

## Features

- 2-pin lead-less package
- Low Junction capacitance(Max value: 0.5pF)
- Peak Pulse Current(8/20 $\mu$ s) Max: 5A
- Low clamping voltage
- Low leakage current
- Working voltages: 5V
- RoHS compliant



**DFN1006-2L**

## IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 20$ kV(contact),  $\pm 25$ kV(air)
- IEC 61000-4-5 (Lightning) 5A (8/20 $\mu$ s)

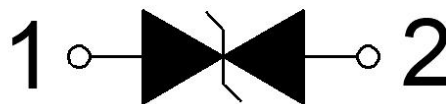
## Applications

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

## Mechanical Characteristics

- Package: DFN1006-2L
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020

## Schematic & PIN Configuration



Bi-directional

## Absolute Maximum Ratings

| Parameters                                     | Symbol    | Value       | Unit        |
|------------------------------------------------|-----------|-------------|-------------|
| Peak Pulse Power ( $t_p = 8/20\mu s$ waveform) | $P_{PP}$  | 120         | W           |
| Peak Pulse Current (8/20 $\mu s$ )             | $I_{PP}$  | 5           | A           |
| ESD per IEC 61000-4-2 (Air)                    | $V_{ESD}$ | $\pm 25$    | kV          |
| ESD per IEC 61000-4-2 (Contact)                |           | $\pm 20$    |             |
| Operating Temperature Range                    | $T_J$     | -55 to +125 | $^{\circ}C$ |
| Storage Temperature Range                      | $T_{STG}$ | -55 to +150 | $^{\circ}C$ |

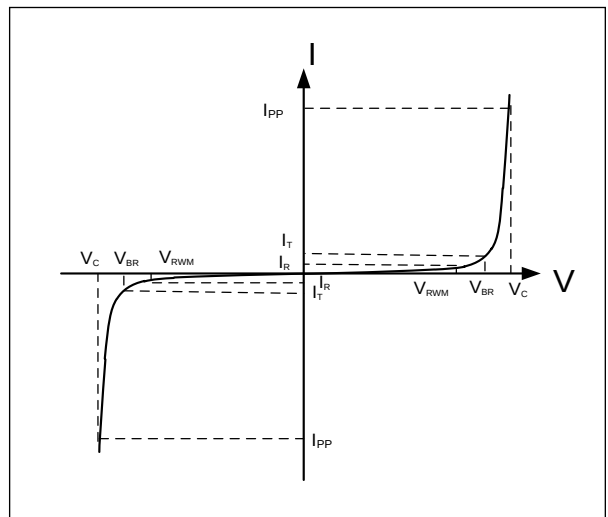
## Electrical Characteristics

| Parameter                 | Symbol    | Test Condition                 | Min | Typ | Max | Unit    |
|---------------------------|-----------|--------------------------------|-----|-----|-----|---------|
| Reverse Working Voltage   | $V_{RWM}$ |                                |     |     | 5   | V       |
| Reverse Breakdown Voltage | $V_{BR}$  | $I_R = 1mA$                    | 6   |     | 10  | V       |
| Reverse Leakage Current   | $I_R$     | $V_{RWM} = 5V$                 |     |     | 0.2 | $\mu A$ |
| Clamping Voltage          | $V_C$     | $I_{PP} = 1A, t_p = 8/20\mu s$ |     |     | 12  | V       |
| Clamping Voltage          | $V_C$     | $I_{PP} = 5A, t_p = 8/20\mu s$ |     | 20  | 24  | V       |
| Junction Capacitance      | $C_J$     | $V_R = 0V, f = 1MHz$           |     | 0.3 | 0.5 | 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 $\mu s$  pulse waveform.



## Typical Performance Characteristics

FIG1: Power rating derating curve

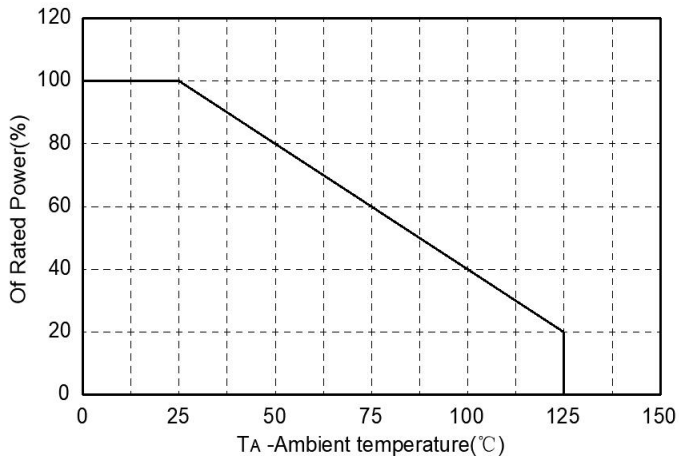


FIG2: pulse Waveform

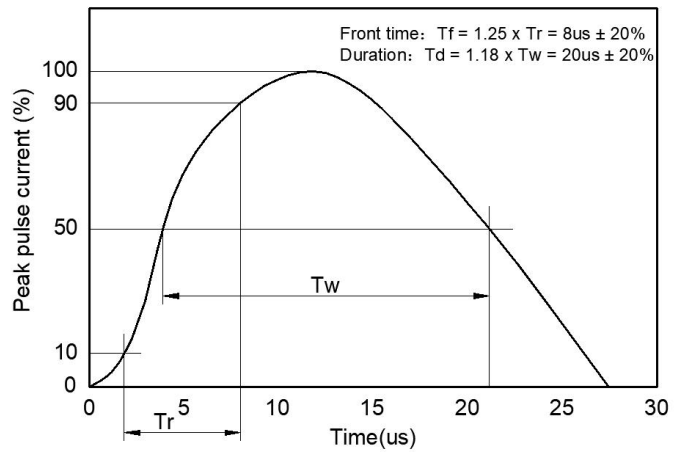


FIG3: Capacitance between terminals characteristics

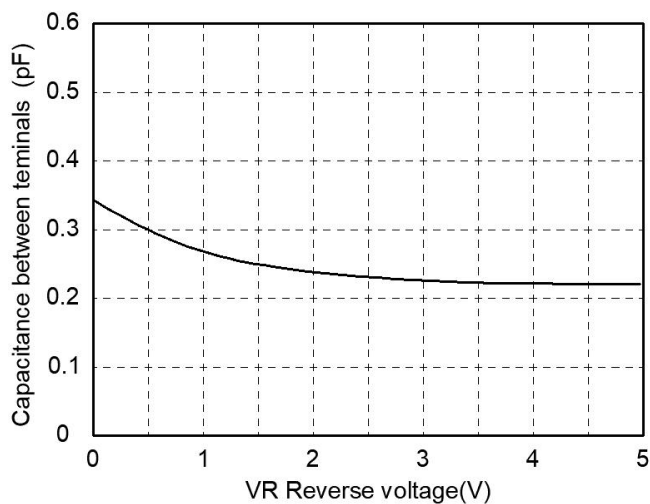
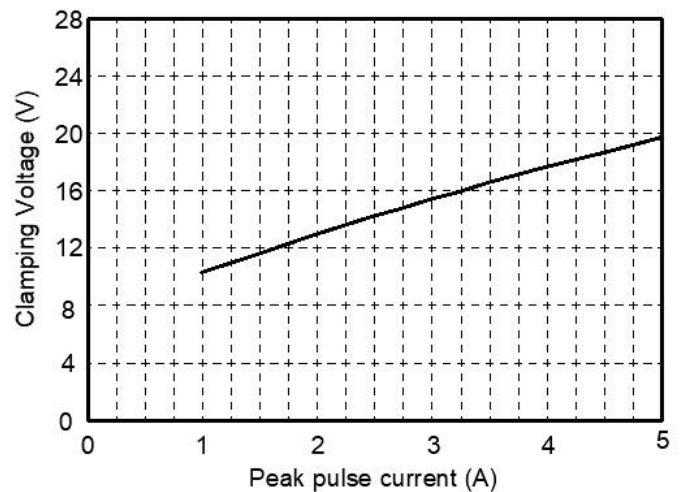
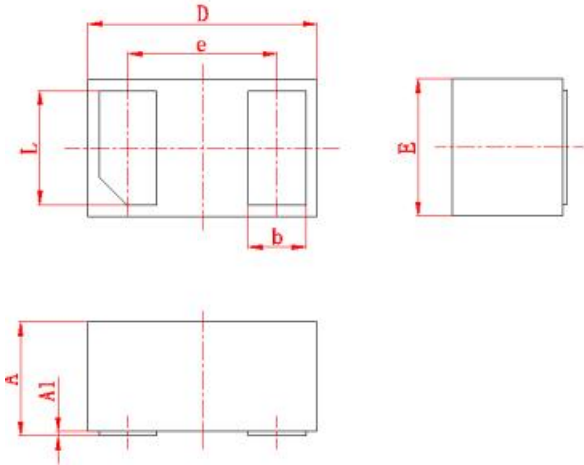


FIG4: Clamping Voltage vs. Peak Pulse Current

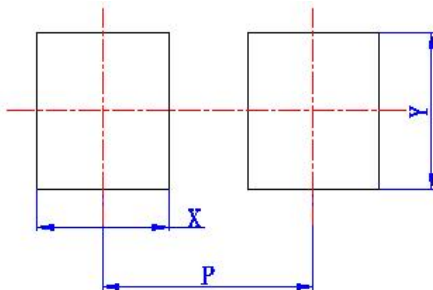


## Package Mechanical Data



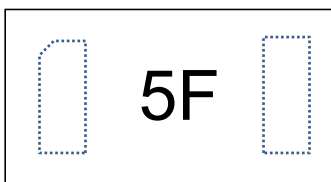
| SYM | DIMENSIONS  |      |
|-----|-------------|------|
|     | MILLIMETERS |      |
|     | MIN         | MAX  |
| A   | 0.40        | 0.52 |
| A1  | 0.00        | 0.05 |
| b   | 0.18        | 0.32 |
| D   | 0.90        | 1.10 |
| e   | 0.65BSC     |      |
| E   | 0.55        | 0.65 |
| L   | 0.34        | 0.55 |

## Suggested Land Pattern



| SYM | DIMENSIONS  |
|-----|-------------|
|     | MILLIMETERS |
| X   | 0.500       |
| Y   | 0.700       |
| P   | 0.800       |

## Marking



5F=Marking Code

## Ordering information

| Order code     | Package    | Base qty | Delivery mode |
|----------------|------------|----------|---------------|
| PTN102L05S5B12 | DFN1006-2L | 10k      | Tape and reel |