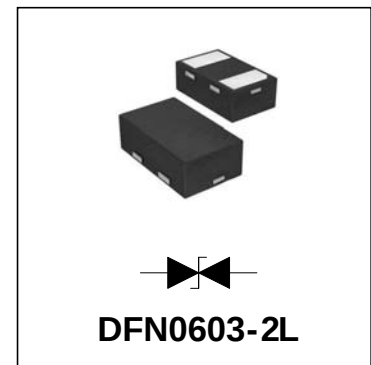


## Features

- 110Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Tiny DFN0603 package
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance ( $C_j = 12pF$  typ.)
- Protection one data/power line
- IEC 61000-4-2  $\pm 30kV$  contact  $\pm 30kV$  air
- IEC 61000-4-4 (EFT) 40A(5/50ns)
- IEC 61000-4-5 (Lightning) 7A(8/20 $\mu s$ )



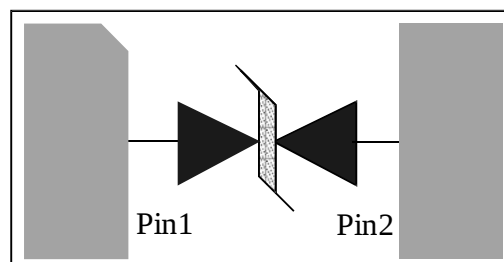
## Mechanical Characteristics

- DFN0603-D package
- Molding compound flammability rating:  
UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant

## Applications

- Cellular handsets and accessories
- Portable electronics
- Communication systems
- Computers and peripherals

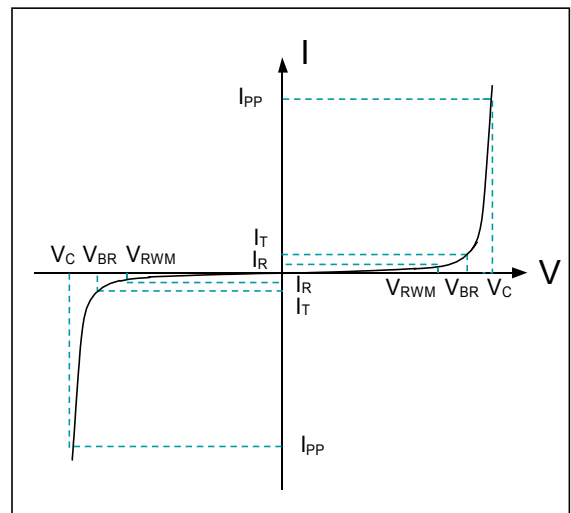
## Schematic & PIN Configuration



| Absolute Maximum Rating               |           |                |       |
|---------------------------------------|-----------|----------------|-------|
| Rating                                | Symbol    | Value          | Units |
| Electrostatic discharge Voltage       | $V_{ESD}$ | 30KV (contact) | Volts |
|                                       |           | 30KV (air)     |       |
| Peak Pulse Current( $t_p=8/20\mu s$ ) | $I_{pp}$  | 7              | A     |
| Operating Temperature                 | $T_J$     | -55 to + 125   | °C    |
| Storage Temperature                   | $T_{STG}$ | -55 to +150    | °C    |

### Electrical Parameters ( $T_A = 25^\circ\text{C}$ 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.

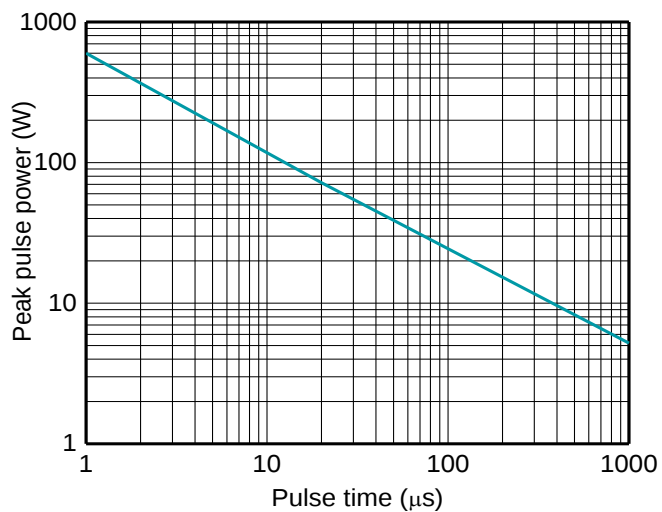
### Electrical Characteristics

| Parameter                      | Symbol    | Conditions                                | Min | Typical | Max | Units         |
|--------------------------------|-----------|-------------------------------------------|-----|---------|-----|---------------|
| Reverse Stand-Off Voltage      | $V_{RWM}$ |                                           |     |         | 3.3 | V             |
| Reverse Breakdown Voltage      | $V_{BR}$  | $I_T=1\text{mA}$                          | 3.5 |         | 5   | V             |
| Reverse Leakage Current        | $I_R$     | $V_{RWM}=3.3\text{V}, T=25^\circ\text{C}$ |     |         | 0.1 | $\mu\text{A}$ |
| Peak Pulse Current             | $I_{PP}$  | $t_p=8/20\mu s$                           |     |         | 7   | A             |
| Clamping Voltage <sup>1)</sup> | $V_{CL}$  | $I_{PP}=16\text{A}, t_p=100\text{ns}$     |     | 7       |     | V             |
| Clamping Voltage <sup>2)</sup> | $V_C$     | $I_{PP}=1\text{A}, t_p=8/20\mu s$         |     | 5       |     | V             |
| Clamping Voltage <sup>2)</sup> |           | $I_{PP}=7\text{A}, t_p=8/20\mu s$         |     | 7       | 10  | V             |
| Junction Capacitance           | $C_j$     | $V_R = 0\text{V}, f=1\text{MHz}$          |     | 12      | 15  | pF            |

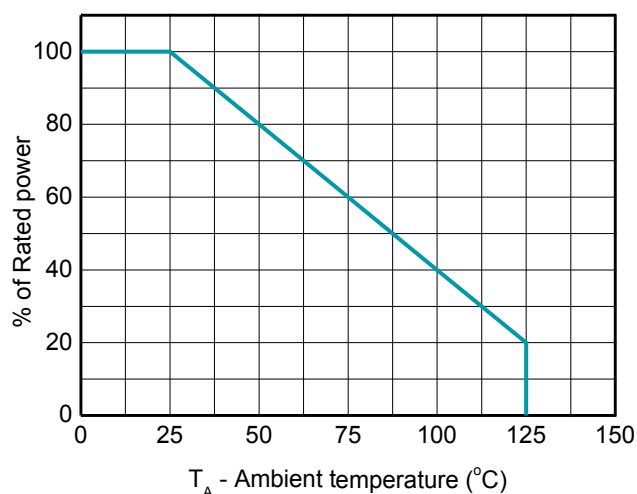
**Note1:** ESD Pulse Waveform according to IEC 61000-4-2. see Table1 and Figure4.

**Note2:** ESD tests Setup see Figure 5.

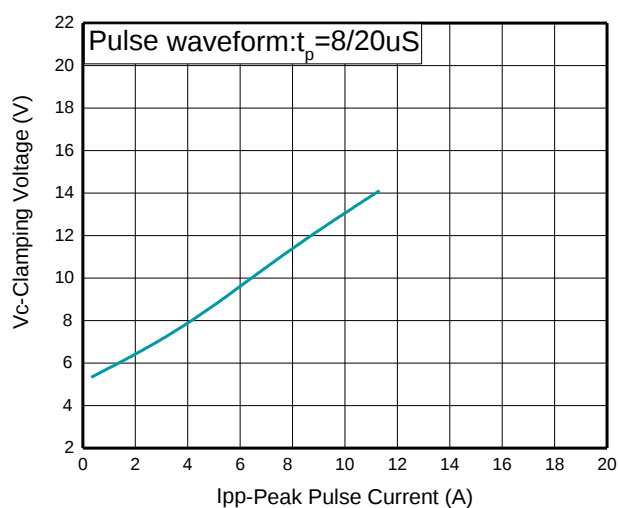
### Typical Characteristics



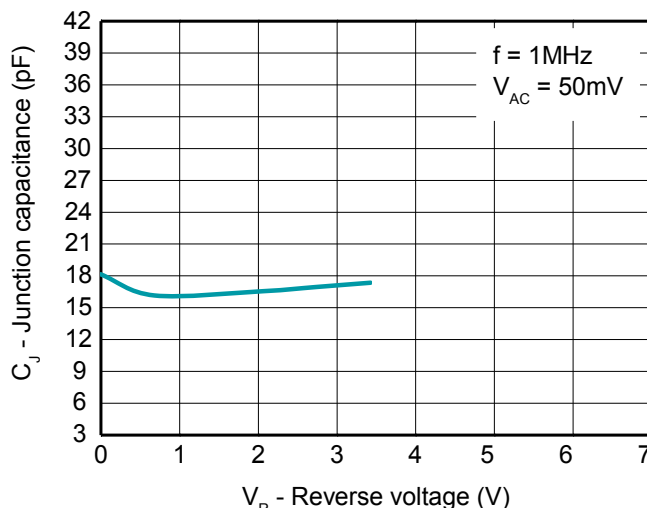
Non-repetitive peak pulse power vs. Pulse time



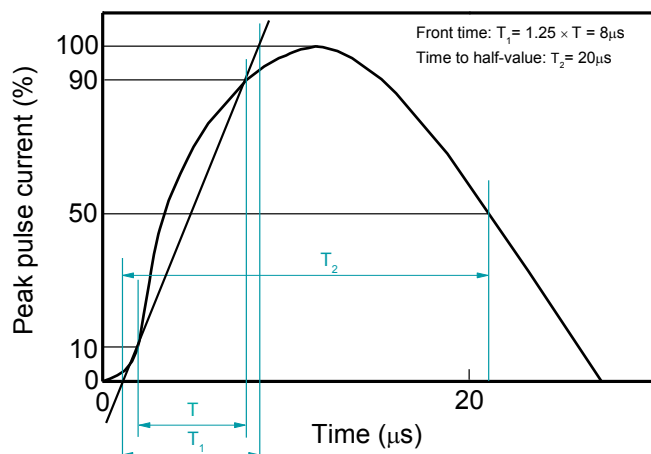
Power derating vs. Ambient temperature



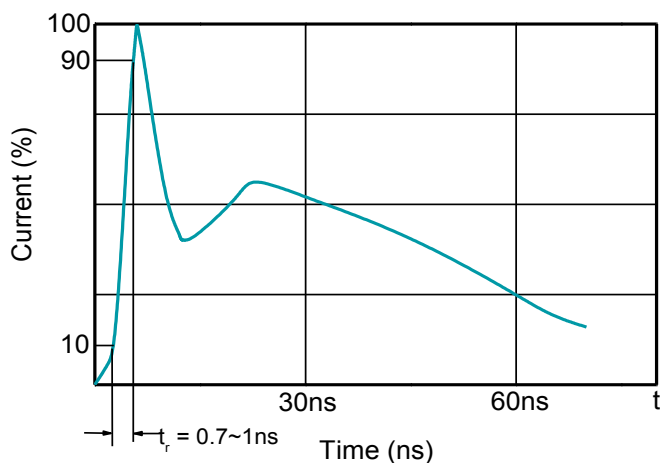
Clamping voltage vs. Peak pulse current



Capacitance vs. Reverse voltage



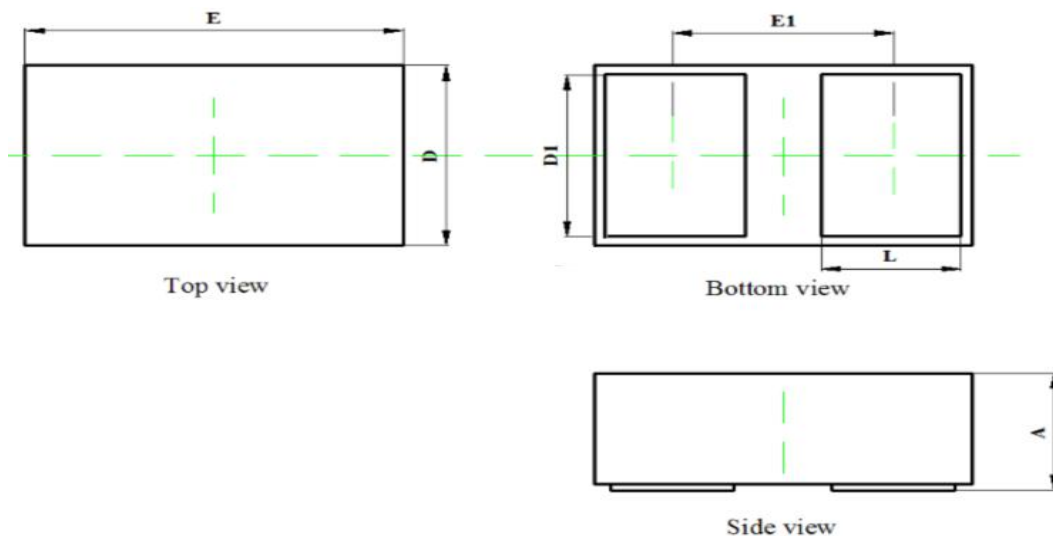
8/20μs waveform per IEC61000-4-5



Contact discharge current waveform per IEC61000-4-2

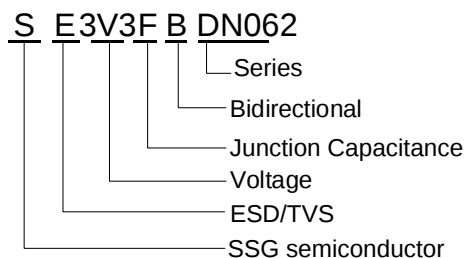
### Package Outline Dimensions

DFN0603 Package Outline



| Symbol    | Dimensions In Millimeters |         |      |
|-----------|---------------------------|---------|------|
|           | Min                       | Typical | Max  |
| <b>A</b>  | 0.26                      | 0.32    | 0.35 |
| <b>D</b>  | 0.25                      | 0.30    | 0.35 |
| <b>E</b>  | 0.55                      | 0.60    | 0.65 |
| <b>D1</b> | 0.20                      | 0.25    | 0.30 |
| <b>E1</b> |                           | 0.35    |      |
| <b>L</b>  | 0.13                      | 0.18    | 0.23 |

### Part Numbering System



| Device       | Package    | Shipping        | MarKing    | Parameter                       |
|--------------|------------|-----------------|------------|---------------------------------|
| SE3V3FBDN062 | DFN0603-2L | 10000/Tape&Reel | <b>A *</b> | A = device code<br>* =date code |