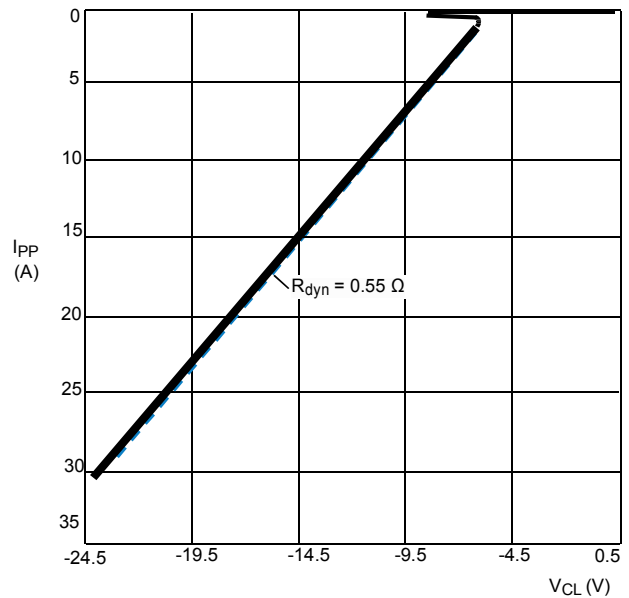
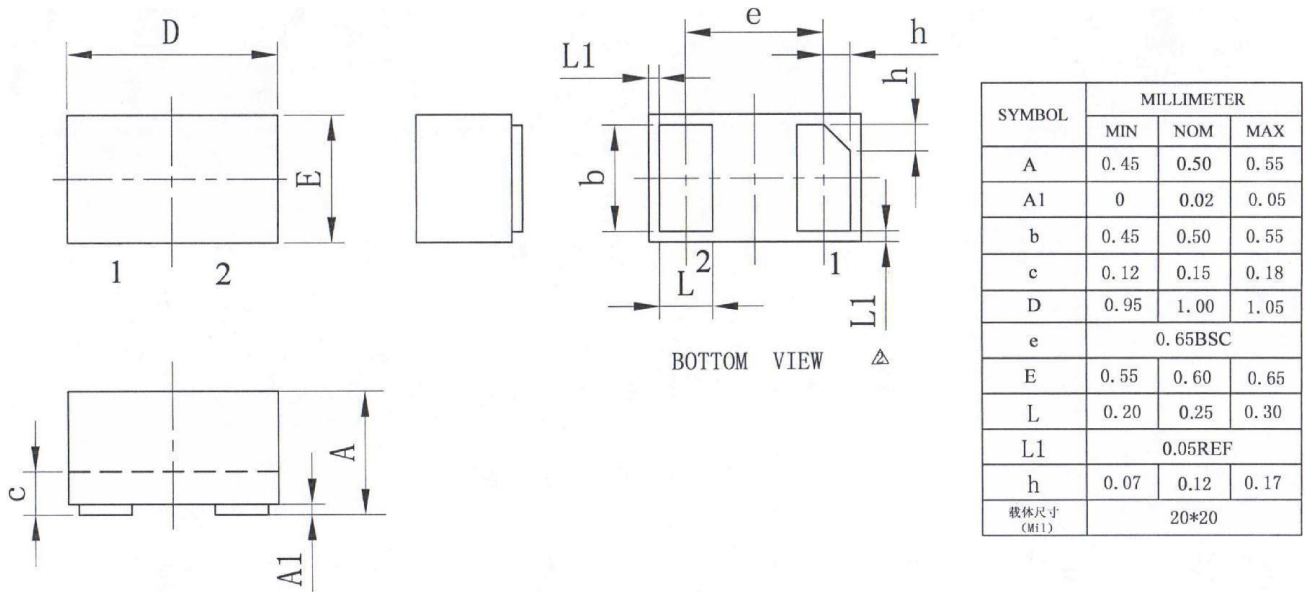


Figure5: Negative Clamping voltage (TLP)



»Outline Drawing – DFN1006



»Ordering information

| Order code | Package | Base qty | Delivery mode |
|-------------|---------|----------|---------------|
| ESD7951ST5G | DFN1006 | 10k | Tape and reel |

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