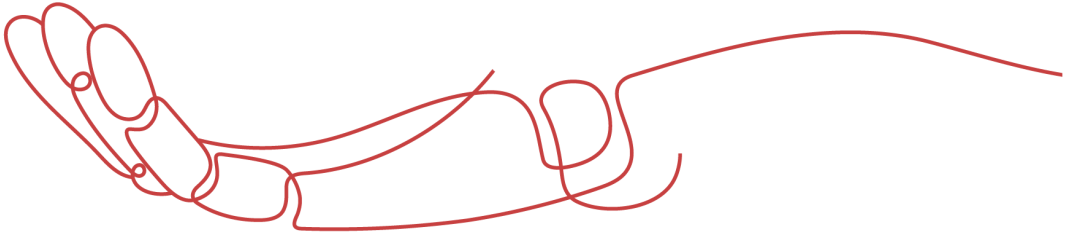




## PRODUCT DATA SHEET



To learn more about JGSEMI, please visit our website at



**Datasheet**



**Resources**



**Samples**

Please note: Please check the JINGAO Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at [www.jg-semi.cn](http://www.jg-semi.cn). Please email any questions regarding the system integration to [JINGAO\\_questions@jgsemi.com](mailto:JINGAO_questions@jgsemi.com).

## Features

- Bidirectional ESD protection of one line
- Solid-state silicon-avalanche technology
- Tiny DFN0603 package
- Low clamping voltage
- Low leakage current
- Response time is typically <1.0ns
- IEC61000-4-2 (ESD):  $\pm 30\text{kV}$ (contact),  $\pm 30\text{kV}$  (air)
- IEC61000-4-4(EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 10A (8/20 $\mu\text{s}$ )

**DFN0603**

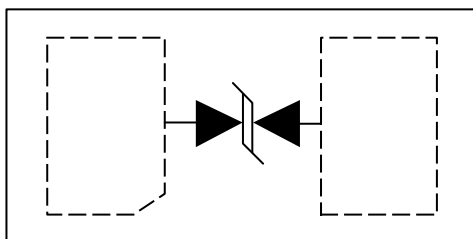
## Applications

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

## Mechanical Data

- DFN0603 package
- Molding compound flammability rating:  
UL94V-0
- Packaging: Tape and Reel
- Quantity per reel: 10k
- RoHS/WEEE Compliant

## Schematic & PIN Configuration

**DFN0603 (Top View)**

**Absolute Maximum Rating** ( $T_J=25^{\circ}\text{C}$  unless otherwise noted)

| Rating                                                         | Symbol    | Value          | Units              |
|----------------------------------------------------------------|-----------|----------------|--------------------|
| Peak Pulse Power ( $t_p=8/20\mu\text{s}$ )                     | $P_{PP}$  | 80             | Watts              |
| Peak Pulse Current ( $t_p=8/20\mu\text{s}$ )                   | $I_{pp}$  | 10             | 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) | $^{\circ}\text{C}$ |
| Junction Temperature                                           | $T_J$     | -55 to + 125   | $^{\circ}\text{C}$ |
| Storage Temperature                                            | $T_{stg}$ | -55 to + 125   | $^{\circ}\text{C}$ |

**Electrical Characteristics** ( $T_A = 25^{\circ}\text{C}$  unless otherwise noted)

| Parameter                 | Symbol    | Conditions                                  | Min. | Typ. | Max. | Units         |
|---------------------------|-----------|---------------------------------------------|------|------|------|---------------|
| Reverse Stand-Off Voltage | $V_{RWM}$ |                                             |      |      | 3.3  | V             |
| Reverse Leakage Current   | $I_R$     | $V_{RWM}=3.3\text{V}, T=25^{\circ}\text{C}$ |      |      | 0.5  | $\mu\text{A}$ |
| Trigger Voltage           | $V_{BR}$  | $I_T=1\text{mA}$                            | 4    |      |      | V             |
| Clamping Voltage          | $V_C$     | $I_{PP}=10\text{A}, t_p=8/20\mu\text{s}$    |      | 8    |      | V             |
| Junction Capacitance      | $C_j$     | $V_R = 0\text{V}, f = 1\text{MHz}$          |      | 18   |      | pF            |

**Electrical Parameters** ( $T_A = 25^{\circ}\text{C}$  unless otherwise noted )

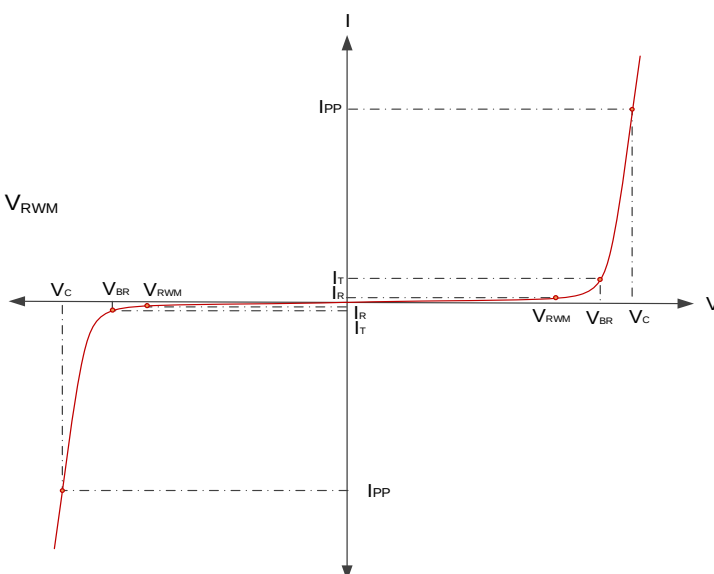
$V_{RWM}$  .....Reverse Working Voltage Max.

$I_R$  ..... Maximum Reverse Leakage Current @  $V_{RWM}$

$V_{BR}$  ..... Reverse Breakdown Voltage

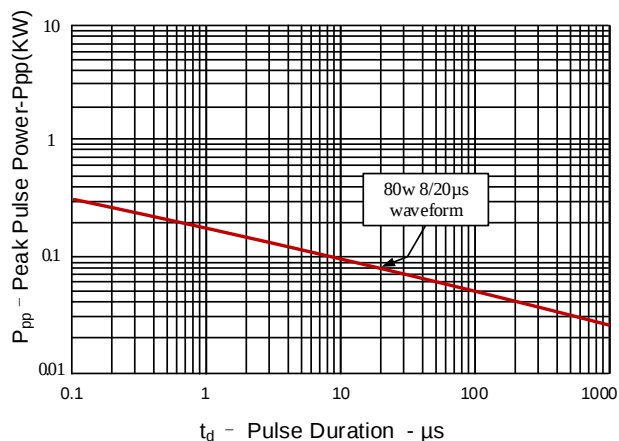
$I_{PP}$  ..... Maximum Reverse Peak Pulse Current

$V_C$  ..... Clamping Voltage @  $I_{PP}$

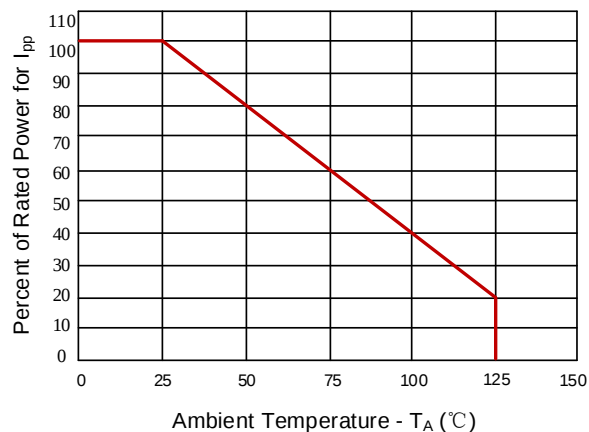


## Typical Characteristics

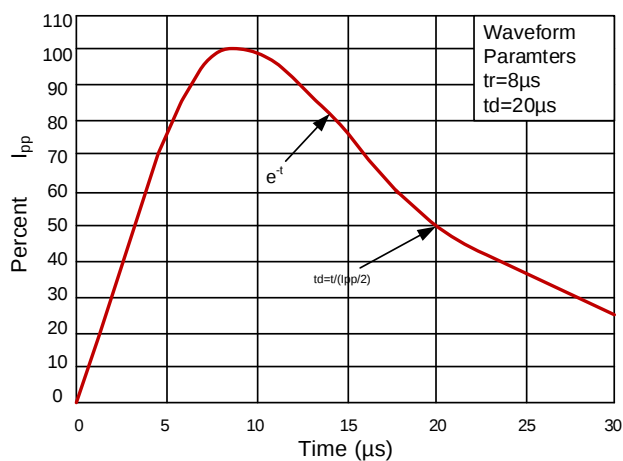
**Figure 1: Peak Pulse Power vs. Pulse Time**



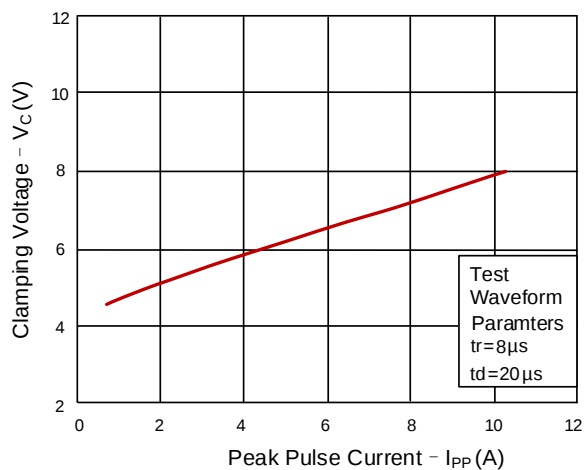
**Figure 2: Power Derating Curve**



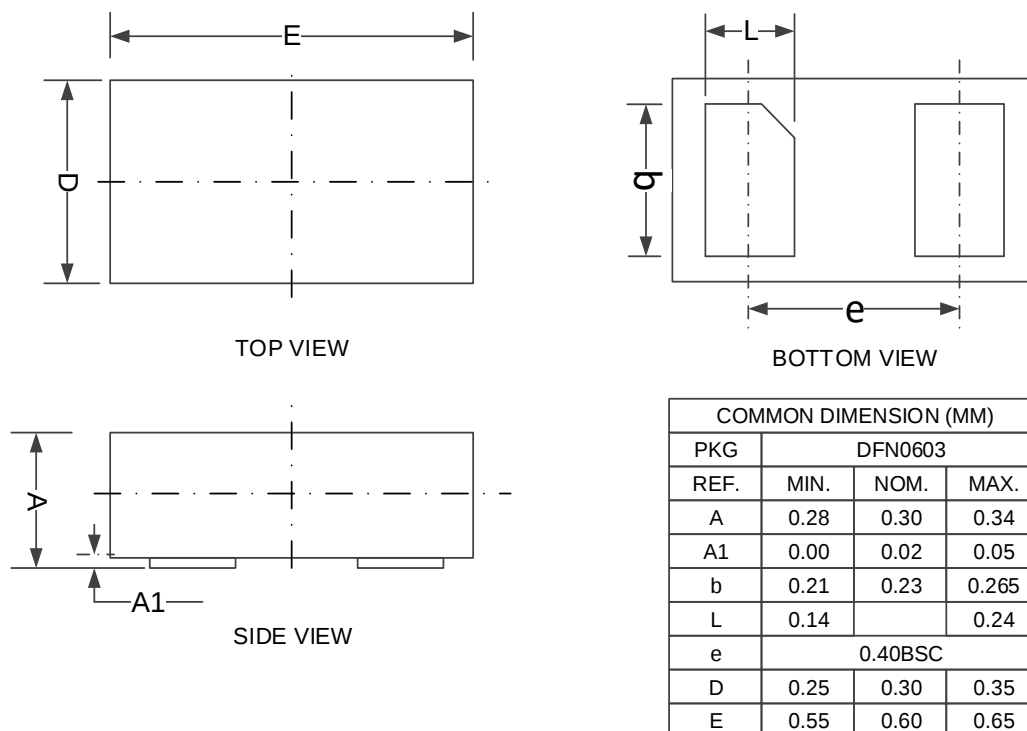
**Figure3: Pulse Waveform**



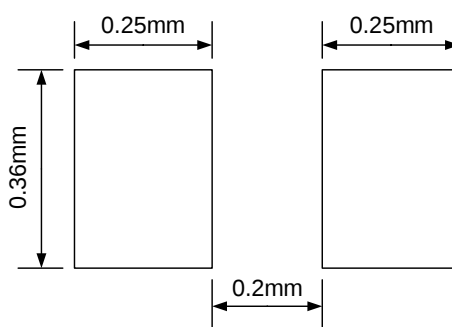
**Figure 4: Clamping Voltage vs. Ipp**



## Outline Drawing-DFN0603



## Land Pattern \*



\* This land pattern is for reference purposes only

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