

## Features

- \* 1800W peak pulse power (8/20 $\mu$ s)
- \* Low leakage: nA level
- \* Low operating voltage: 22V
- \* Ultra low clamping voltage
- \* One power line protects
- \* Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 30$ kV  
Contact discharge:  $\pm 30$ kV
  - IEC61000-4-5 (Lightning) 35A (8/20 $\mu$ s)
- \* RoHS Compliant

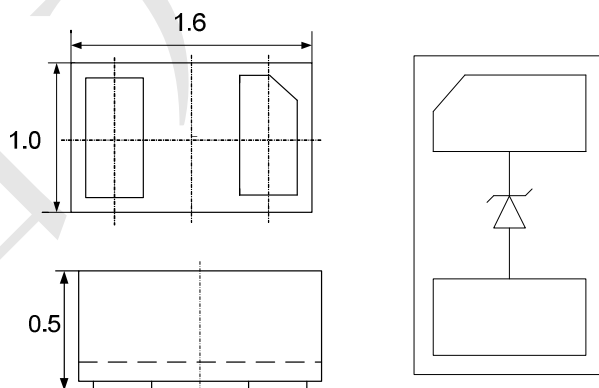
## Mechanical Characteristics

- \* Package: DFN1610-2
- \* Ultra low leakage: nA level
- \* Case Material: "Green" Molding Compound.
- \* UL Flammability Classification Rating 94V-0
- \* Moisture Sensitivity: Level 3 per J-STD-020
- \* Shipping Qty :3000/7Inch Tape & Reel

## Applications

- \* Power Management
- \* Industrial Application
- \* Power Supply Protection
- \* Many other portable devices

## Dimensions and Pin Configuration



### Absolute Maximum Ratings (T<sub>amb</sub>=25°C unless otherwise specified)

| Parameter                       | Symbol           | Value       | Unit |
|---------------------------------|------------------|-------------|------|
| Peak Pulse Power (8/20μs)       | P <sub>pk</sub>  | 1800        | W    |
| ESD per IEC 61000-4-2 (Air)     | V <sub>ESD</sub> | ±30         | kV   |
| ESD per IEC 61000-4-2 (Contact) |                  | ±30         |      |
| Operating Temperature Range     | T <sub>J</sub>   | -55 to +125 | °C   |
| Storage Temperature Range       | T <sub>stg</sub> | -55 to +150 | °C   |

### Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)

| Parameter               | Symbol           | Min  | Typ | Max | Unit | Test Condition                         |
|-------------------------|------------------|------|-----|-----|------|----------------------------------------|
| Reverse Working Voltage | V <sub>RWM</sub> |      |     | 22  | V    |                                        |
| Breakdown Voltage       | V <sub>BR</sub>  | 25.5 |     |     | V    | I <sub>T</sub> = 1mA                   |
| Reverse Leakage Current | I <sub>R</sub>   |      |     | 0.1 | μA   | V <sub>RWM</sub> = 22V                 |
| Forward Voltage         | V <sub>F</sub>   |      |     | 1.2 | V    | I <sub>F</sub> = 10mA                  |
| Peak Pulse Current      | I <sub>PP</sub>  |      |     | 35  | A    | t <sub>p</sub> = 8/20μs                |
| Clamping Voltage        | V <sub>C</sub>   |      |     | 42  | V    | I <sub>PP</sub> = 10A (8 x 20μs pulse) |
| Clamping Voltage        | V <sub>C</sub>   |      |     | 54  | V    | I <sub>PP</sub> = 35A (8 x 20μs pulse) |
| Junction Capacitance    | C <sub>J</sub>   |      |     | 200 | pF   | V <sub>R</sub> = 0V, f = 1MHz          |

### Typical Performance Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise Specified)

Fig1. 8/20 $\mu\text{s}$  Pulse Waveform

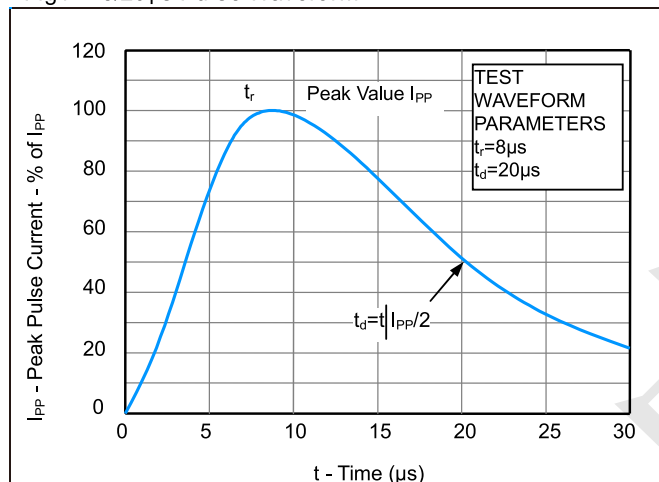


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

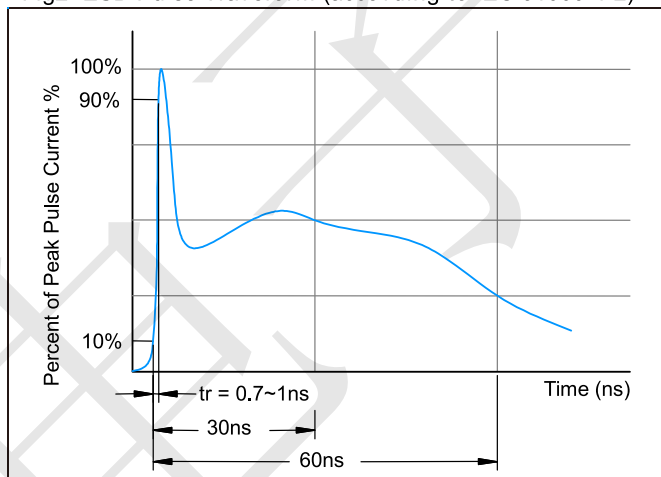
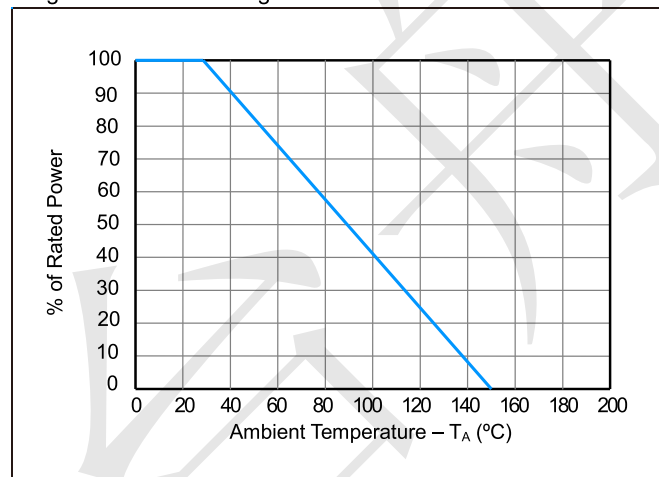
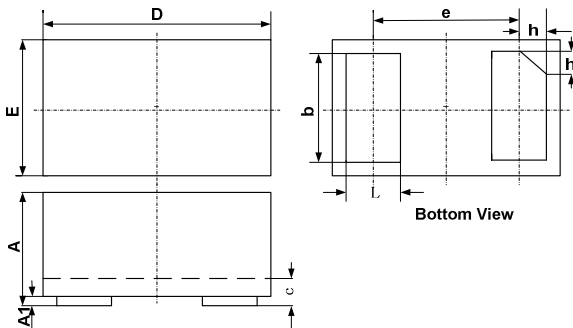


Fig3. Power Derating Curve

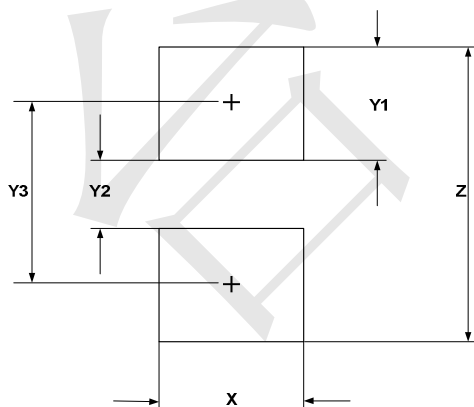


**Package Outline Drawing**  
**DFN1610-2**



| SYM | DIMENSIONS  |      |      |           |       |       |
|-----|-------------|------|------|-----------|-------|-------|
|     | MILLIMETERS |      |      | INCHES    |       |       |
|     | MIN         | NOM  | MAX  | MIN       | NOM   | MAX   |
| A   | 0.45        | 0.50 | 0.55 | 0.018     | 0.020 | 0.022 |
| A1  | 0.00        | 0.02 | 0.05 | 0.000     | 0.001 | 0.002 |
| b   | 0.75        | 0.80 | 0.85 | 0.030     | 0.032 | 0.034 |
| c   | 0.10        | 0.15 | 0.20 | 0.004     | 0.006 | 0.008 |
| D   | 1.55        | 1.60 | 1.65 | 0.062     | 0.064 | 0.066 |
| e   | 1.10 BSC    |      |      | 0.044 BSC |       |       |
| E   | 0.95        | 1.00 | 1.05 | 0.038     | 0.040 | 0.042 |
| L   | 0.35        | 0.40 | 0.45 | 0.014     | 0.016 | 0.018 |
| h   | 0.15        | 0.20 | 0.25 | 0.006     | 0.008 | 0.010 |

**Suggested Land Pattern**



| SYM | DIMENSIONS  |        |
|-----|-------------|--------|
|     | MILLIMETERS | INCHES |
| X   | 1.00        | 0.040  |
| Y1  | 0.62        | 0.025  |
| Y2  | 0.60        | 0.024  |
| Y3  | 1.22        | 0.049  |
| Z   | 1.85        | 0.074  |