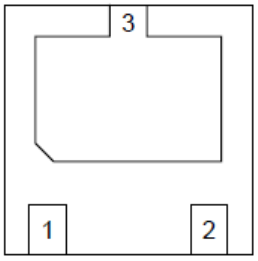
STD22A12L01

1-Line High Power TVS Diode

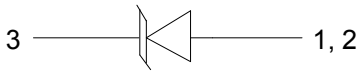
Features

- 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: ±30kV
    Contact discharge: ±30kV
  - IEC61000-4-4 (EFT) 80A (5/50ns)
  - IEC61000-4-5 (Lightning) 180A (8/20μs)
- RoHS Compliant

Dimensions DFN2020-3



Pin Configuration



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(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	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	℃
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 @90A	Vc		I_R μA (Max)	C (Pf) (Typ.)
						(Max)	(@A)		
STD22A12L01	12A	12	13	1	22	30	180	1	1500

Typical Performance Characteristics (T_A=25°C unless otherwise Specified)

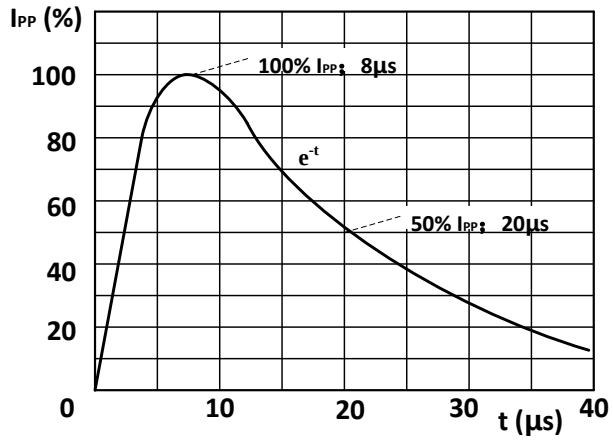


Fig. 1. 8/20 μs pulse waveform according to IEC 61000-4-5 and IEC 61643-321

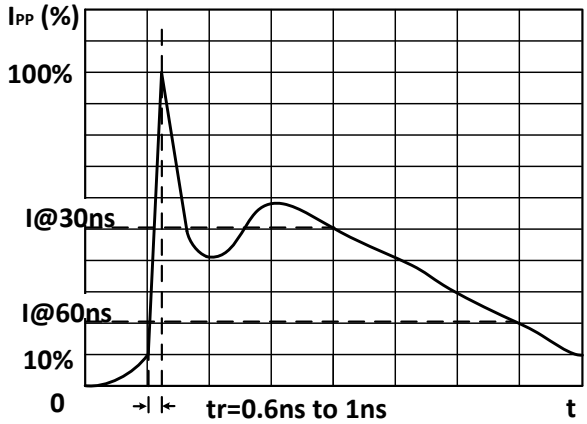


Fig. 2. ESD pulse waveform according to IEC 61000-4-2

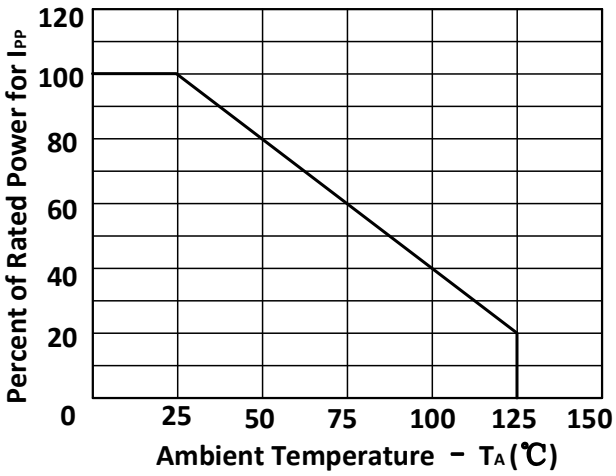


Fig. 3. Power Derating Curve

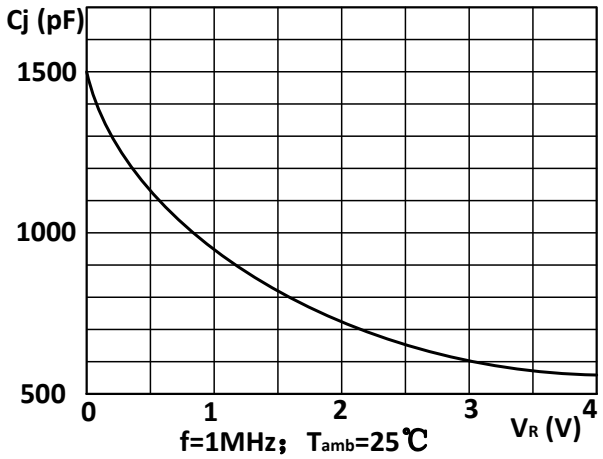


Fig. 4. Junction Capacitance vs VR

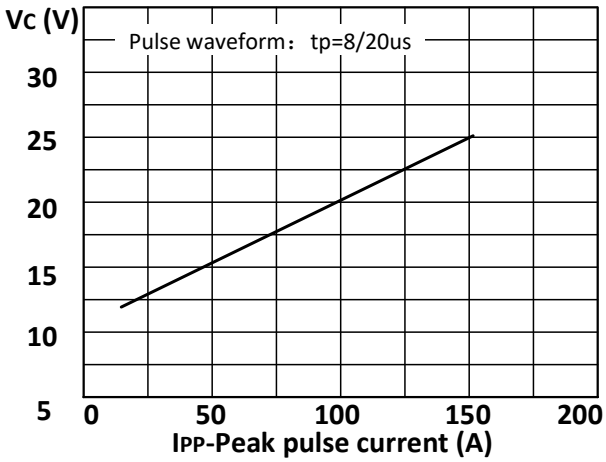
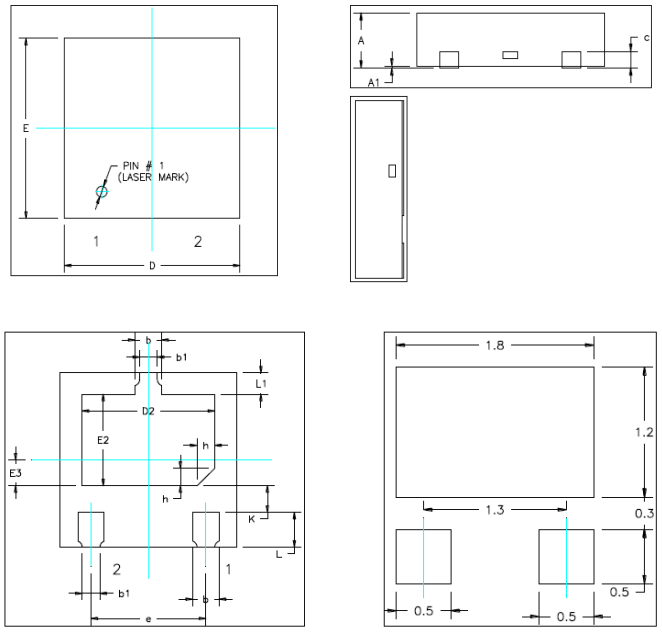


Fig. 5. Clamping voltage vs. Peak pulse current

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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