

### FEATURES:

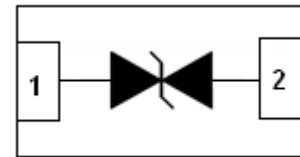
- ✧ Protects one bi-directional I/O line
- ✧ Low clamping voltage
- ✧ Low operating voltage: 5.0V
- ✧ ROHS compliant
- ✧ Compliant to Halogen-free
- ✧ Suffix "-Q1" for AEC-Q101



DFN0603

### MAIN APPLICATIONS

- ✧ Cell Phone Handsets and Accessories
- ✧ Personal Digital Assistants (PDA's)
- ✧ Notebooks, Desktops, and Servers
- ✧ Portable Instrumentation
- ✧ Pagers
- ✧ Microprocessor based equipment



PIN Configuration

### PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) ±20kV (air), ±15kV (contact)
- ✧ IEC61000-4-5 (Lightning) 80A (8/20ns)

### MECHANICAL CHARACTERISTICS

- ✧ Package :DFN0603
- ✧ Molding Compound Flammability Rating : UL 94V-O
- ✧ Quantity Per Reel : 10,000pcs
- ✧ Lead Finish : Lead Free
- ✧ Marking Code: AI

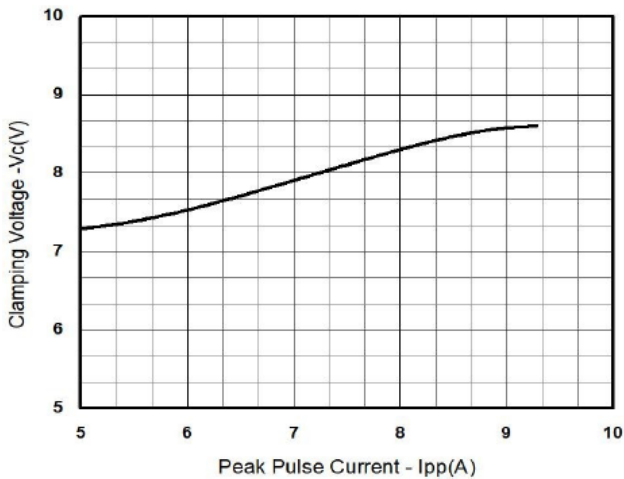
### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C, RH=45%-75%, unless otherwise noted)

| Parameter  | Symbol           | Value         | Unit |
|--|------------------|---------------|------|
| Storage temperature range                        | T <sub>stg</sub> | -55 to +150   | °C   |
| Operating junction temperature range             | T <sub>j</sub>   | -55 to +125   | °C   |
| Lead Soldering Temperature                       | T <sub>L</sub>   | 260 (10 sec.) | °C   |
| Peak pulse power dissipation on 8/20 μs waveform | P <sub>PP</sub>  | 80            | W    |
| ESD per IEC 61000-4-2 (Air)                      | V <sub>ESD</sub> | +/- 20        | kV   |
| ESD per IEC 61000-4-2 (Contact)                  |                  | +/- 15        |      |

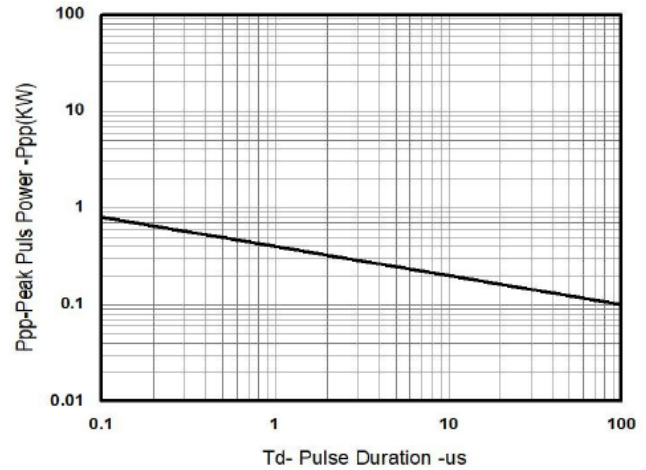
### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

| Parameter                 | Symbol          | Conditions                                    | Min | Typ | Max | Units |
|---------------------------|-----------------|---|-----|-----|-----|-------|
| Reverse Working Voltage   | V <sub>R</sub>  |   |     |     | 5.0 | V     |
| Reverse Breakdown Voltage | V <sub>BR</sub> | I <sub>T</sub> = 1mA                          | 5.7 |     |     | V     |
| Reverse Leakage Current   | I <sub>R</sub>  | V <sub>R</sub> = 5V                           |     |     | 0.1 | μA    |
| Peak Pulse Current        | I <sub>pp</sub> | t <sub>p</sub> = 8/20μs                       |     |     | 8   | A     |
| Clamping Voltage          | V <sub>C</sub>  | I <sub>PP</sub> = 1A, t <sub>p</sub> = 8/20μs |     | 6.5 | 7   | V     |
|                           |                 | I <sub>PP</sub> = 8A, t <sub>p</sub> = 8/20μs |     | 9   | 10  | V     |
| Junction Capacitance      | C <sub>J</sub>  | V <sub>R</sub> = 0V, f = 1MHz                 |     | 15  | 20  | pF    |

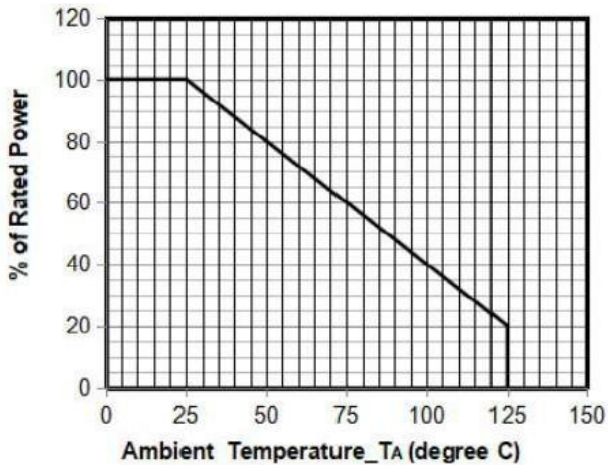
### Typical Performance Characteristics (T<sub>A</sub>=25°C, unless otherwise noted)



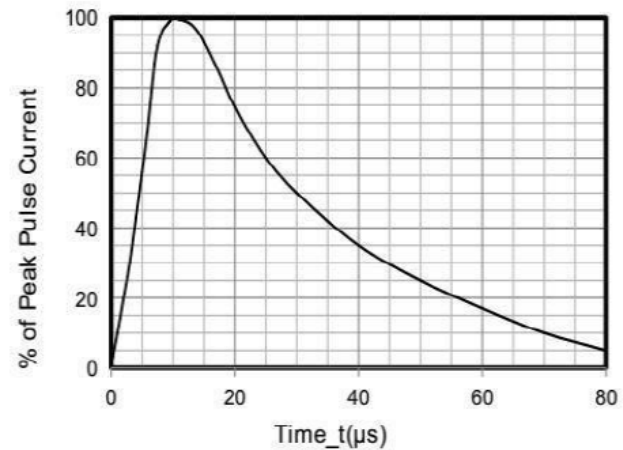
**Junction Capacitance vs. Reverse Voltage**



**Peak Pulse Power vs. Pulse Time**



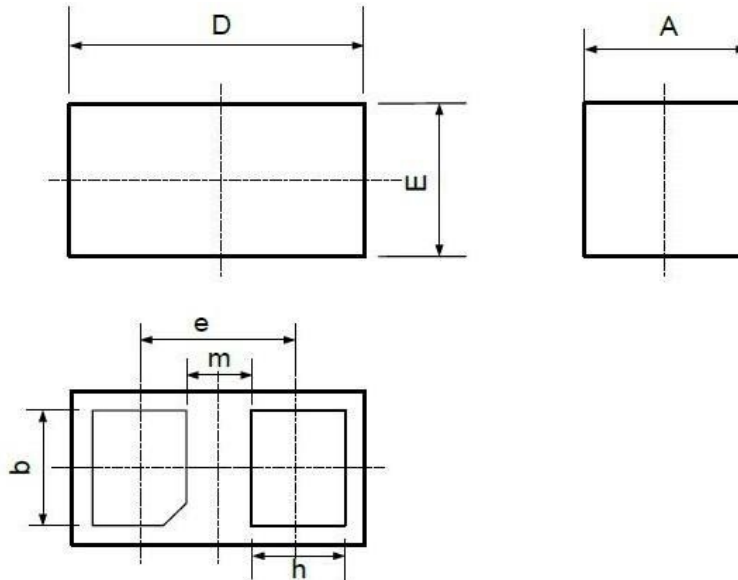
**Power Derating Curve**



**8 X 20μs Pulse Waveform**

### PACKAGE MECHANICAL DATA

DFN0603



| Symbol   | Dimensions In Millimeters |      | Dimensions In Inches |       |
|----------|---------------------------|------|----------------------|-------|
|          | Min                       | Max  | Min                  | Max   |
| <b>A</b> | 0.28                      | 0.32 | 0.011                | 0.013 |
| <b>D</b> | 0.55                      | 0.65 | 0.022                | 0.026 |
| <b>E</b> | 0.25                      | 0.35 | 0.010                | 0.014 |
| <b>b</b> | 0.20                      | 0.30 | 0.008                | 0.012 |
| <b>e</b> | 0.350                     |      | 0.014                |       |
| <b>m</b> | 0.165                     |      | 0.004                |       |
| <b>h</b> | 0.07                      | 0.17 | 0.003                | 0.007 |

### SUGGESTED LAND PATTERN

