

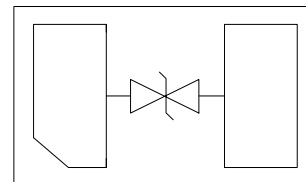
Features

- Ultra low leakage: nA level
- 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: $\pm 30\text{kV}$
 - IEC61000-4-4 (EFT) 80A (5/50ns)
 - IEC61000-4-5 (Lightning) 95A (8/20 μs)
- RoHS Compliant

Dimensions DFN1610-2



Pin Configuration



Applications

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

Mechanical Characteristics

- Package: DFN1610-2
- Lead Finish: NiPdAu
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Quantity Per Reel: 3,000 pcs
- Reel Size: 7 inch

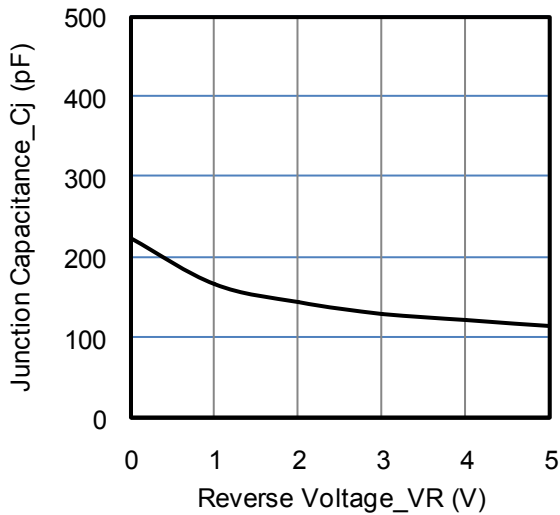
Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|--|------------------|-------------|------|
| Peak Pulse Power (8/20 μs) | Ppp | 1425 | W |
| ESD per IEC 61000-4-2 (Air) | V _{ESD} | ± 30 | Kv |
| ESD per IEC 61000-4-2 (Contact) | | ± 30 | |
| Operating Temperature Range | T _J | -55 to +125 | °C |
| Storage Temperature Range | T _{STJ} | -55 to +150 | °C |

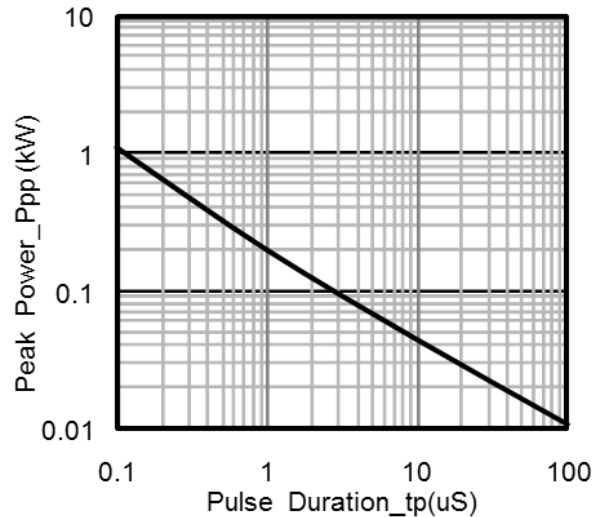
Electrical Characteristics (TA=25°C unless otherwise specified)

| Part Number | Device Marking | V _{RWM} (V) | V _{BR} (V) | I _T (mA) | V _C @20A | V _c | | I _R μA (Max) | C (Pf) (Typ.) |
|-------------|----------------|----------------------|---------------------|---------------------|---------------------|----------------|------|-------------------------|---------------|
| | | | | | | (Max) | (@A) | | |
| SD0581P6W | 58P | 5 | 6 | 1 | 9 | 15 | 95 | 0.5 | 300 |

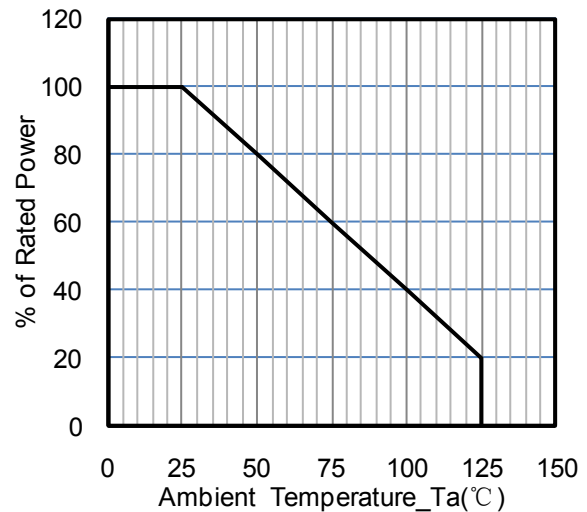
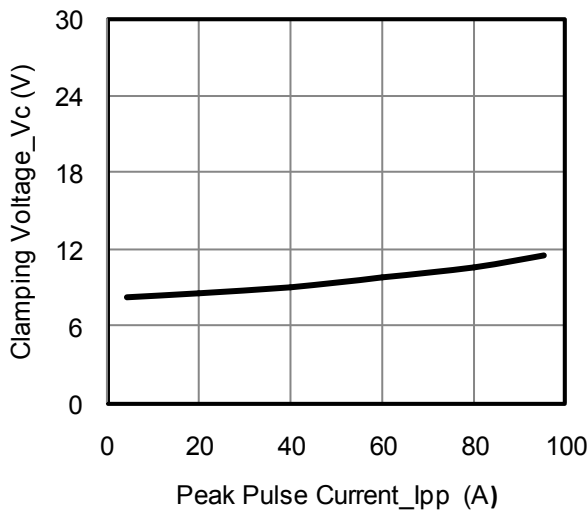
Characteristic Curves



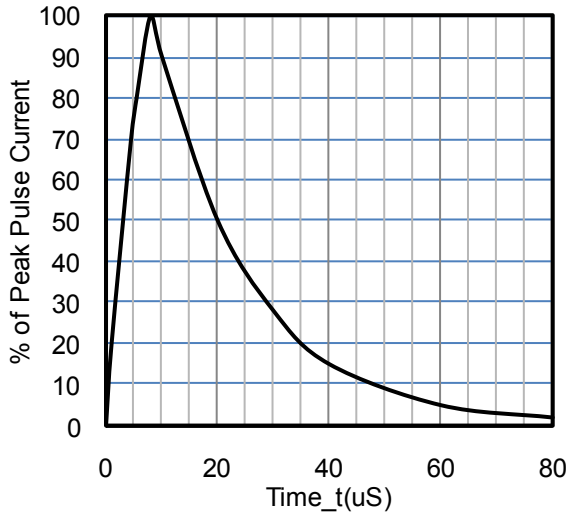
Junction Capacitance vs. Reverse Voltage



Peak Pulse Power vs. Pulse Time

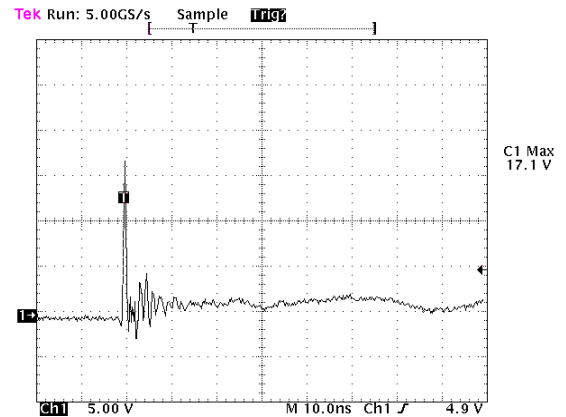


Clamping Voltage vs. Peak Pulse Current



8 X 20uS Pulse Waveform

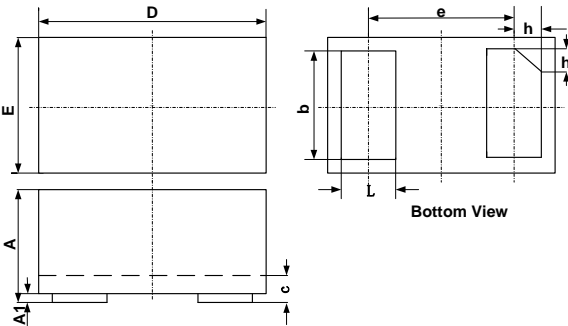
Power Derating Curve



ESD Clamping Voltage

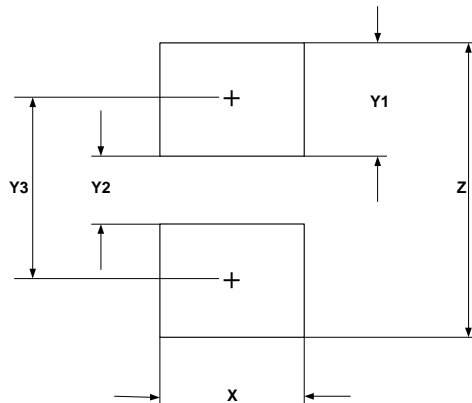
8 kV Contact per IEC61000-4-2

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 |

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