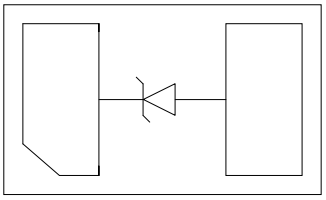
# 1-Line Uni-directional TVS Diode

## Features:

- Ultra low leakage: nA level
- Operating voltage: 3.3V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    Air discharge: ± 30kV
    Contact discharge: ± 30kV
  - IEC61000-4-4 (EFT) 80A (5/50ns)
  - IEC61000-4-5 (Lightning) 90A (8/20μs)
- RoHS Compliant

## DFN1610-2

## Pin Configuration



## Applications:

- Mobile Phones and Accessories
- Battery Protection
- USB VBus
- Power Line Protection
- 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:3,000pcs
- Reel Size:7 inch

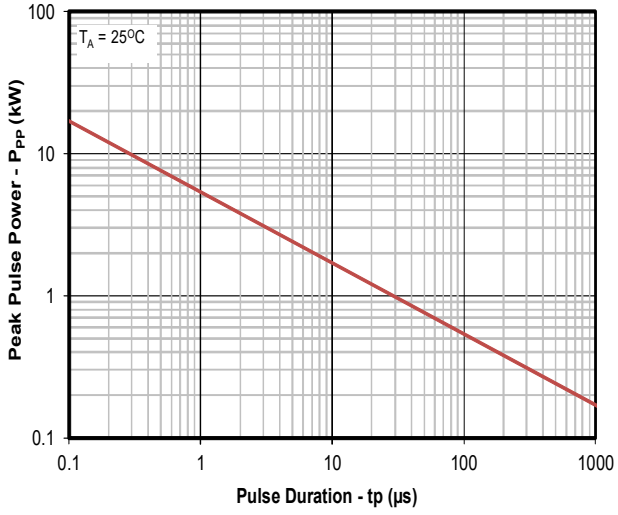
## Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Peak Pulse Power (8/20μs) | Ppp | 1170 | 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 | ℃ |
| Storage Temperature Range | $T_{STJ}$ | -55 to +150 | ℃ |

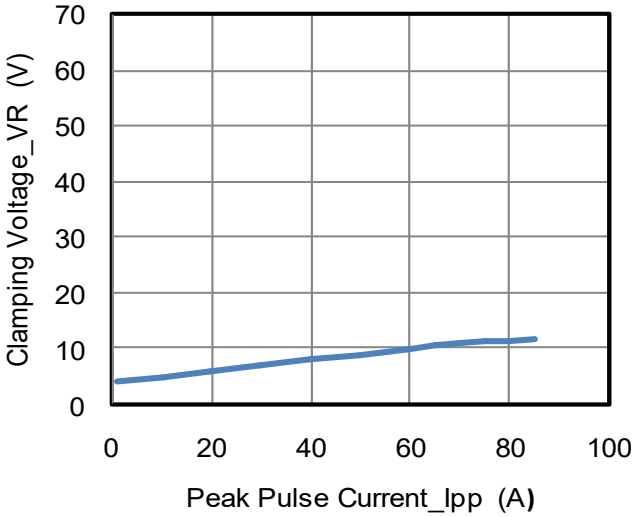
## Electrical Characteristics(TA=25°C unless otherwise specified)

| Part Number | Device Marking | $V_{RWM}$ (V) | $V_{BR}$ (V) | $I_T$ (mA) | $V_C$ @10A | Vc | | $I_R$ μA (Max) | C (Pf) (Typ.) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | (Max) | (@A) | | |
| KWSD0371P6W | 73 | 3.3 | 3.5 | 1 | 13 | 13 | 90 | 1 | 750 |

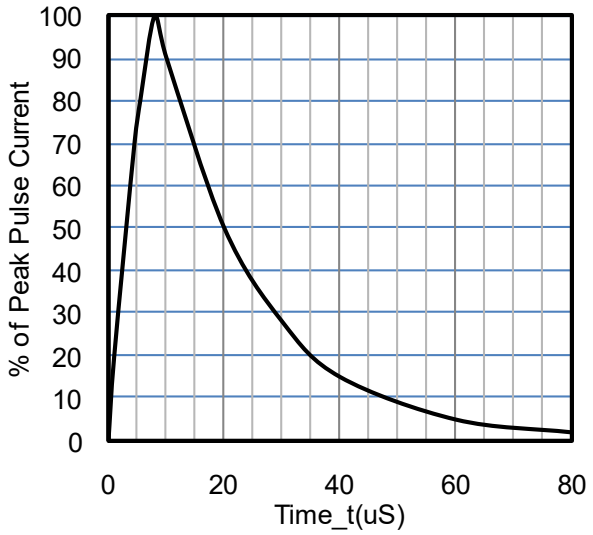
## Characteristic Curves



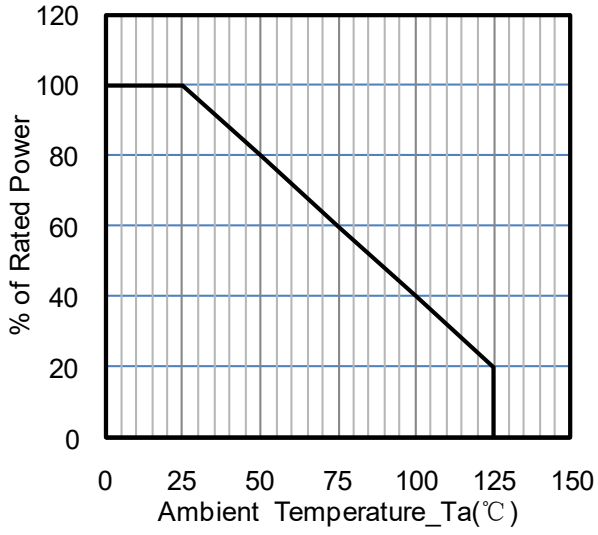

**Junction Capacitance vs. Reverse Voltage**




**Clamping Voltage vs. Peak Pulse Current**

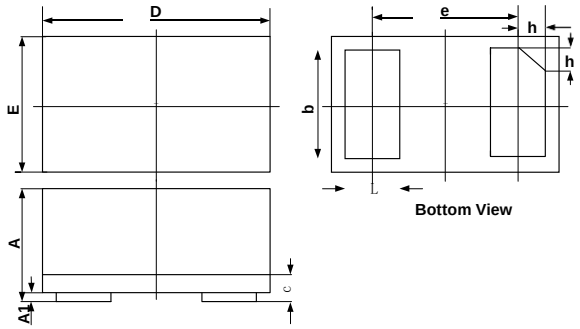



**8 X 20uS Pulse Waveform**



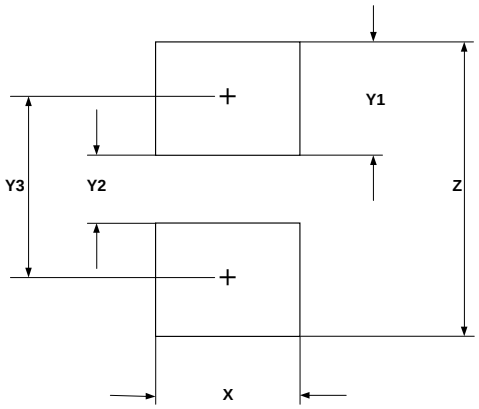

**Power Derating Curve**

## 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 |