

### Features

- 5400W peak pulse power (8/20)
- Low leakage: nA level
- Low operating voltage: 12V
- 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) 180A (8/20 $\mu\text{s}$ )
- RoHS Compliant

### Applications

- Cell phone handsets and accessories
- Personal digital assistants (PDA's)
- Notebooks, desktops, and servers
- Portable instrumentation
- Cordless phones
- Digital cameras
- Peripherals
- MP3 players

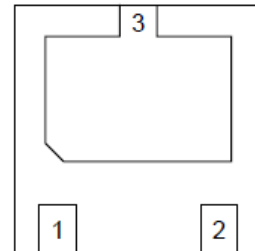
### Mechanical Characteristics

- 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

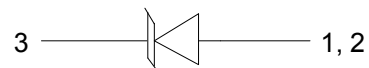
### Absolute Maximum Ratings ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	P <sub>pp</sub>	5400	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	$^{\circ}\text{C}$
Storage Temperature Range	T <sub>STJ</sub>	-55 to +150	$^{\circ}\text{C}$

### Dimensions DFN2020-3



### Pin Configuration



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

Part Number	Device Marking	V <sub>RWM</sub> (V)	V <sub>BR</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> @90A	V <sub>C</sub>		I <sub>R</sub> μA (Max)	C (Pf) (Typ.)
						(Max)	(@A)		
PTVSHC3N12VU	12A	12	13	1	22	30	180	1	1500

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

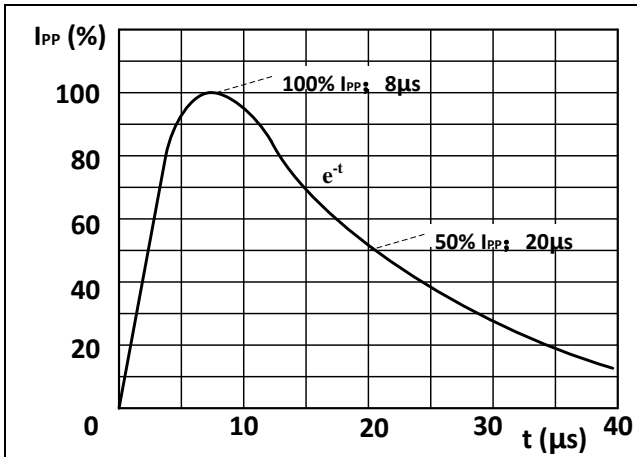


Fig. 1. 8/20  $\mu\text{s}$  pulse waveform according to IEC 61000-4-5 and IEC 61643-321

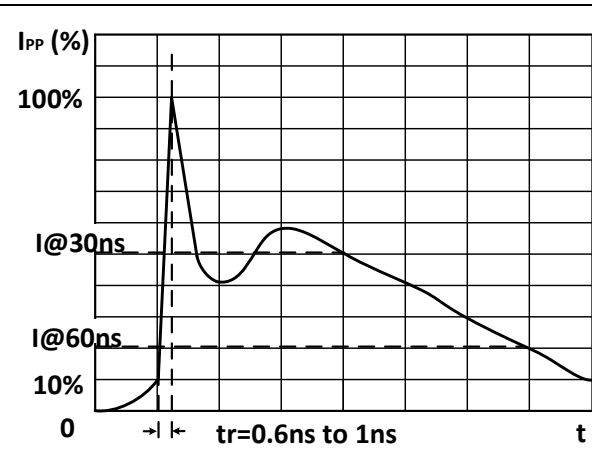


Fig. 2. ESD pulse waveform according to IEC 61000-4-2

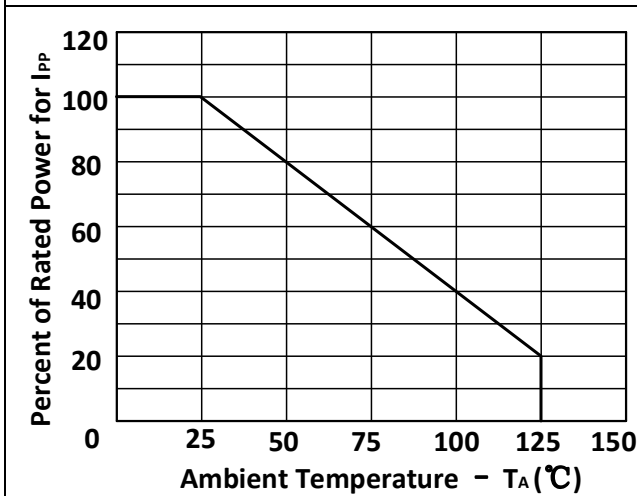


Fig. 3. Power Derating Curve

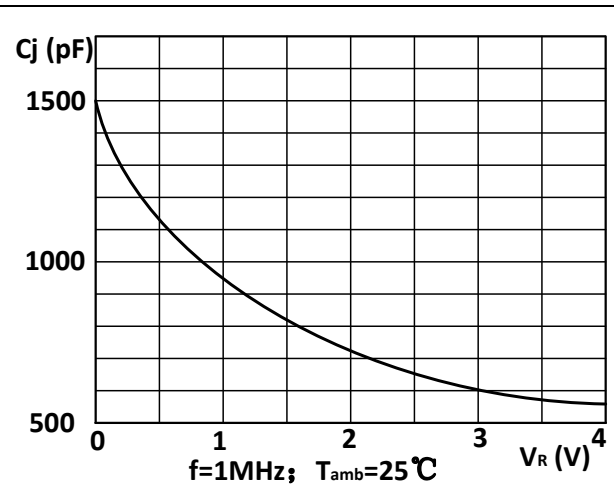


Fig. 4. Junction Capacitance vs  $V_R$

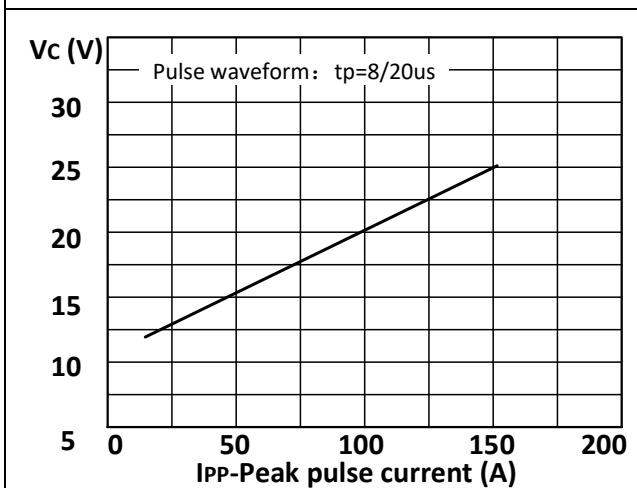
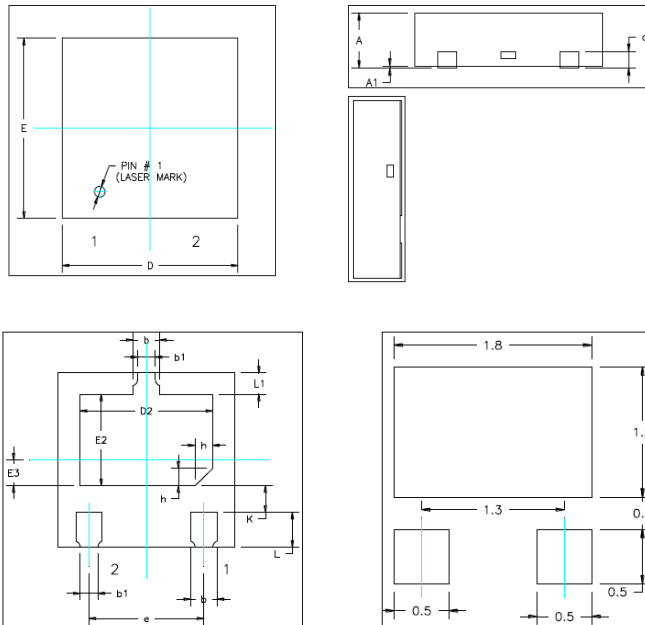


Fig. 5. Clamping voltage vs. Peak pulse current

## Package Mechanical Data



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

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