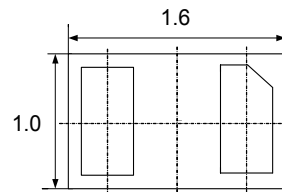




## Features

- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30\text{kV}$
    - Contact discharge:  $\pm 30\text{kV}$
  - IEC61000-4-5 (Lightning)110A (8/20 $\mu\text{s}$ )
- RoHS Compliant

## Dimensions DFN1610



## Pin Configuration



## Applications

- Mobile Phones
- Battery Protection
- Power Line Protection
- Vbat pin for Mobile Devices
- Hand Held Portable Applications

## Mechanical Characteristics

- Package: DFN1610
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel:3,000pcs
- Reel Size:7 inch

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

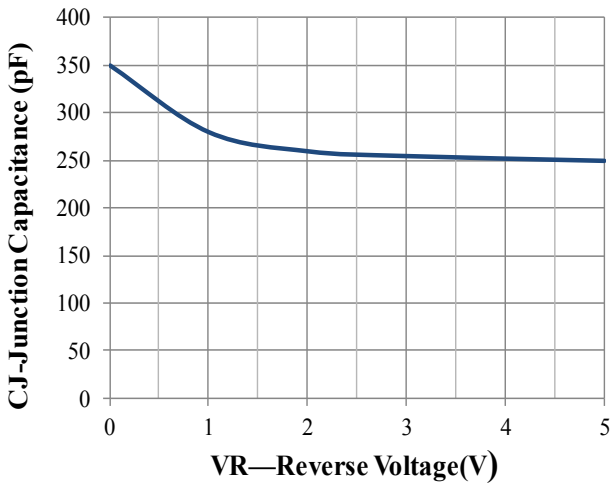
| Parameter                              | Symbol           | Value       | Unit |
|--|------------------|-------------|------|
| Peak Pulse Power (8/20 $\mu\text{s}$ ) | P <sub>pp</sub>  | 1300        | W    |
| ESD per IEC 61000-4-2 (Air)            | V <sub>ESD</sub> | $\pm 30$    | Kv   |
| ESD per IEC 61000-4-2 (Contact)        |                  | $\pm 30$    |      |
| Operating Temperature Range            | T <sub>J</sub>   | -55 to +125 | °C   |
| Storage Temperature Range              | T <sub>STJ</sub> | -55 to +150 | °C   |

**Electrical Characteristics** (TA=25°C unless otherwise specified)

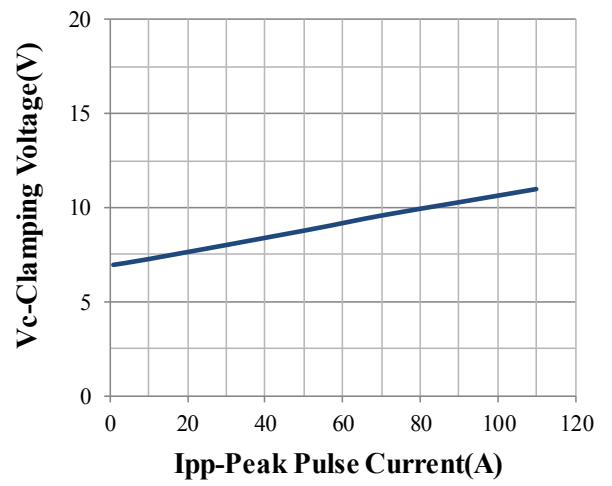
| Part Number | Device Marking | V <sub>RWM</sub><br>(V) | V <sub>BR</sub><br>(V) | I <sub>T</sub><br>(mA) | V <sub>C</sub><br>@1A | V <sub>C</sub> |      | I <sub>R</sub><br>μA<br>(Max) | C<br>(Pf)<br>(Typ.) |
|-------------|----------------|-------------------------|------------------------|------------------------|-----------------------|----------------|------|-------------------------------|---------------------|
|             |                |                         |                        |                        |                       | (Max)          | (@A) |                               |                     |
| USSD0571P6W | 5P             | 5                       | 6                      | 1                      | 7                     | 11             | 110  | 1                             | 350                 |



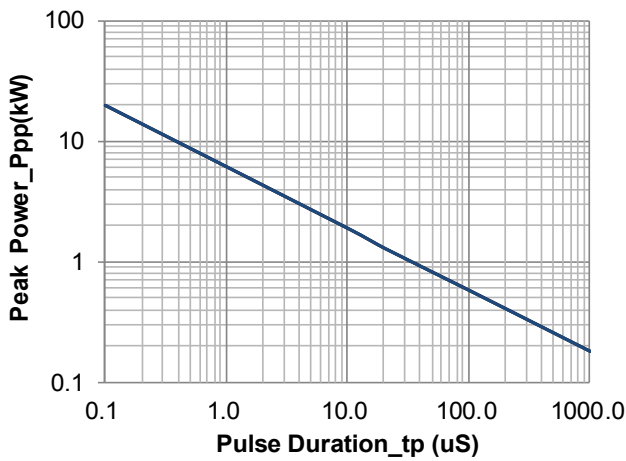
### Typical Performance Characteristics ( $T_A=25^{\circ}C$ unless otherwise Specified)



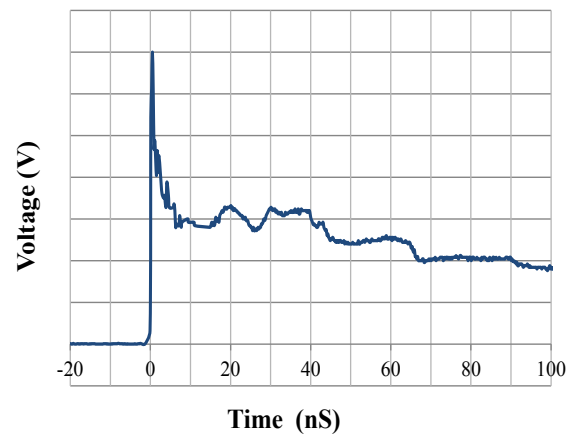
Junction Capacitance vs. Reverse Voltage



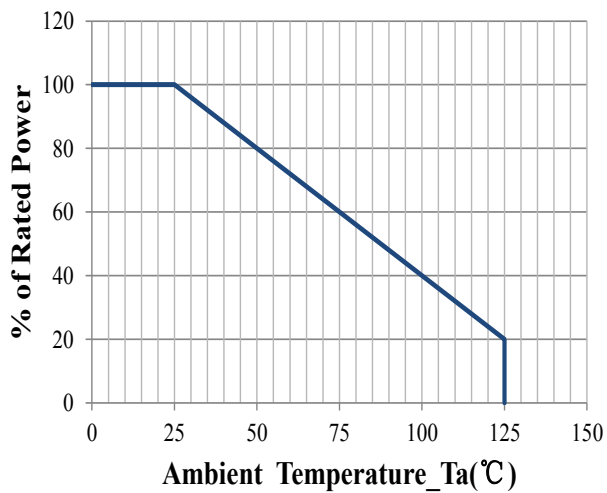
Clamping Voltage vs. Peak Pulse Current



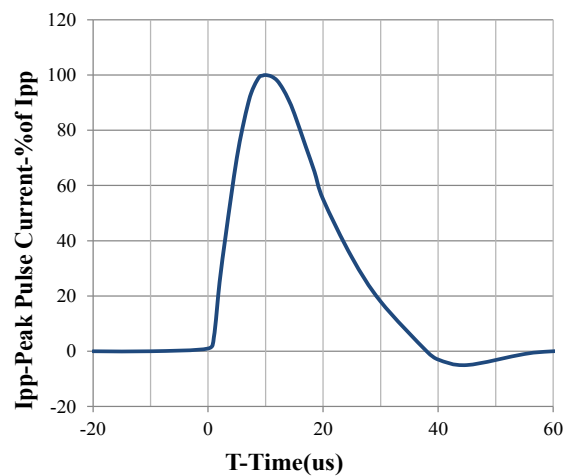
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



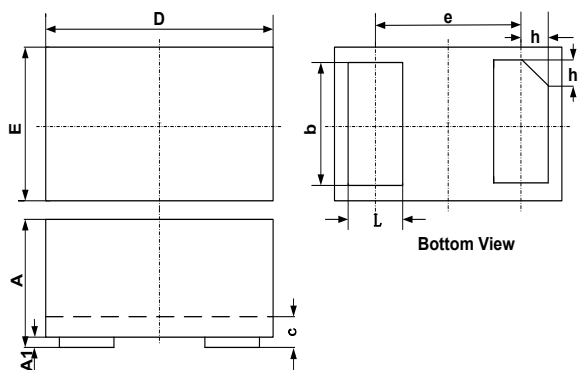
Power Derating Curve



8 X 20us Pulse Waveform

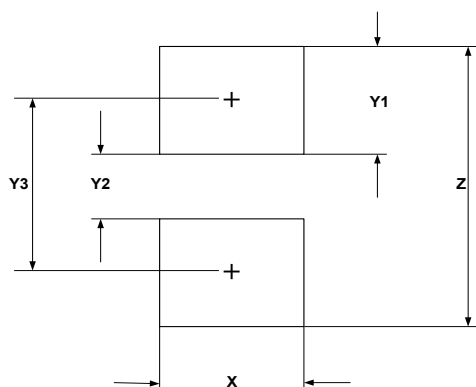


### DFN1610-2 Package Outline Drawing



| 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  |