



Transient Voltage Suppressors for ESD Protection

Low Capacitance

Features

- ◆ Operating Voltage: 24V
- ◆ One power line protects
- ◆ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning)140A (8/20 μs)
- ◆ RoHS Compliant

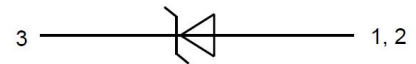
DFN2020-3L



Applications

- ◆ Power Management
- ◆ Industrial Application
- ◆ Power Supply Protection

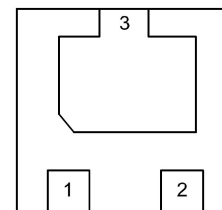
Circuit Diagram



Mechanical Characteristics

- ◆ DFN2020-3L Package
- ◆ Lead Finish: NiPdAu
- ◆ Case Material: "Green" Molding Compound
- ◆ Moisture Sensitivity: Level 1 per J-STD-020
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch

Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Value	Units
I_{PP}	Peak pulse current ($t_P=8/20\mu\text{s}$)	140	A
V_{ESD}	ESD per IEC 61000-4-2 (Air)	± 30	kV
	ESD per IEC 61000-4-2 (Contact)	± 30	
T_{OP}	Operating Temperature Range	$-55 \sim +125$	$^{\circ}\text{C}$
T_{STG}	Storage Temperature Range	$-55 \sim +150$	$^{\circ}\text{C}$

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Electrical Characteristics (T_A = 25 °C, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse working voltage	V _{RWM}	--	--	--	24	V
Breakdown voltage	V _{BR}	I _T = 1mA	25	--	--	V
Reverse leakage current	I _R	V _{RWM} = 24V	--	--	1	μA
Clamping Voltage	V _C	I _{PP} = 50A , t _P = 8/20μs	--	40	--	V
Clamping Voltage	V _C	I _{PP} = 140A , t _P = 8/20μs	--	60	--	V
Junction Capacitance	C _J	V _R = 0V, f = 1MHz	--	680	--	pF

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

Fig1. Peak Pulse Power vs. Pulse Time

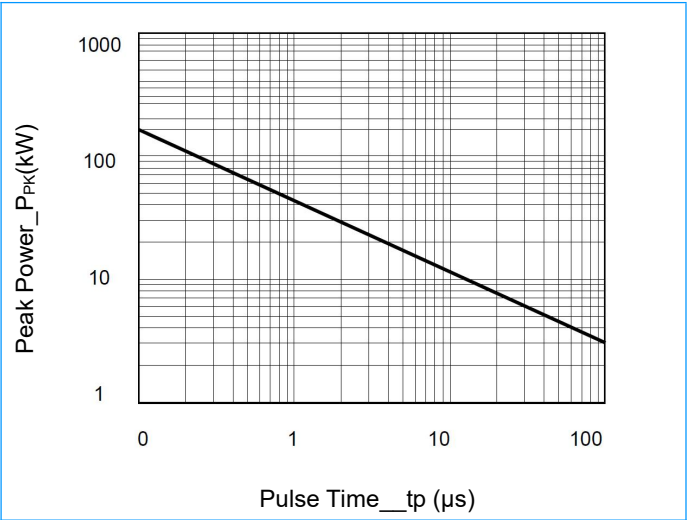


Fig2. Power Derating Curve

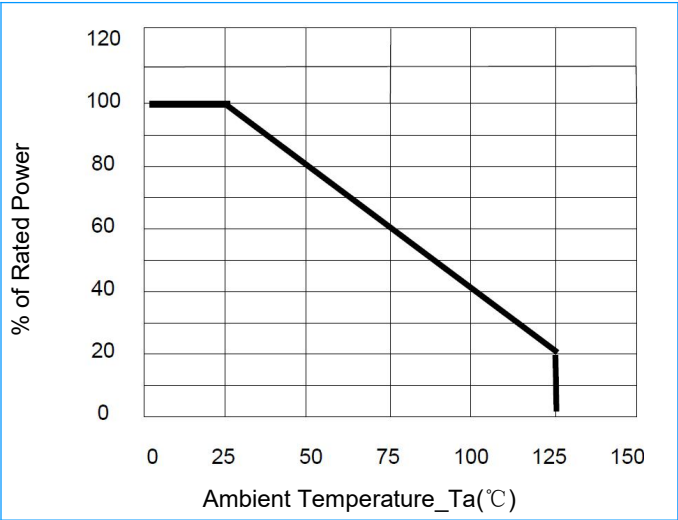
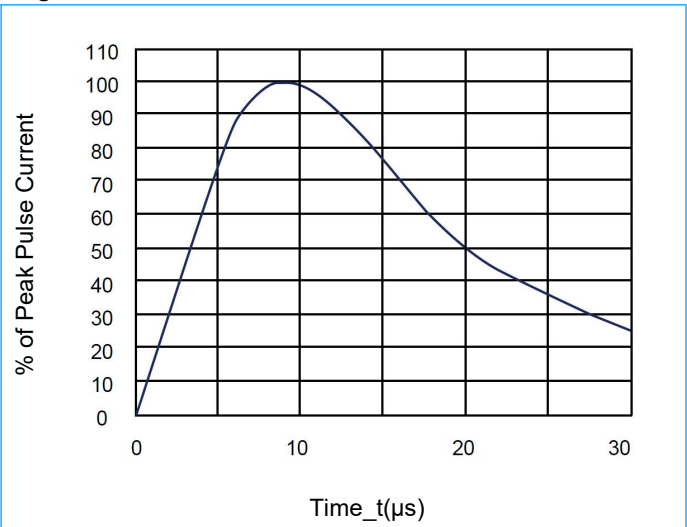


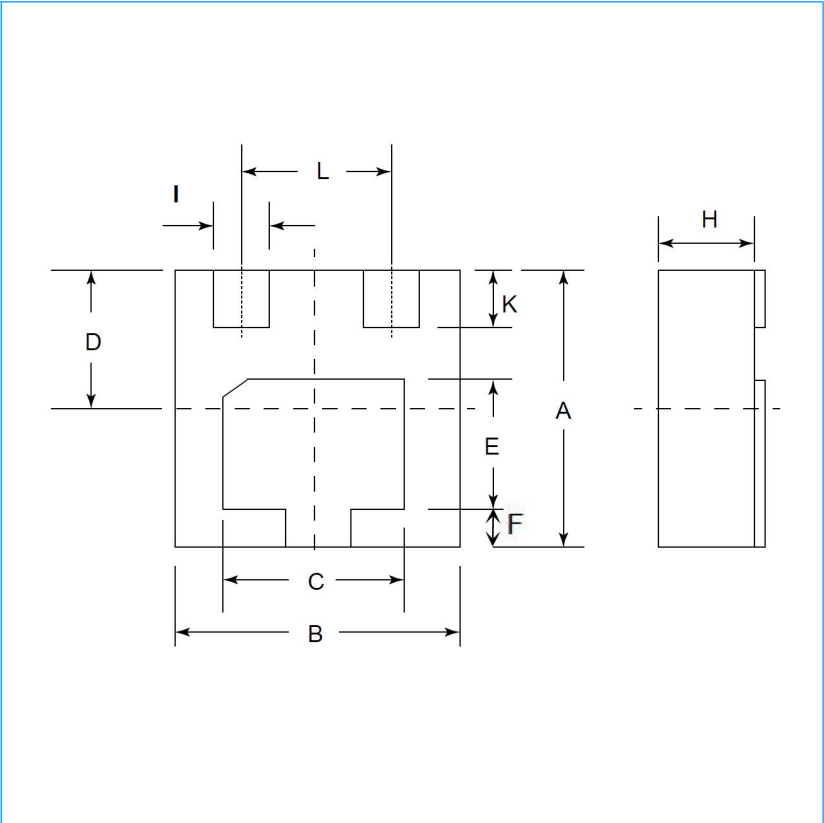
Fig3. 8/20 μ s Pulse Waveform



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DFN2020-3L Package Outline & Dimensions (Unit: mm)



Symbol	Dimensions in Millimeters		
	Min.	Typ.	Max.
A	1.90	2.00	2.10
B	1.90	2.00	2.10
C	1.40	1.50	1.60
D	0.95	1.0	1.05
E	0.95	1.05	1.15
F	0.20	--	0.30
H	--	--	0.60
L	--	1.3	--
I	0.25	0.30	0.35
K	0.35	0.40	0.45