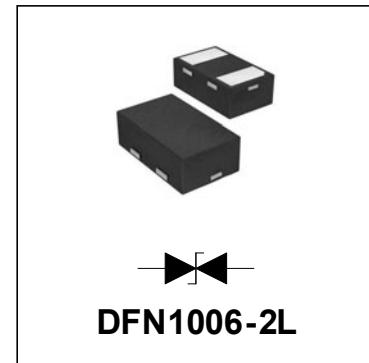


## Features

- 70 Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2  $\pm 30kV$  contact  $\pm 30kV$  air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 6A (8/20 $\mu s$ )



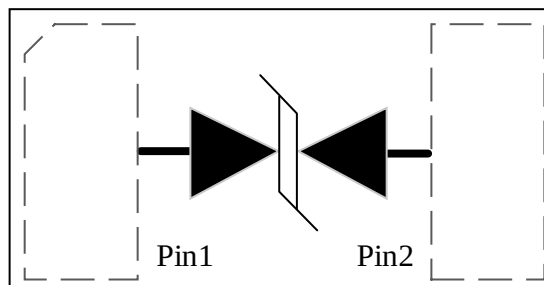
## Applications

- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Pagers Peripherals

## Mechanical Data

- DFN1006 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

## Schematic & PIN Configuration

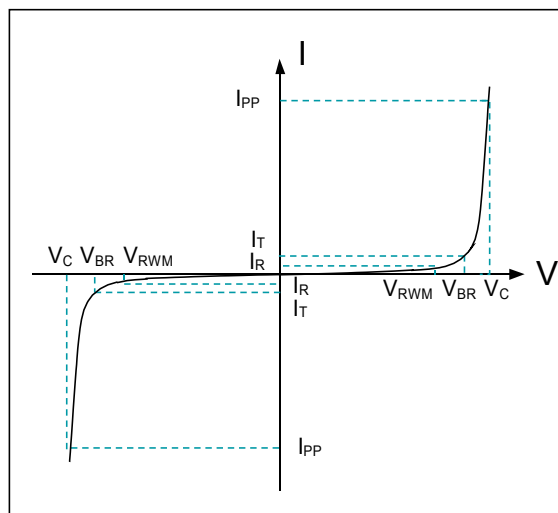


### Absolute Maximum Rating

| Rating                                                         | Symbol    | Value          | Units       |
|----------------------------------------------------------------|-----------|----------------|-------------|
| Peak Pulse Power ( $t_p = 8/20\mu s$ )                         | $P_{PP}$  | 70             | Watts       |
| Peak Pulse Current ( $t_p = 8/20\mu s$ ) (note1)               | $I_{pp}$  | 6              | A           |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | $V_{ESD}$ | 30<br>30       | kV          |
| Lead Soldering Temperature                                     | $T_L$     | 260(10seconds) | $^{\circ}C$ |
| Junction Temperature                                           | $T_J$     | -55 to + 150   | $^{\circ}C$ |
| Storage Temperature                                            | $T_{stg}$ | -55 to + 150   | $^{\circ}C$ |

### Electrical Parameters (T=25 $^{\circ}C$ )

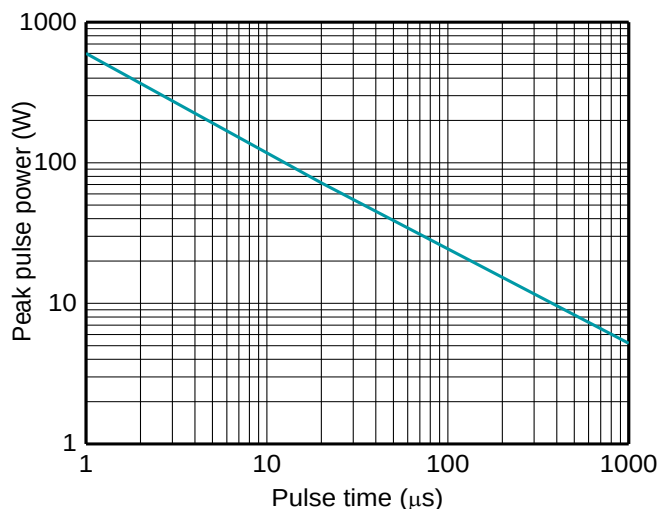
| Symbol    | Parameter                                   |
|-----------|---------------------------------------------|
| $I_{PP}$  | Maximum Reverse Peak Pulse Current          |
| $V_C$     | Clamping Voltage @ $I_{PP}$                 |
| $V_{RWM}$ | Working Peak Reverse Voltage                |
| $I_R$     | Maximum Reverse Leakage Current @ $V_{RWM}$ |
| $V_{BR}$  | Breakdown Voltage @ $I_T$                   |
| $I_T$     | Test Current                                |
|           |                                             |
|           |                                             |



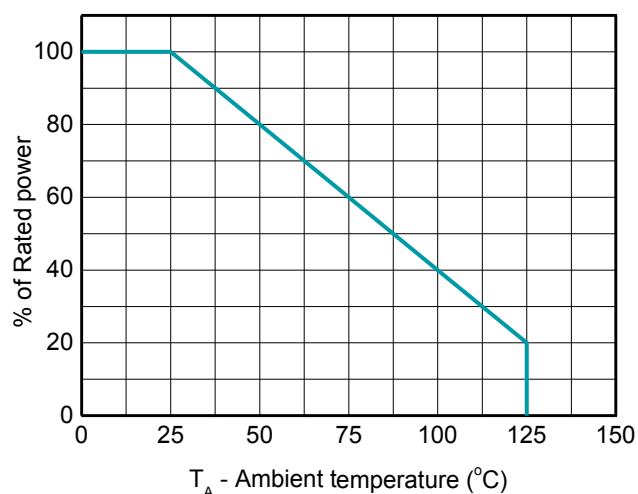
### Electrical Characteristics

| Parameter                 | Symbol    | Conditions                      | Min | Typical | Max | Units   |
|---------------------------|-----------|---------------------------------|-----|---------|-----|---------|
| Reverse Stand-Off Voltage | $V_{RWM}$ |                                 |     |         | 5.0 | V       |
| Reverse Breakdown Voltage | $V_{BR}$  | $I_T = 1mA$                     | 5.6 |         | 8   | V       |
| Reverse Leakage Current   | $I_R$     | $V_{RWM} = 5V, T = 25^{\circ}C$ |     |         | 0.1 | $\mu A$ |
| Clamping Voltage          | $V_C$     | $I_{PP} = 6A, t_p = 8/20\mu s$  |     | 10      | 12  | V       |
| Junction Capacitance      | $C_j$     | $V_R = 0V, f = 1MHz$            |     | 10      | 20  | pF      |

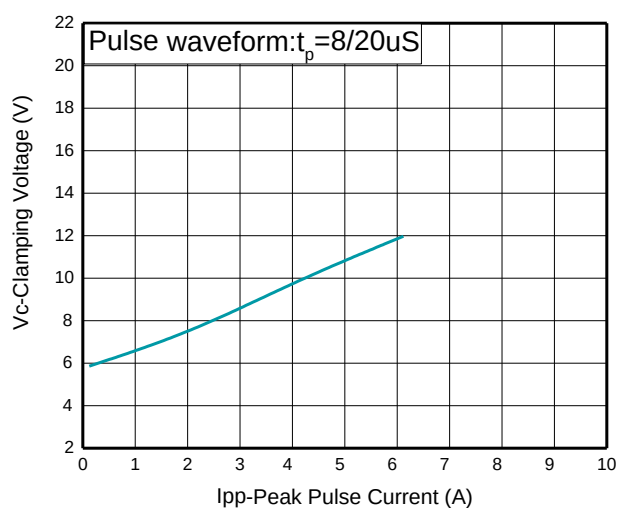
### Typical Characteristics



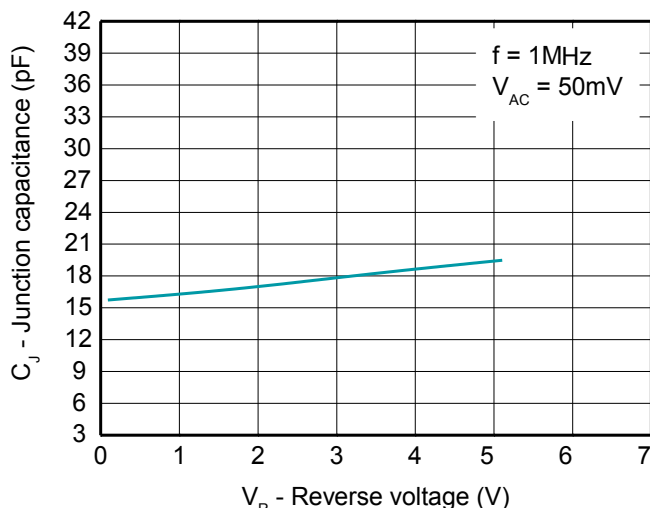
**Non-repetitive peak pulse power vs. Pulse time**



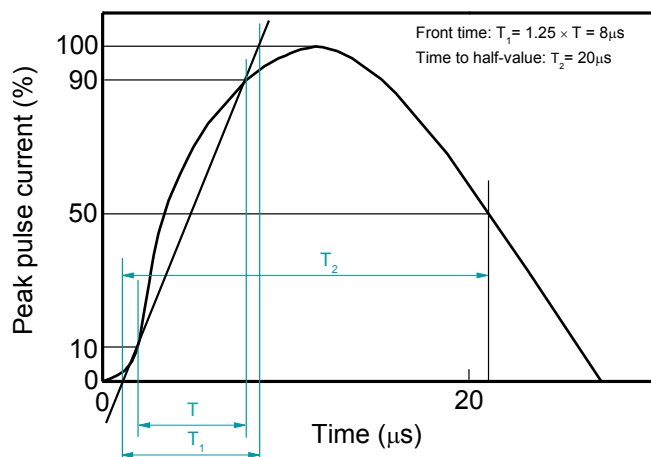
**Power derating vs. Ambient temperature**



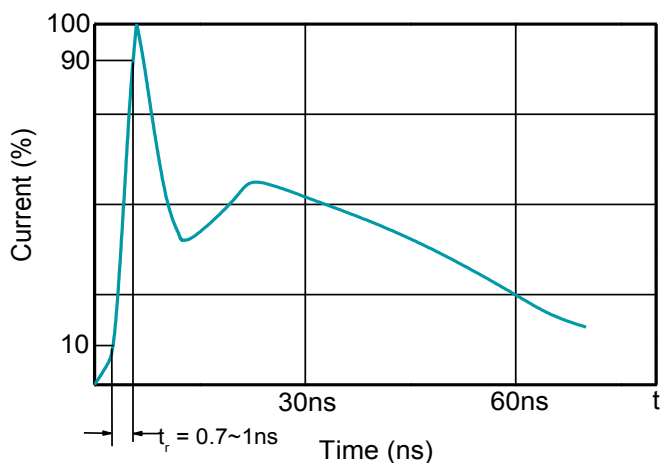
**Clamping voltage vs. Peak pulse current**



**Capacitance vs. Reverse voltage**

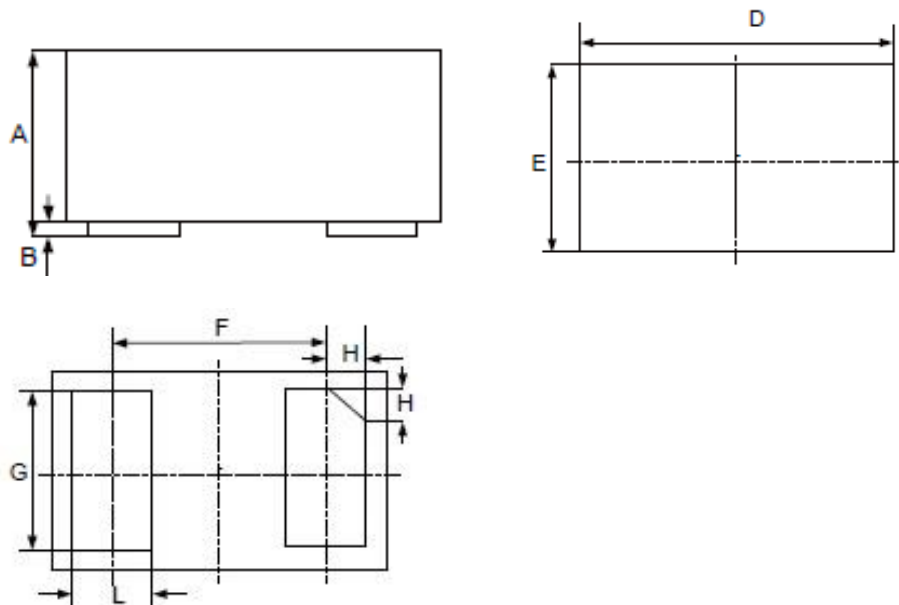


**8/20μs waveform per IEC61000-4-5**



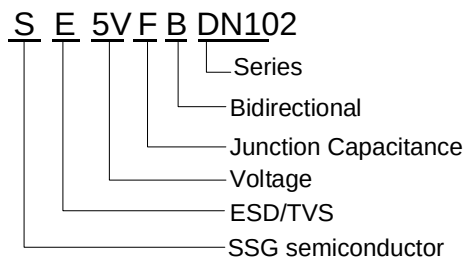
**Contact discharge current waveform per IEC61000-4-2**

### Outline Drawing – DFN1006



| DIM | MILIMETER |          |
|-----|-----------|----------|
|     | MIN (mm)  | MAX (mm) |
| A   | 0.34      | 0.55     |
| B   | 0         | 0.05     |
| D   | 0.95      | 1.08     |
| E   | 0.55      | 0.68     |
| F   | 0.65(Typ) |          |
| G   | 0.40      | 0.60     |
| H   | 0.07      | 0.17     |
| L   | 0.20      | 0.30     |

### Part Numbering System



| Device      | Package    | Shipping        | MarKing    | Parameter                           |
|-------------|------------|-----------------|------------|-------------------------------------|
| SE5VFBDN102 | DFN1006-2L | 10000/Tape&Reel | <b>P *</b> | P = Product Code<br>* = Device Code |