

## Features

- Ultra small package: 1.0x0.6x0.5mm
- 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:  $\pm 20kV$
    - Contact discharge:  $\pm 15kV$
  - – IEC61000-4-5 (Lightning) 5A (8/20 $\mu s$ )
- RoHS Compliant
- Lead Finish: NiPdAu

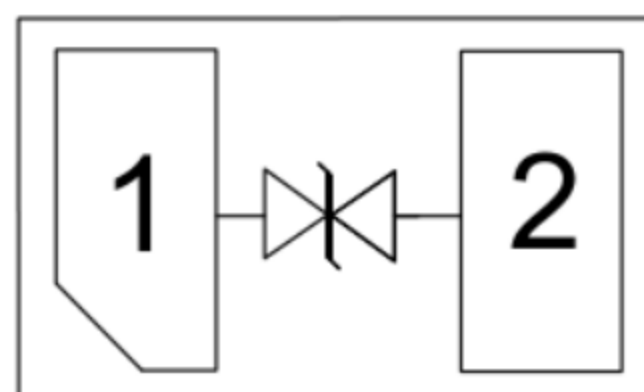
## Mechanical Characteristics

- 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



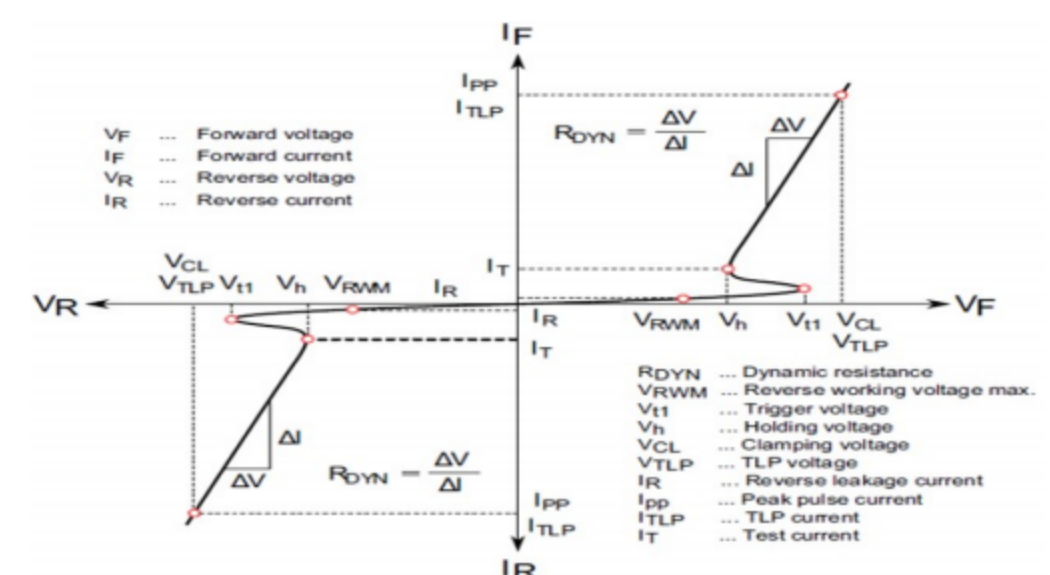
**Absolute Maximum Ratings** (Tamb=25°C unless otherwise specified)

| Parameter                       | Symbol           | Value       | Unit |
|---------------------------------|------------------|-------------|------|
| Peak Pulse Power (8/20μs)       | Ppk              | 35          | W    |
| Peak Pulse Current (8/20μs)     | I <sub>PP</sub>  | 5           | A    |
| ESD per IEC 61000-4-2 (Air)     | V <sub>ESD</sub> | ±20         | kV   |
| ESD per IEC 61000-4-2 (Contact) |                  | ±15         |      |
| Operating Temperature Range     | T <sub>J</sub>   | -55 to +125 | °C   |
| Storage Temperature Range       | T <sub>stg</sub> | -55 to +150 | °C   |

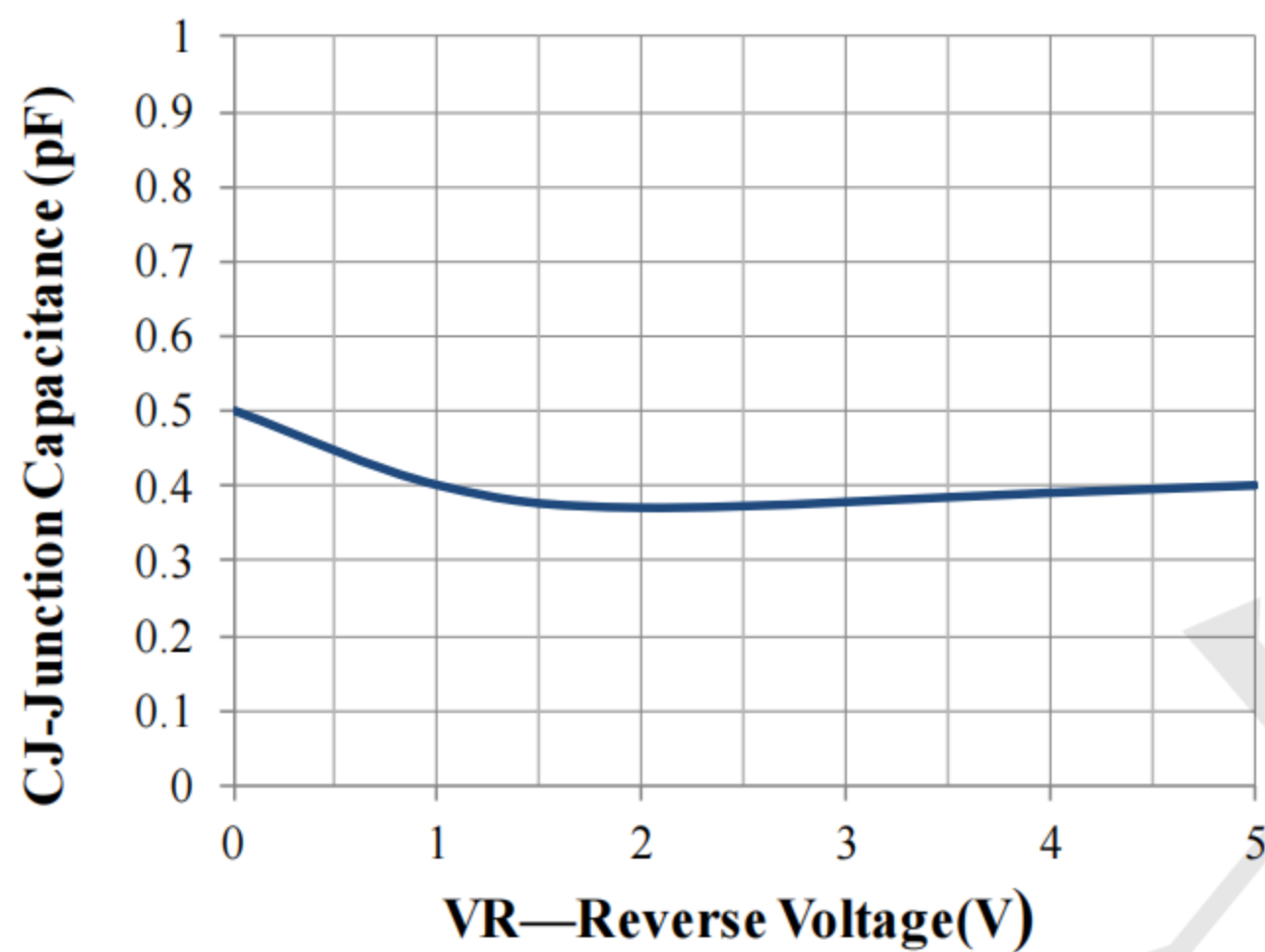
**Electrical Characteristics** (TA=25°C unless otherwise specified)

| Parameter               | Symbol           | Min | Typ | Max | Unit | Test Condition                         |
|-------------------------|------------------|-----|-----|-----|------|----------------------------------------|
| Reverse Working Voltage | V <sub>RWM</sub> |     |     | 5   | V    |                                        |
| Breakdown Voltage       | V <sub>BR</sub>  | 8.0 |     |     | V    | I <sub>T</sub> = 1mA                   |
| Holding Voltage         | V <sub>h</sub>   | 2.6 |     | 4.0 | V    | I <sub>T</sub> = 100mA                 |
| Reverse Leakage Current | I <sub>R</sub>   |     |     | 0.2 | μA   | V <sub>RWM</sub> = 5.0 V               |
| Clamping Voltage        | V <sub>C</sub>   |     | 5   |     | V    | I <sub>PP</sub> = 1A (8 x 20μs pulse)  |
| Clamping Voltage        | V <sub>C</sub>   |     | 6   | 8   | V    | I <sub>PP</sub> = 5 A (8 x 20μs pulse) |
| Junction Capacitance    | C <sub>J</sub>   |     | 0.5 |     | pF   | V <sub>R</sub> = 0V, f = 1MHz          |

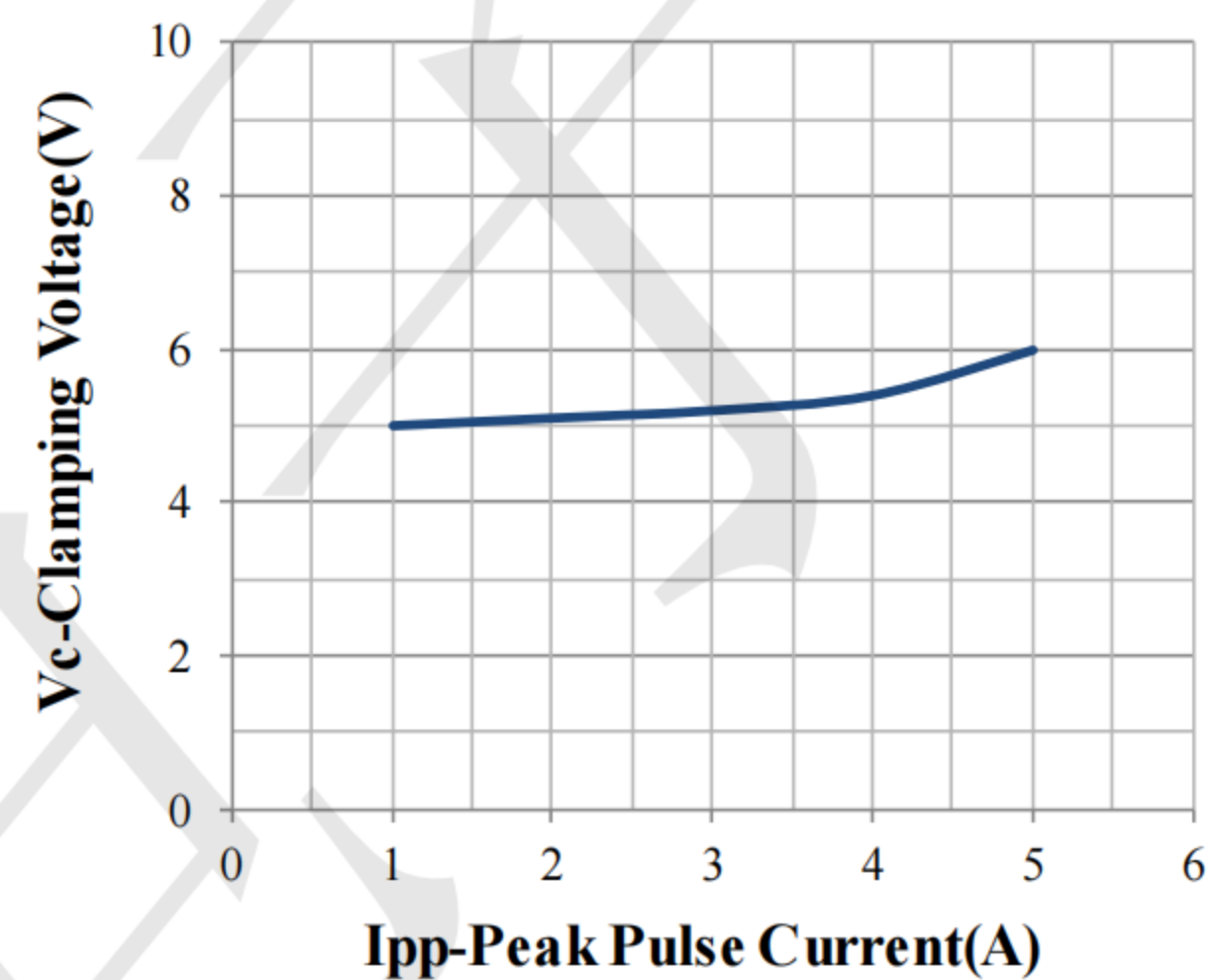
| Symbol          | Parameter                          |
|-----------------|------------------------------------|
| I <sub>T</sub>  | Test Current                       |
| I <sub>PP</sub> | Maximum Reverse Peak Pulse Current |
| V <sub>C</sub>  | Clamping Voltage @I <sub>C</sub>   |



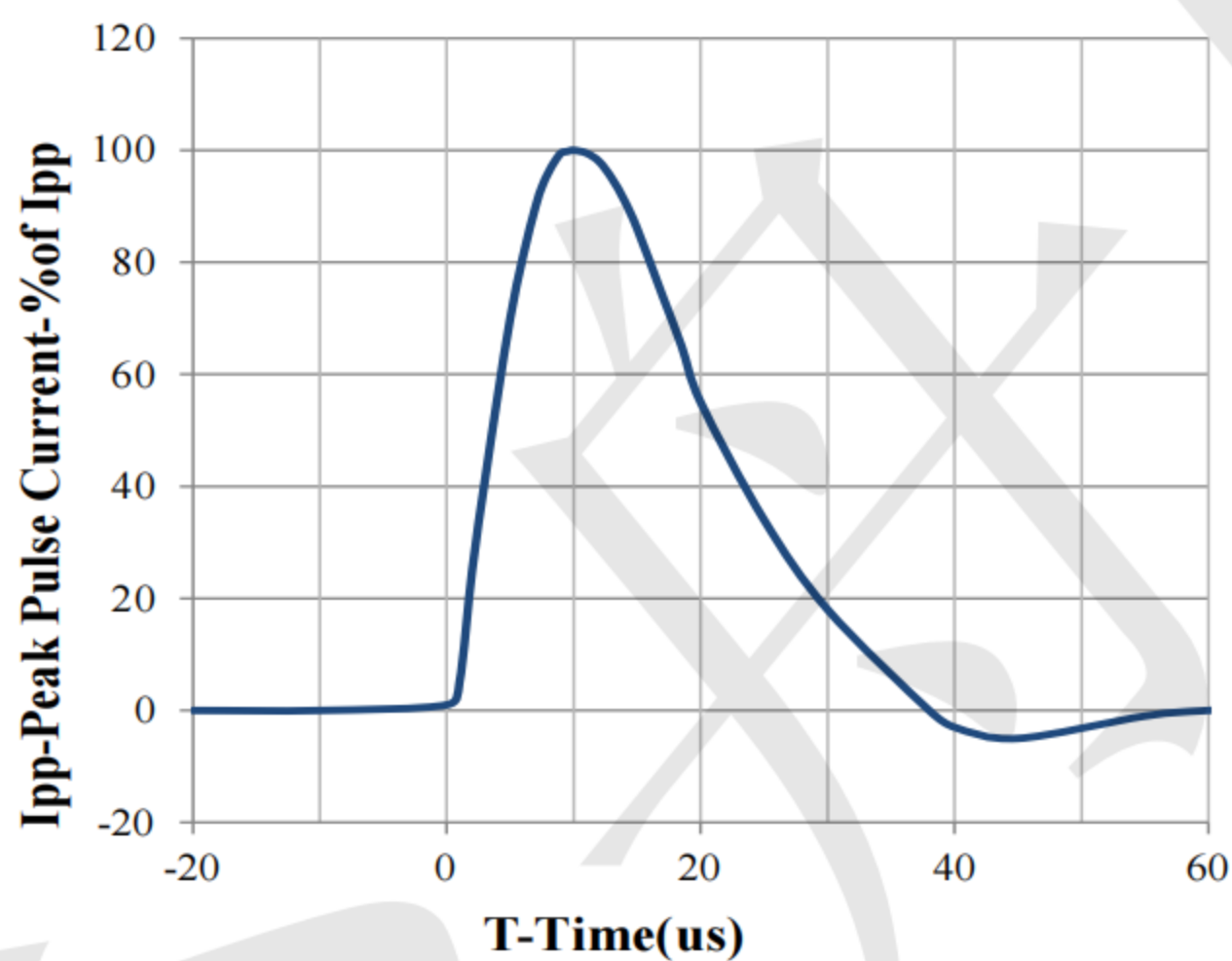
**Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)**



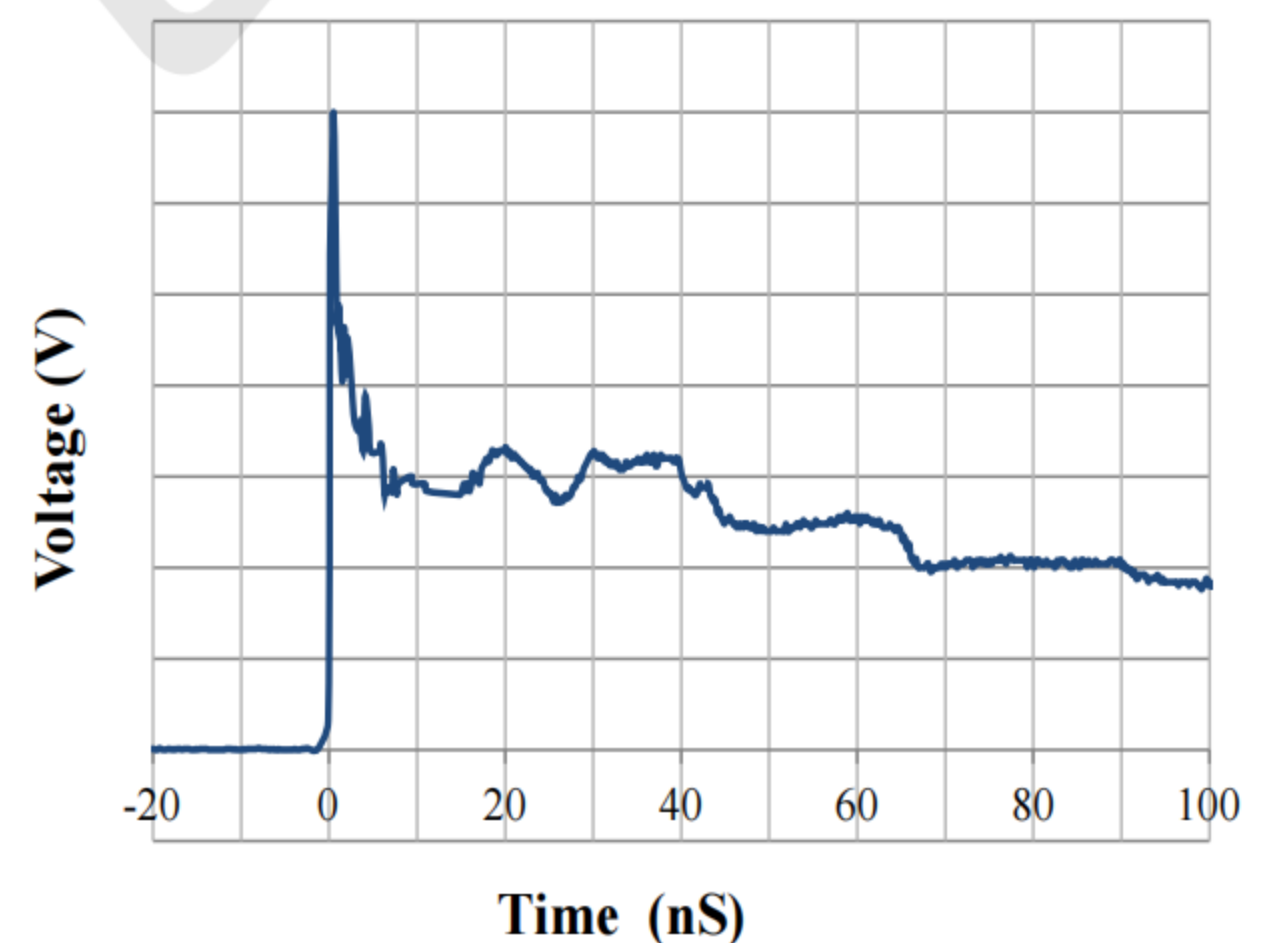
**Junction Capacitance vs. Reverse Voltage**



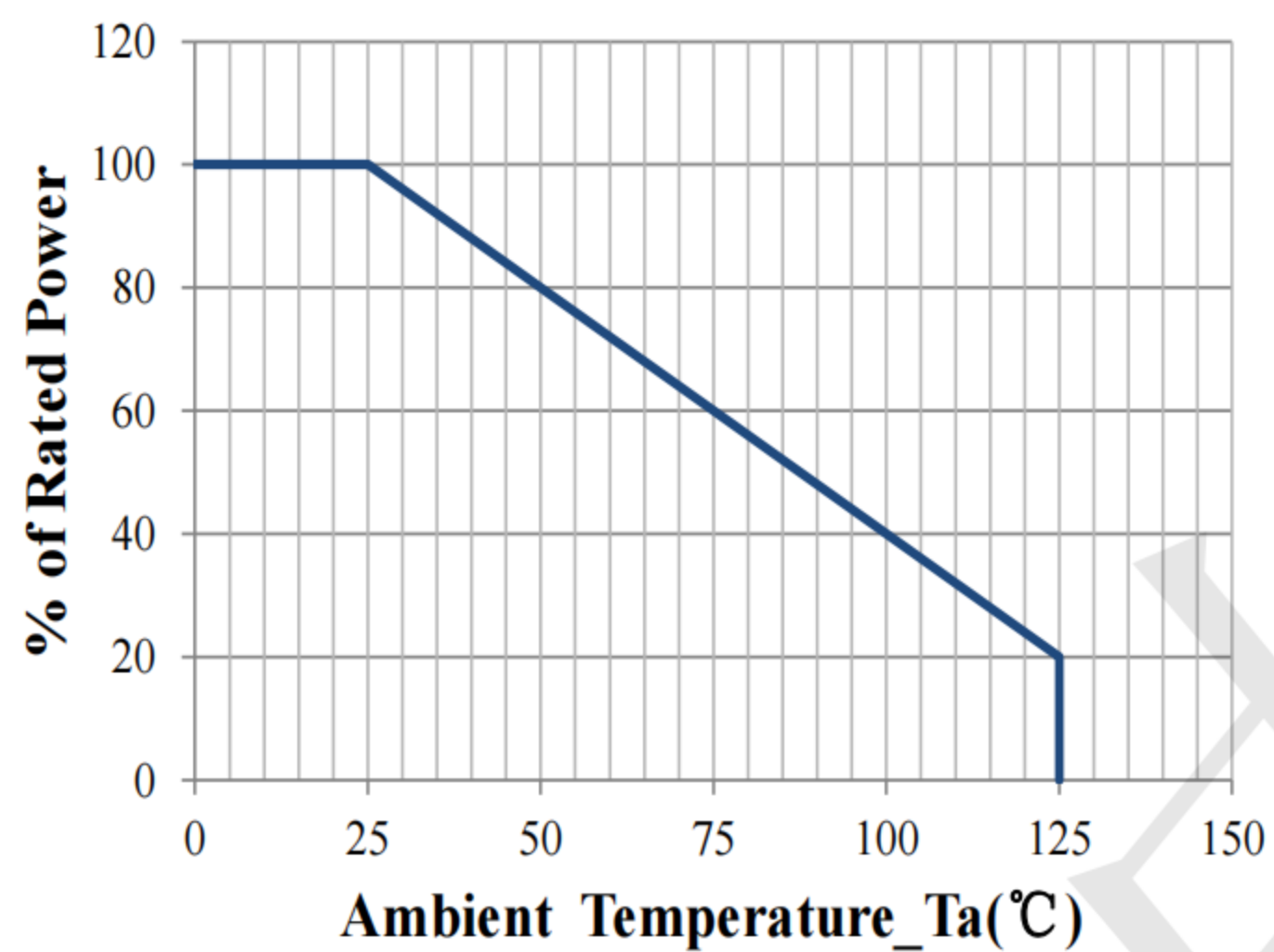
**Clamping Voltage vs. Peak Pulse Current**



**8 X 20us Pulse Waveform**

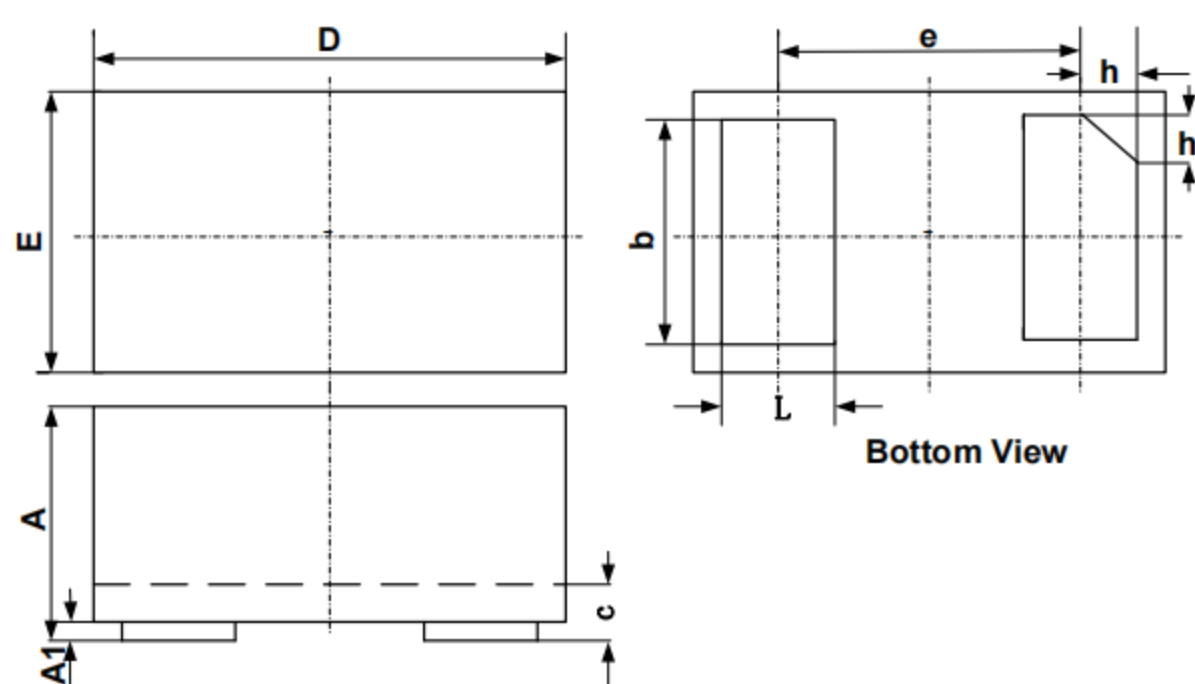


**IEC61000-4-2 Pulse Waveform**



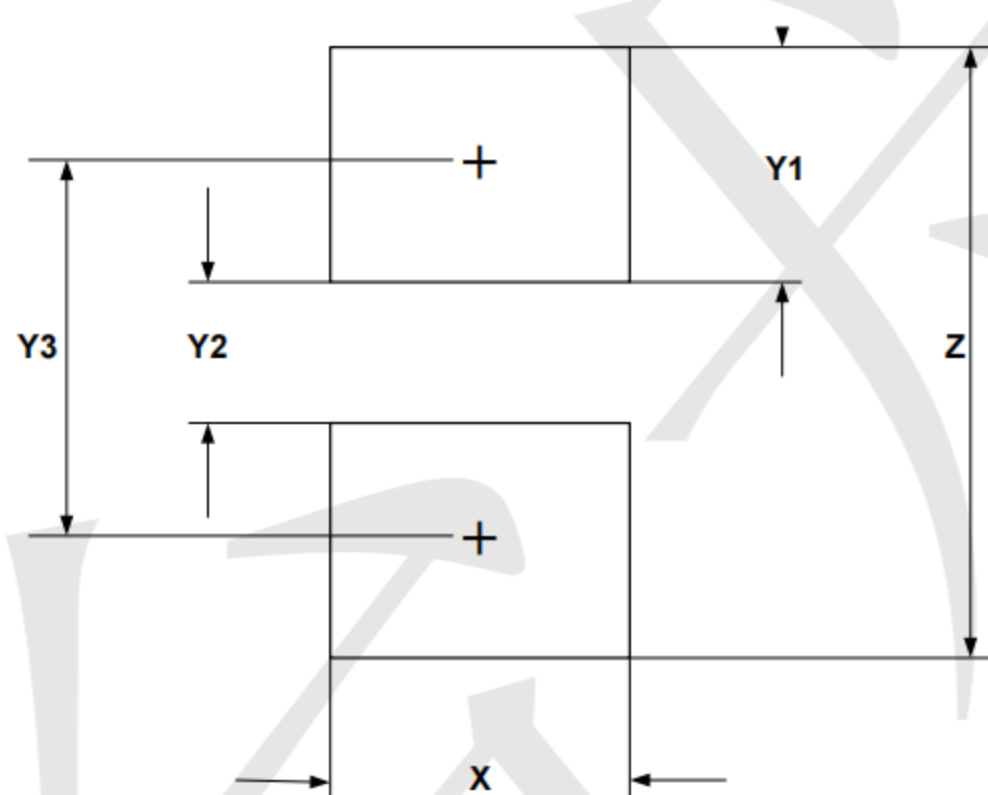
**Power Derating Curve**

**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  |