

## Descriptions

This is working voltage 7V ESD protection diode in a DFN1006-2L package

## Features

- 2-pin lead-less package
- Low junction capacitance (Max value: 20pF)
- Peak Pulse Current (8/20 $\mu$ s): 12A
- IEC61000-4-2 (ESD)  $\pm$ 30kV (air),  $\pm$ 30kV (contact)
- Low clamping voltage
- Low leakage current
- Working voltages:7V
- RoHS Compliant

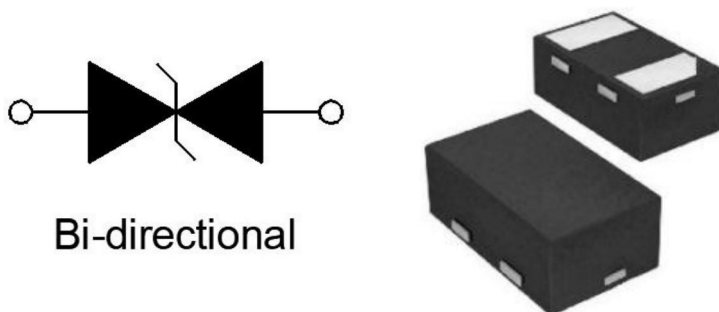
## Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation, Digital Cameras
- Peripherals, Audio Players, Industrial Equipment

## Mechanical Characteristics

- Lead Finish:Matte Tin
- Case Material: "Green" Molding Compound
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Tape Reel :10000pcs

## Equivalent Circuit & Pinning



## Absolute Maximum Ratings(Ta=25°C)

| Parameters                                                     | Symbol           | Value       | Unit |
|----------------------------------------------------------------|------------------|-------------|------|
| Peak Pulse Power (tp=8/20μs waveform)                          | P <sub>PP</sub>  | 200         | W    |
| Peak Pulse Current (8/20μs)                                    | I <sub>PP</sub>  | 12          | A    |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | V <sub>ESD</sub> | ±30<br>±30  | KV   |
| 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)

| Parameter                 | Symbol           | Test Condition                                | Min | Typ | Max  | Unit |
|---------------------------|------------------|-----------------------------------------------|-----|-----|------|------|
| Reverse Working Voltage   | V <sub>RWM</sub> |                                               |     |     | 7    | V    |
| Reverse Breakdown Voltage | V <sub>BR</sub>  | I <sub>R</sub> = 1mA                          | 7.5 |     | 10   | V    |
| Reverse Leakage Current   | I <sub>R</sub>   | V <sub>R</sub> = 7V                           |     |     | 0.2  | uA   |
| Clamping voltage          | V <sub>C</sub>   | I <sub>PP</sub> = 1A, T <sub>P</sub> =8/20us  |     |     | 10   | V    |
| Clamping voltage          | V <sub>C</sub>   | I <sub>PP</sub> = 12A, T <sub>P</sub> =8/20us |     |     | 16.7 | V    |
| Junction capacitance      | C <sub>J</sub>   | V <sub>R</sub> = 0V, f = 1MHz                 |     |     | 20   | pF   |

## Typical Characteristics

FIG1: Power rating derating curve

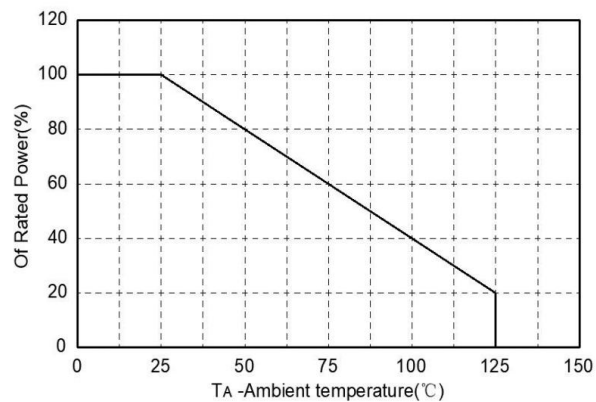


FIG2: pulse Waveform

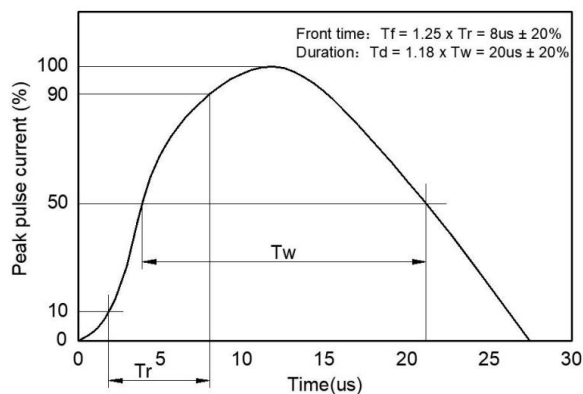


FIG3: Capacitance between terminals characteristics

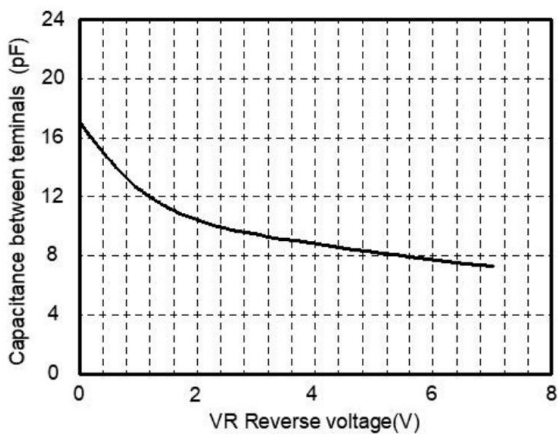
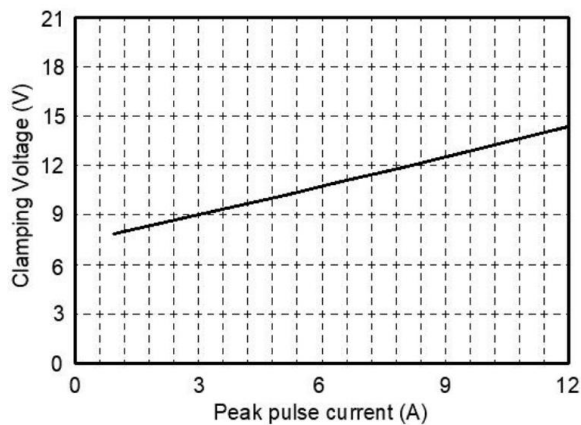


FIG4: Clamping Voltage vs. Peak Pulse Current

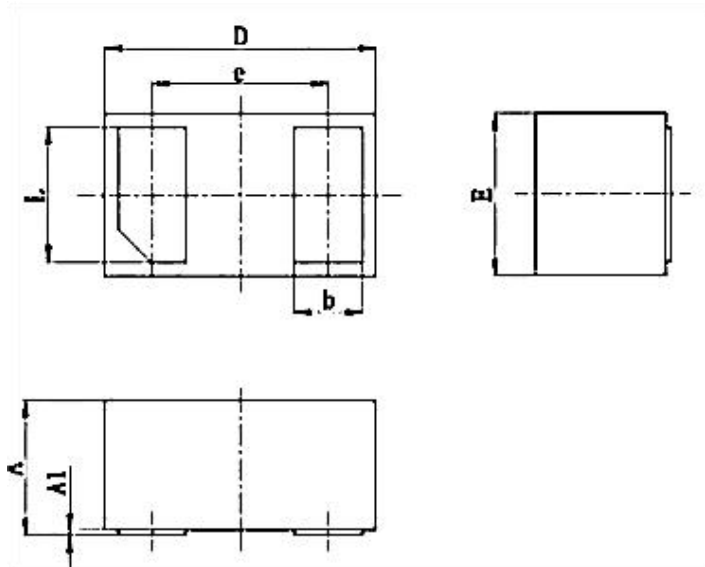


Marking Information



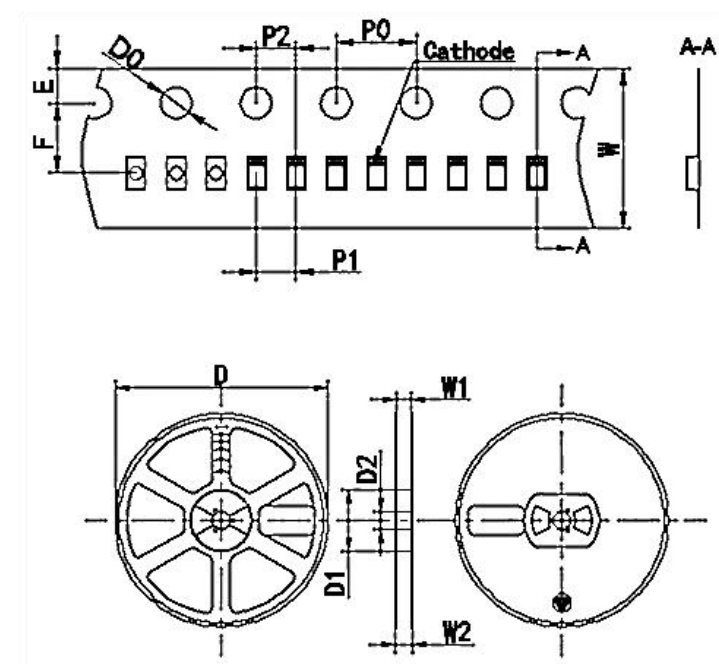
7R=Marking Code

Package mechanical data



| Symbol | Dimension in Millimeters |      |
|--------|--------------------------|------|
|        | min                      | max  |
| A      | 0.4                      | 0.5  |
| A1     | 0                        | 0.05 |
| D      | 0.9                      | 1.1  |
| E      | 0.55                     | 0.65 |
| e      | (0.65)                   |      |
| b      | 0.2                      | 0.3  |
| L      | 0.34                     | 0.55 |

Tape & reel specification - DFN1006-2L



| Symbol | Dimension in Millimeters |
|--------|--------------------------|
| Tape   |                          |
| D0     | 1.50+0.10/-0.00          |
| E      | 1.75±0.10                |
| F      | 3.50±0.10                |
| P0     | 4.00±0.10                |
| P1     | 2.00±0.10                |
| P2     | 2.00±0.10                |
| W      | 8.00+0.3/-0.1            |
| Reel   |                          |
| D      | 178.0±2.00               |
| D1     | 54.40±1.00               |
| D2     | 13.00±1.00               |
| W1     | 9.50±1.00                |
| W2     | 12.30±1.00               |