

Features

- 5400W peak pulse power (8/20)
- Low leakage: nA level
- Low operating voltage: 24V
- Ultra low clamping voltage
- One power line protects
- 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) 120A (8/20 μs)
- RoHS Compliant

Applications

- Power Management
- Industrial Application
- Power Supply Protection

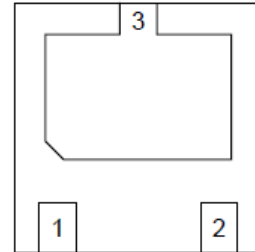
Mechanical Characteristics

- Package: DFN2020-3
- Lead Finish: NiPdAu
- Case Material: “Green” Molding Compound
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Marking Information: See Below
- Device Marking: T24:003

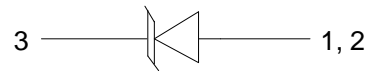
Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|--|------------------|-------------|------|
| Peak Pulse Power (8/20 μs) | Ppp | 5400 | 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 |

Dimensions DFN2020-3



Pin Configuration



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

| Symbol | Parameter | Conditions | Min. | Typ. | Max. | Units |
|------------------|---------------------------|---|------|------|------|-------|
| V _{RWM} | Reverse Working Voltage | | | | 24 | V |
| V _{BR} | Reverse Breakdown Voltage | I _T =1mA | 25 | | | V |
| I _R | Reverse Leakage Current | V _{RWM} =24V | | | 1.0 | μA |
| V _F | Diode Forward Voltage | I _F =10mA | | | 1.2 | V |
| V _C | Clamping Voltage | I _{PP} =60A, t _p =8/20μs | | | 40 | V |
| | | I _{PP} =120A, t _p =8/20μs | | | 45 | V |
| C _J | Junction Capacitance | V _R =0V, f=1MHz | | 800 | | pF |

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

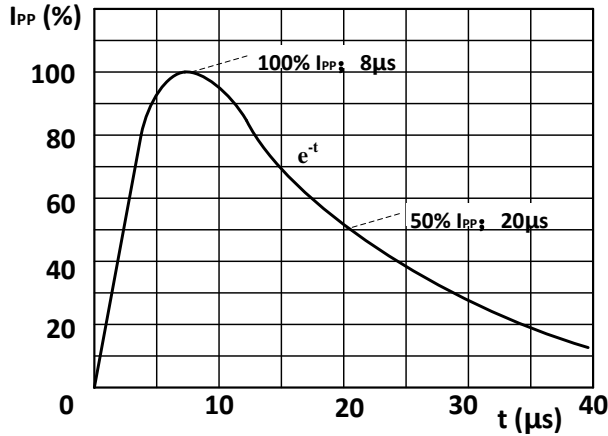


Fig. 1. 8/20 μs pulse waveform according to IEC 61000-4-5 and IEC 61643-321

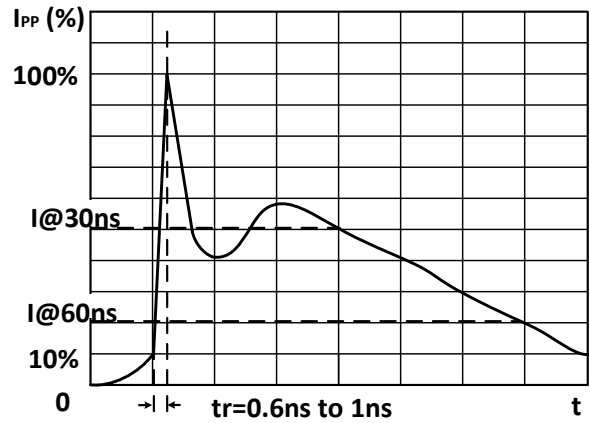


Fig. 2. ESD pulse waveform according to IEC 61000-4-2

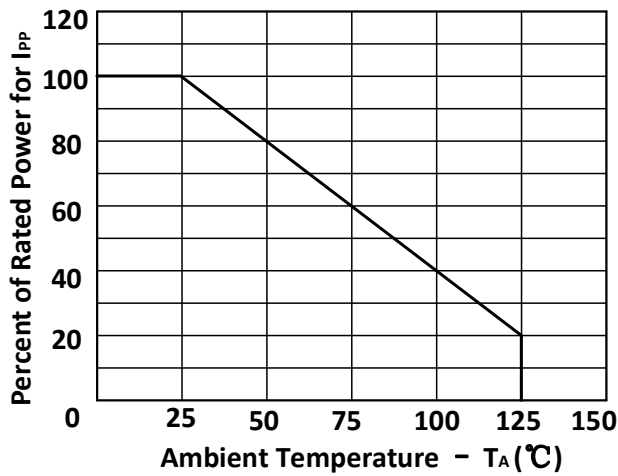


Fig. 3. Power Derating Curve

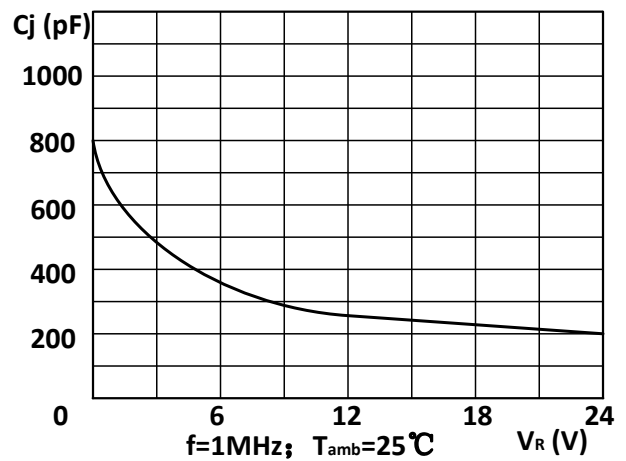
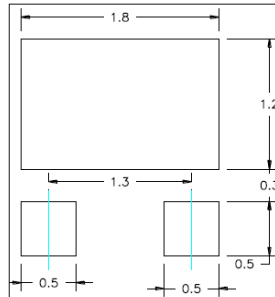
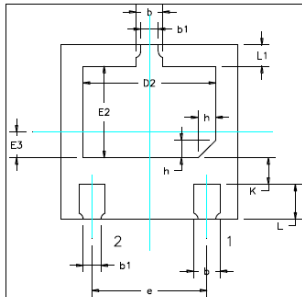
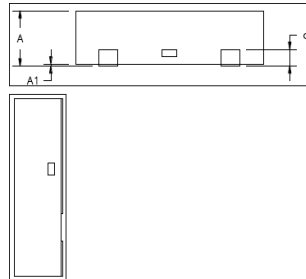
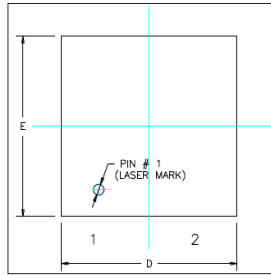


Fig. 4. Junction Capacitance vs V_R

DFN2020-3 Package Outline Drawing



| Symbol | Millimeters | | |
|--------|-------------|------|------|
| | min | nom | max |
| A | 0.50 | 0.55 | 0.60 |
| A1 | 0.00 | 0.02 | 0.05 |
| b | 0.25 | 0.30 | 0.35 |
| b1 | 0.2 REF | | |
| c | 0.152 REF | | |
| D | 1.90 | 2.00 | 2.10 |
| D2 | 1.40 | 1.50 | 1.60 |
| e | 1.30 BSC | | |
| E | 1.90 | 2.00 | 2.10 |
| E2 | 0.95 | 1.05 | 1.15 |
| E3 | 0.20 | 0.30 | 0.40 |
| L | 0.35 | 0.40 | 0.45 |
| L1 | 0.20 | 0.25 | 0.30 |
| h | 0.2 REF | | |
| K | 0.20 | 0.30 | 0.40 |