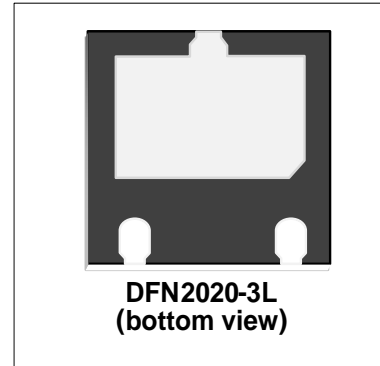


Features

- 4000 Watts Peak Power ($t_p = 8/20\mu s$)
- Fast Response time: Typically $< 1ns$
- Excellent Clamping Capability
- Low Inductance
- Low profile package

IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 150A (8/20 μs)



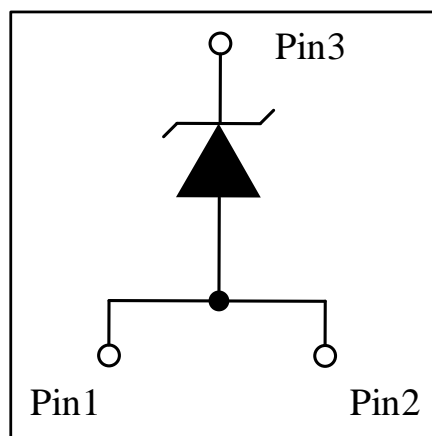
Mechanical Characteristics

- DFN2020-3L package
- Molding compound flammability rating: UL 94V-0
- Marking : Making Code
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant

Applications

- I/O Interfaces
- Power lines
- Automotive and Telecommunication
- Computer & Consumer Electronics
- Industrial Electronics
- Microcontroller Input Protection

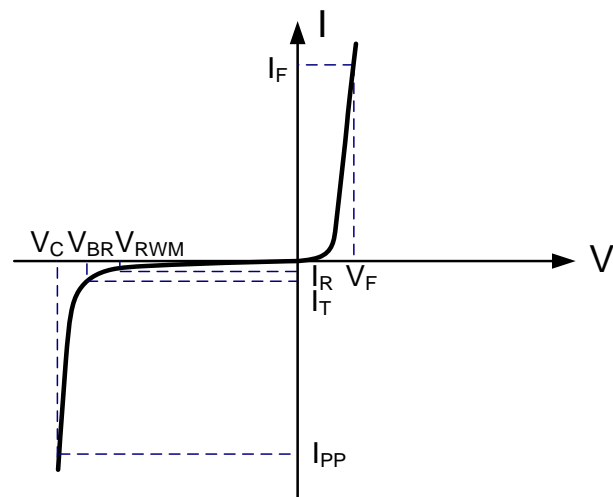
PIN Configuration



Absolute Maximum Rating			
Rating	Symbol	Value	Units
Lead Soldering Temperature	T_L	260(10sec)	$^{\circ}C$
Operating Temperature	T_J	-55 to + 125	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}C$
Peak Pulse Power ($t_p=8/20\mu s$)	P_{PP}	4000	Watts
Peak Pulse Current ($t_p=8/20\mu s$)	I_{PP}	150	A

Electrical Parameters (T=25 $^{\circ}C$)

Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics

MDFN2020A121S						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				12	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	13.4	14		V
Reverse Leakage Current	I_R	$V_{RWM}=12V, T=25^{\circ}C$			500	nA
Peak Pulse Current	I_{PP}	$t_p=8/20\mu s$			150	A
Clamping Voltage ¹	V_C	$I_{PP}=40A, t_p=8/20\mu s$		19	22	V
Clamping Voltage ¹	V_C	$I_{PP}=90A, t_p=8/20\mu s$		23	25	V
Clamping Voltage ¹	V_C	$I_{PP}=150A, t_p=8/20\mu s$		26	27	V
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$		900	1000	pF

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

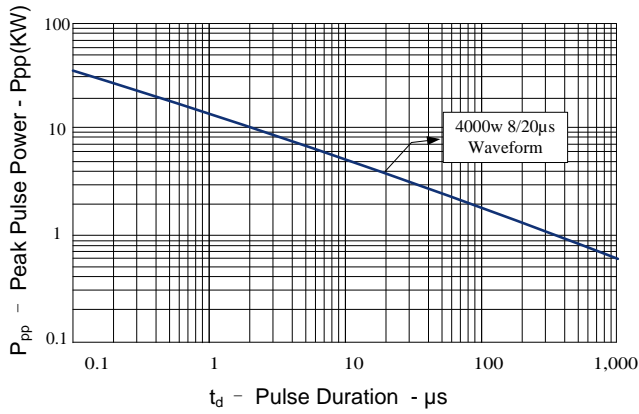


Figure 2: Power Derating Curve

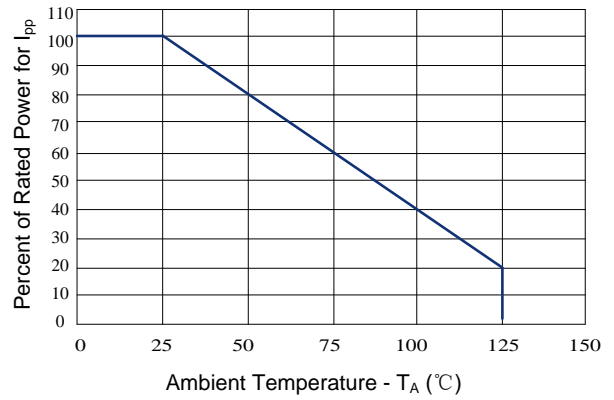


Figure 3: Clamping Voltage vs. Peak Pulse Current

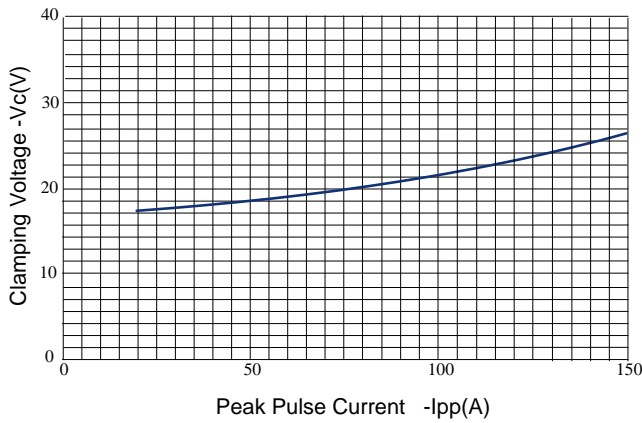


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

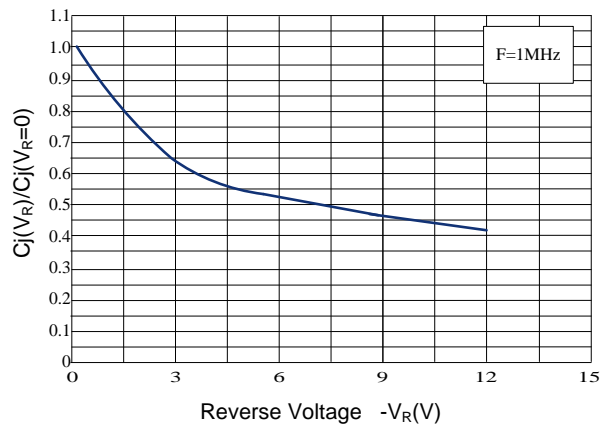
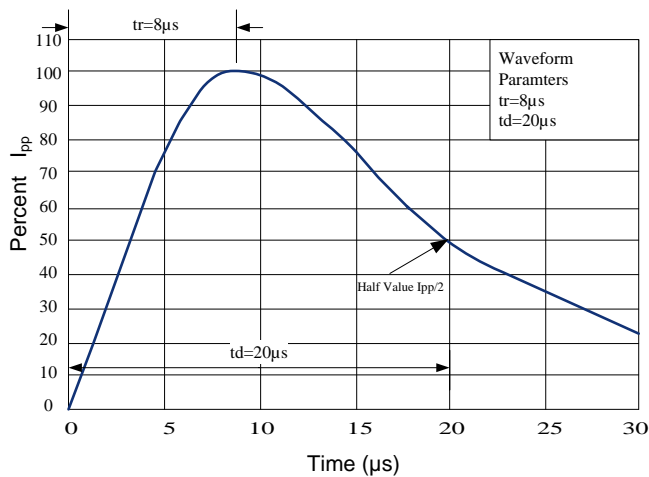
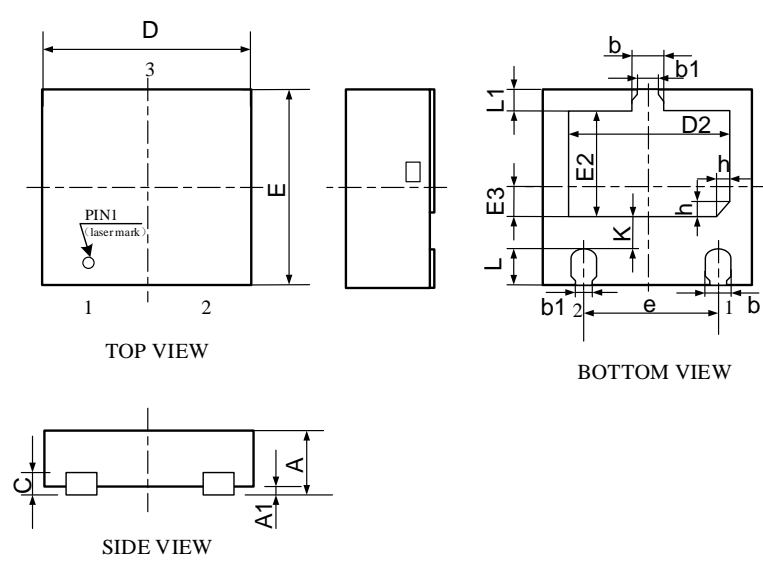


Figure 5: 8/20µs Pulse Waveform



Outline Drawing –DFN2020-3L

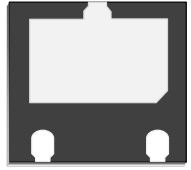
PACKAGE OUTLINE



TOP VIEW

BOTTOM VIEW

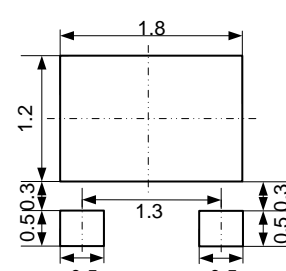
SIDE VIEW



DFN2020-3L

SYMBOL	MILIMETER		
	MIN	NOM	MAX
A	0.5	0.55	0.60
A1	0.00	0.02	0.05
b	0.25	0.30	0.35
b1	0.20REF		
c	0.152REF		
D	1.90	2.00	2.10
D2	1.40	1.50	1.60
e	1.30BSC		
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	0.20REF		
K	0.20	0.30	0.40

Land Pattern



Marking Codes

3

M12A

XXXX

●

M12A=Specific Device Code

XXXX=Lot Code

1
2

Package Information

Qty: 3k/Reel

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