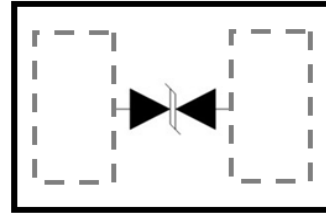


### DFN1006 Plastic-Encapsulate ESD Protection Diodes

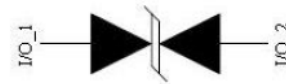
#### Features

1. Peak Power Dissipation :200W (8/20 $\mu$ s)
2. IEC61000-4-2 (ESD)  $\pm$ 15kV (air),  $\pm$ 8kV (contact)
3. IEC61000-4-4 (EFT) 40A (5/50ns)
4. IEC61000-4-5 (Lighting) 3A (8/20 $\mu$ s)
5. Protects one directional I/O
6. line Low clamping voltage
7. Working voltages : 24V
8. Low Capacitance
9. Low leakage current

#### Pin Configuration



#### Circuit Diagram



#### Applications

1. Cell Phone Handsets and Accessories
2. Serial and Parallel Ports
3. Projection TV
4. Notebooks, Desktops, and Servers
5. Portable Instrumentation
6. Peripherals

#### Mechanical Characteristics

1. Package: DFN1006
2. Flammability Rating: UL 94V-0
3. Packaging: Tape and Reel
4. High temperature soldering guaranteed: 260 $^{\circ}$ C/10s
5. Marking: DH

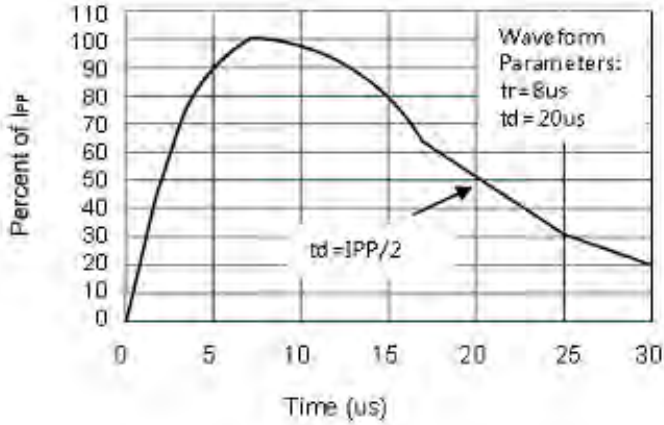
#### Absolute Maximum Ratings (TA=25 $^{\circ}$ C unless otherwise specified)

| Parameter  | Symbol           | Value        | Unit         |
|--|------------------|--------------|--------------|
| ESD per IEC 61000-4-2 (Air)                            | VESD             | $\pm$ 30     | kV           |
| ESD per IEC 61000-4-2 (Contact)                        |                  | $\pm$ 20     |              |
| Peak Pulse Power(tp=8/20us waveform)                   | PPP              | 200          | W            |
| Operating Temperature                                  | T <sub>OPT</sub> | -55 to +125  | $^{\circ}$ C |
| Storage Temperature Range                              | T <sub>STG</sub> | -55 to +150  | $^{\circ}$ C |
| Lead Solder Temperature – Maximum (10 Second Duration) | T <sub>L</sub>   | 260(10 sec.) | $^{\circ}$ C |

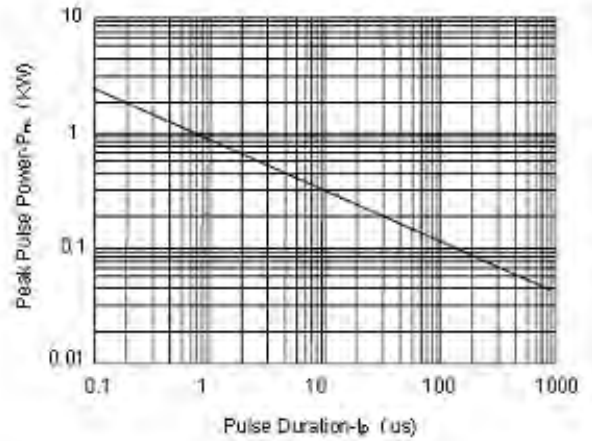
### Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)

| Symbol           | Param                     | Test Condition                                | Min | Typ | Max | Units |
|------------------|---------------------------|---|-----|-----|-----|-------|
| V <sub>RWM</sub> | Reverse Working Voltage   |   |     |     | 24  | V     |
| V <sub>BR</sub>  | Reverse Breakdown Voltage | I <sub>T</sub> = 1mA                          | 26  |     | 32  | V     |
| I <sub>R</sub>   | Reverse Leakage Current   | V <sub>RWM</sub> = 24V                        |     |     | 1.0 | μA    |
| V <sub>C</sub>   | Clamping Voltage          | I <sub>PP</sub> = 1A, t <sub>p</sub> = 8/20μs |     |     | 36  | V     |
|                  |                           | I <sub>PP</sub> = 3A, t <sub>p</sub> = 8/20μs |     |     | 50  | V     |
| C <sub>J</sub>   | Junction Capacitance      | V <sub>R</sub> = 0V, f = 1MHz                 |     | 13  | 17  | pF    |

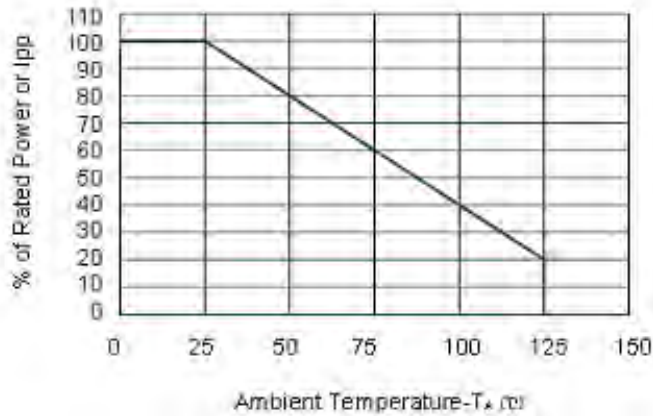
**ELECTRICAL CHARACTERISTICS CURVE**



**Pulse Waveform**

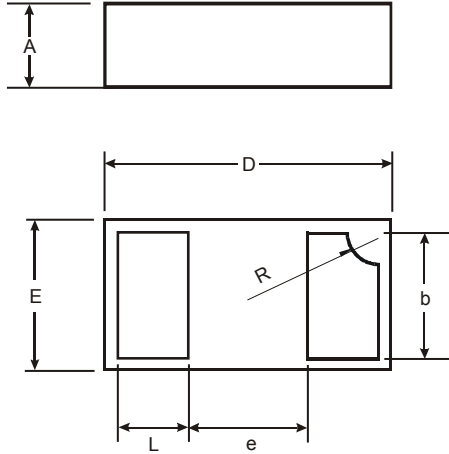


**Non-Repetitive Peak Pulse Power vs. Pulse Time**



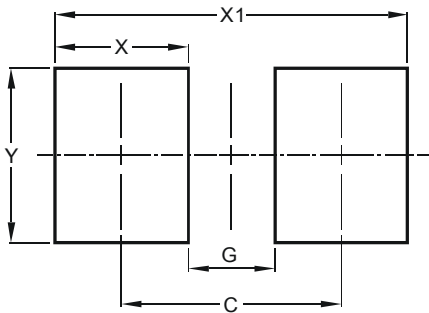
### Outline Drawing

DFN1006 Package Outline Dimensions



| DFN1006              |      |      |      |
|----------------------|------|------|------|
| Dim                  | Min  | Max  | Typ  |
| A                    | 0.45 | 0.55 | 0.50 |
| b                    | 0.45 | 0.55 | 0.50 |
| D                    | 0.95 | 1.05 | 1.00 |
| E                    | 0.55 | 0.65 | 0.60 |
| e                    | -    | -    | 0.40 |
| L                    | 0.20 | 0.30 | 0.25 |
| R                    | 0.07 | 0.17 | 0.12 |
| All Dimensions in mm |      |      |      |

### Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| C          | 0.90          |
| G          | 0.40          |
| X          | 0.50          |
| X1         | 1.10          |
| Y          | 0.50          |

Note:

1. Controlling dimension: in/millimeters.
2. General tolerance:  $\pm 0.05$ mm.
3. The pad layout is for reference purposes only.

### PACKAGE SPECIFICATIONS

| Package | Reel Size | Reel DIA. (mm) | Q'TY/Reel (pcs) | Box Size (mm) | QTY/Box (pcs) | Carton Size (mm) | Q'TY/Carton (pcs) |
|---------|-----------|----------------|-----------------|---------------|---------------|------------------|-------------------|
| DFN1006 | 7'        | 178            | 10,000          | 210×210×205   | 100,000       | 445×445×230      | 400,000           |