

Features

- * 1200W peak pulse power (8/20 μ s)
- * Low leakage: nA level
- * Low operating voltage: 5V
- * Ultra Low Leakage:nA Level
- * Ultra low clamping voltage
- * One power line protects
- * Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: ± 30 kV
 - Contact discharge: ± 30 kV
 - IEC61000-4-5 (Lightning) 115A (8/20 μ 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

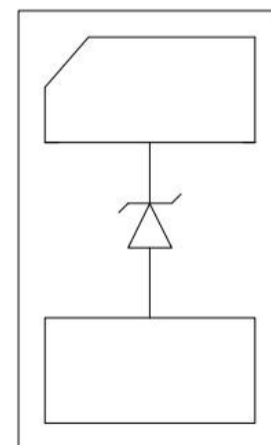
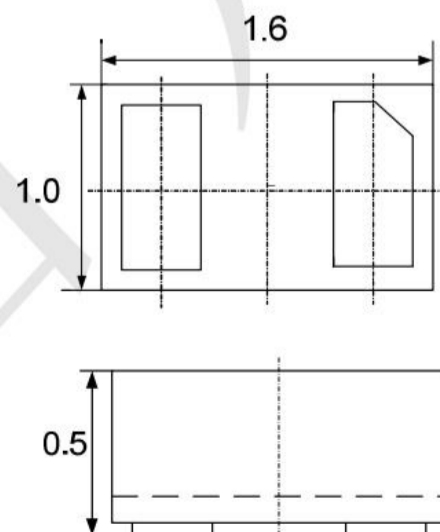
Applications

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

Ordering Information

| Part Number | Qty per Reel | Reel Size |
|-------------|---------------|-----------|
| TPTVS0571P | 3000 Or 10000 | 7" |

Dimensions and Pin Configuration



Marking: 5P Or 91

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

| Parameter | Symbol | Value | Unit |
|---------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs) | Ppk | 1200 | W |
| Peak Pulse Current (8/20μs) | Ipp | 110 | A |
| ESD per IEC 61000-4-2 (Air) | VESD | ±30 | kV |
| ESD per IEC 61000-4-2 (Contact) | | ±30 | |
| Operating Temperature Range | TJ | -55 to +125 | °C |
| Storage Temperature Range | Tstg | -55 to +150 | °C |

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

| Parameter | Symbol | Min | Typ | Max | Unit | Test Condition |
|-------------------------|--------|-----|-----|-----|------|-------------------------|
| Reverse Working Voltage | VRWM | | | 5 | V | |
| Breakdown Voltage | VBR | 5.6 | 6 | 7.6 | V | IT = 1mA |
| Reverse Leakage Current | IR | | | 1 | uA | VRWM = 5V |
| Clamping Voltage | VC | | | 8 | V | Ipp=50A(8x 20us pulse) |
| Clamping Voltage | VC | | | 11 | V | Ipp=100A(8x 20us pulse) |
| Junction Capacitance | CJ | | | 400 | pF | VR = 0V, f = 1MHz |

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

Fig1. 8/20 μs Pulse Waveform

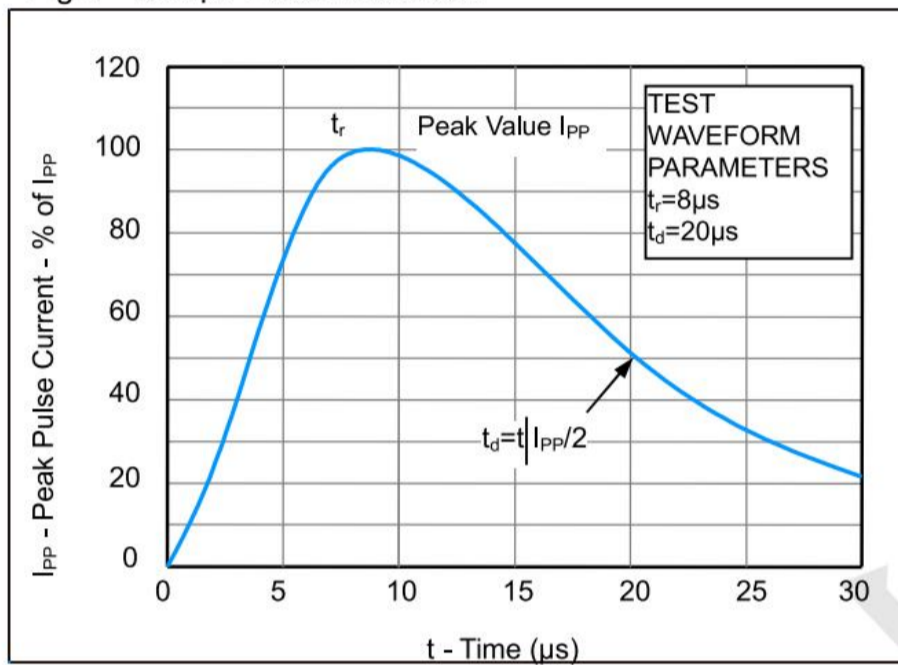


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

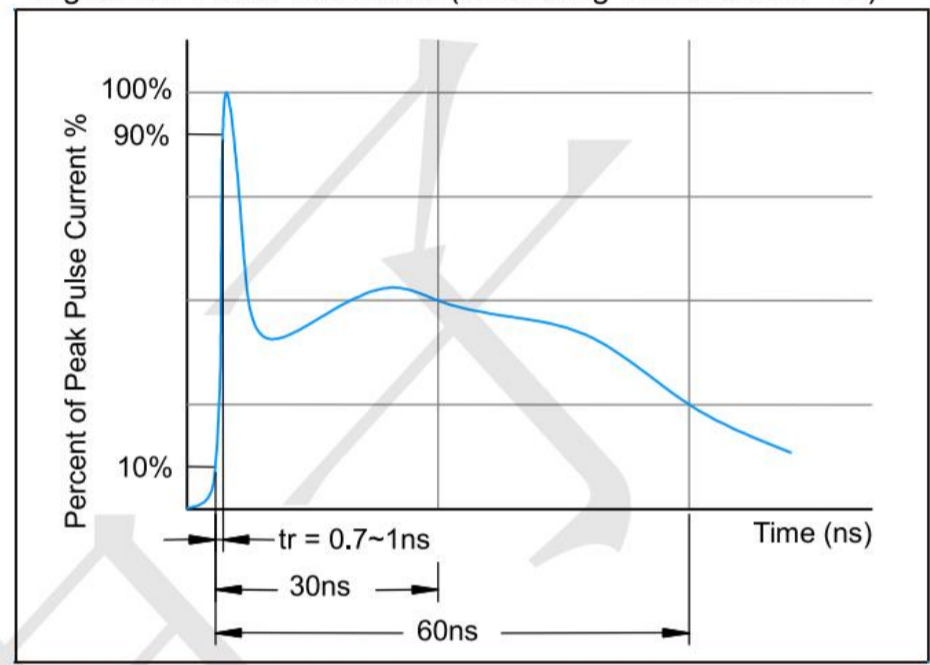
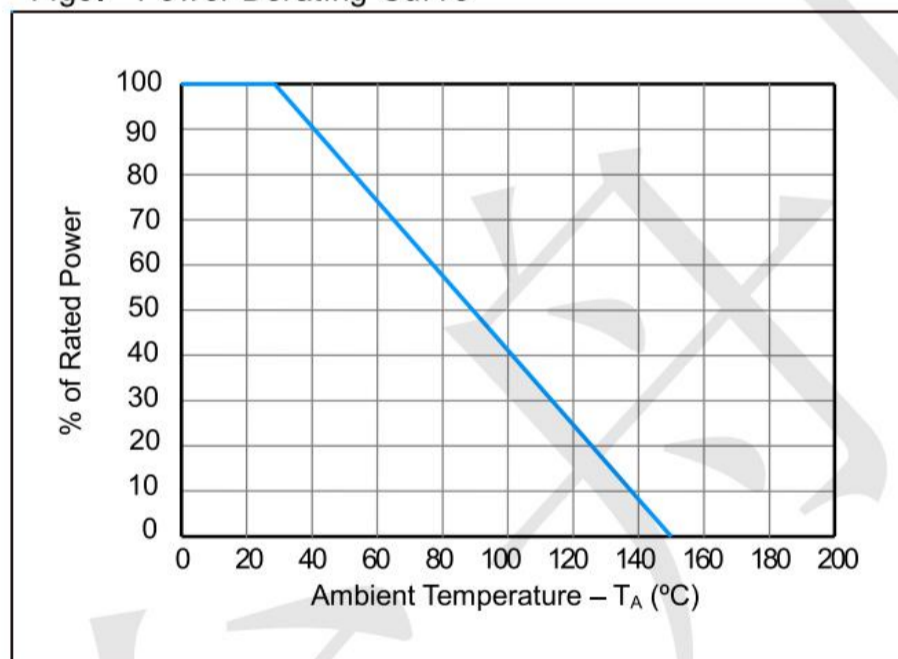
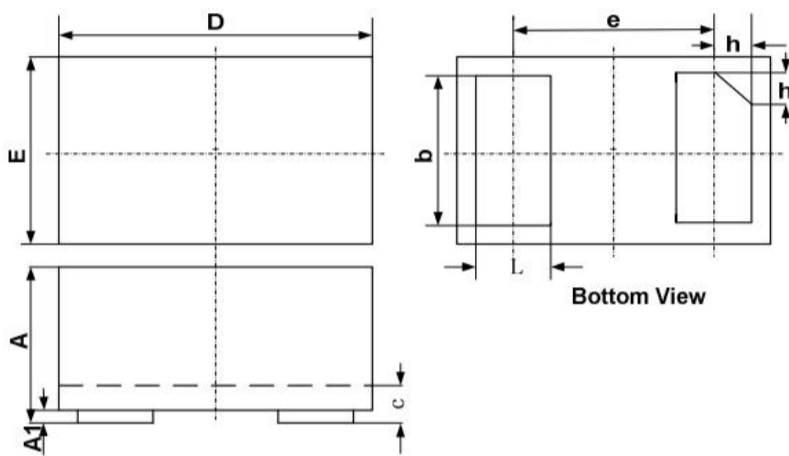


Fig3. Power Derating Curve

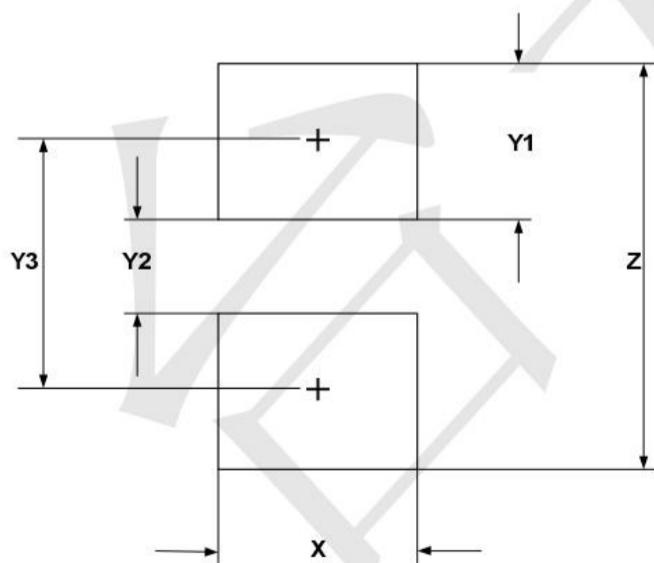


DFN1610-2 Package Outline Drawing



| 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 |

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