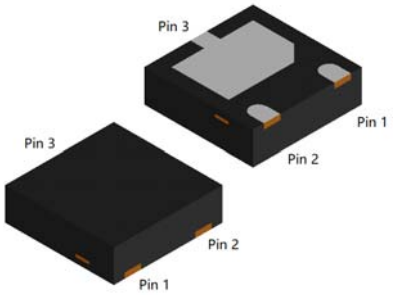
ASF24N

Unidirectional TVS Diode for ESD Protection

Features

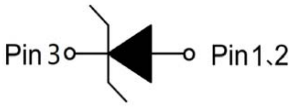
- Stand-off voltage: 24V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±30kV (contact)
  IEC61000-4-2(ESD): ±30kV (air)
  IEC61000-4-5(surge): 200A (8/20μs)
- Low leakage current
- Low clamping voltage
- Low clamping voltage
- RoHS Compliant
- Compliant to Halogen - free



DFN2020-3

Applications

- Power Management
- Industrial Application
- Power Supply Protection



PIN Configuration

Mechanical Data

- Package: DFN2020-3
- Case Material: “Green” Molding Compound
- Marking Information:

6161
24XX
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Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	6400	W
Peak pulse current (t_p = 8/20μs)	I_{PP}	200	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±30	kV
ESD according to IEC61000-4-2 contact discharge		±30	
Junction temperature	T_J	-55~125	°C
Storage temperature	T_{STG}	-55~150	°C

Electrical Characteristics（T_a=25℃ Unless otherwise specified）

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				24
Reverse breakdown voltage	V_{BR}	V	I_{BR} = 1mA	25		
Reverse leakage current	I_R	μA	V_{RWM} = 24V			0.5
Clamping voltage [1)]	V_{CL}	V	I_{PP} = 1A, t_p = 8/20μs			30
		V	I_{PP} = 200A, t_p = 8/20μs			32
Junction capacitance	C_J	pF	V_R = 0V, f = 1MHz			800

Notes:
(1). Non-repetitive current pulse, according to IEC61000-4-5.

Characteristics (Typical)

Fig.1 8/20μs waveform per IEC61000-4-5

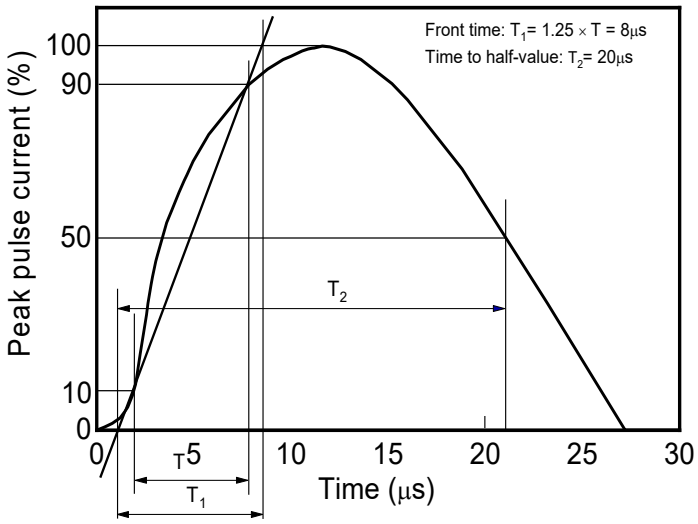


Fig.2 Contact discharge current waveform per IEC61000-4-2

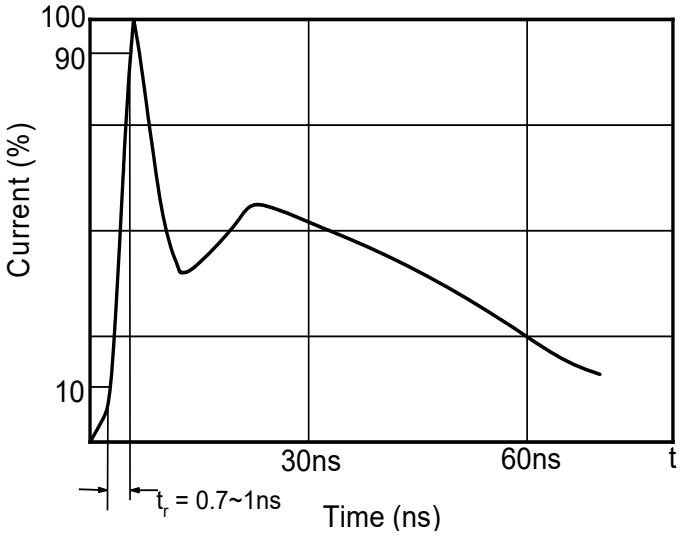


Fig.3 Clamping voltage vs. Peak pulse current

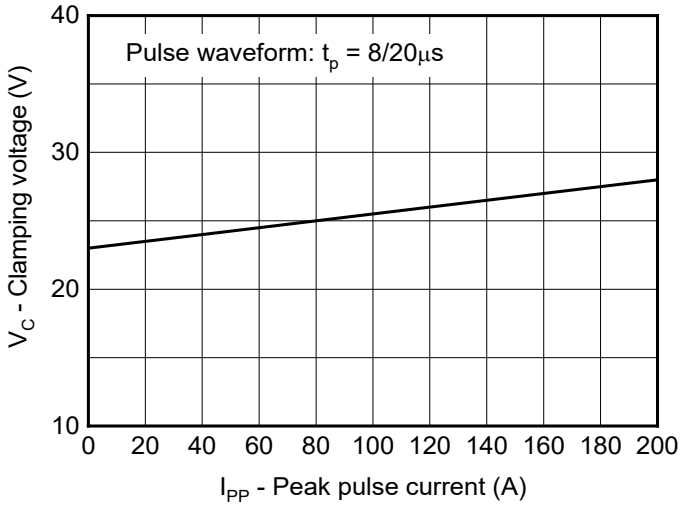


Fig.4 Capacitance vs. Reverse voltage

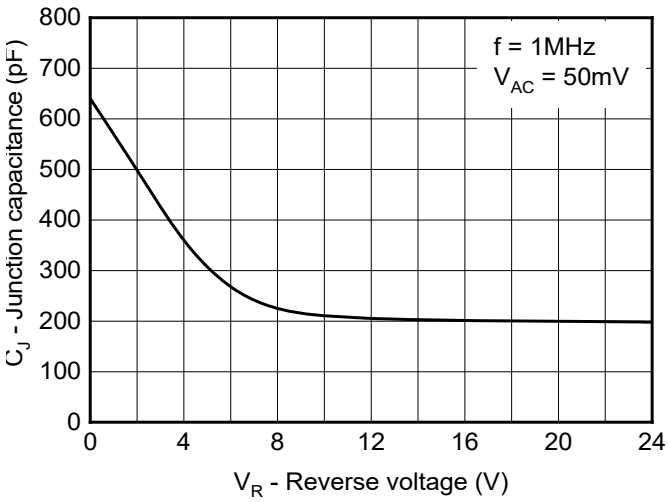


Fig.5 Non-repetitive peak pulse power vs. Pulse time

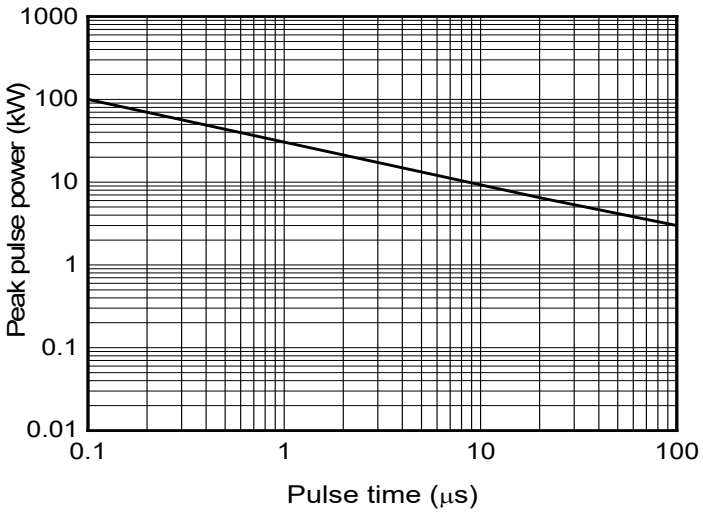
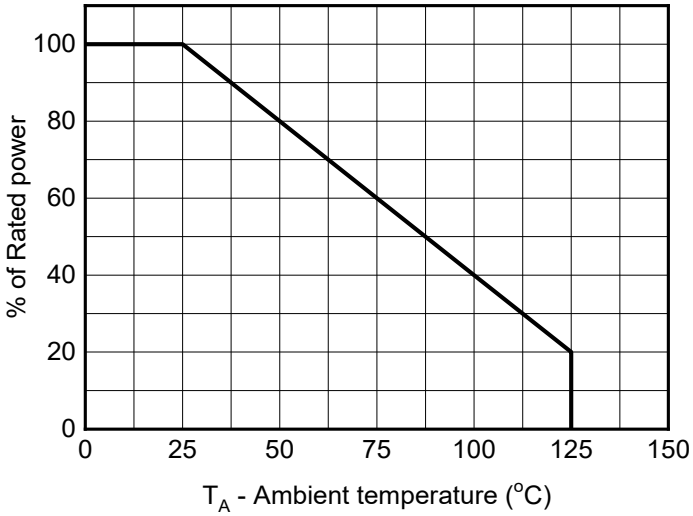


Fig.6 Power derating vs. Ambient temperature



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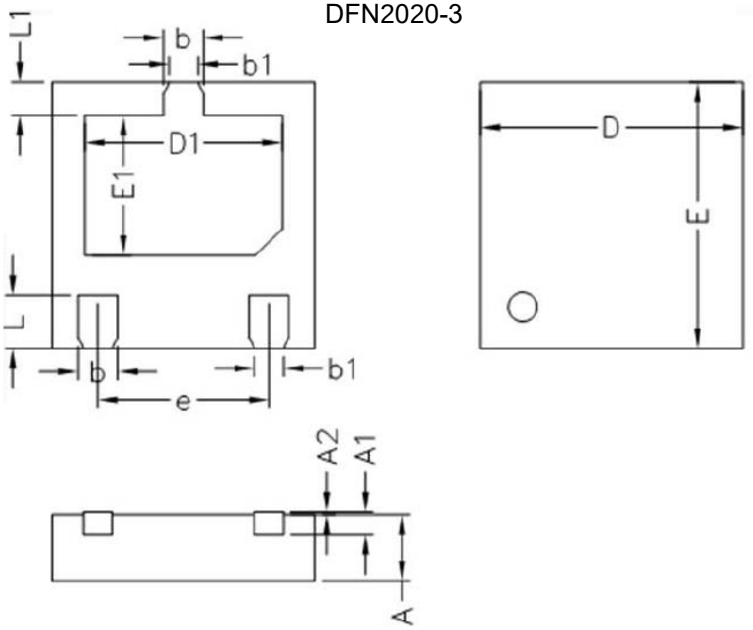
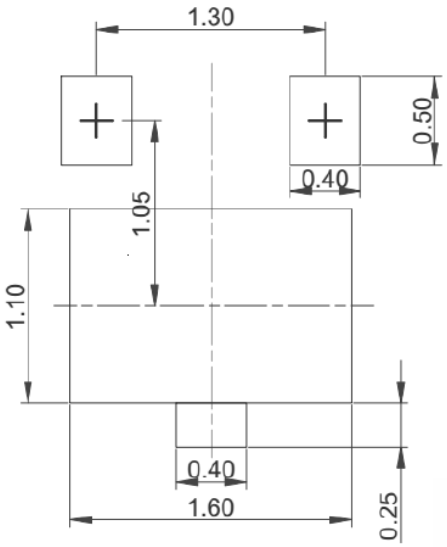
Outline Dimensions

DFN2020-3



SYM	MILLIMETERS		
	MIN	NOM	MAX
A	0.45	0.50	0.60
A1		0.15REF	
A2	0.00	0.02	0.05
b	0.25	0.30	0.35
b1		0.22REF	
D	1.95	2.00	2.05
D1	1.45	1.50	1.55
E	1.95	2.00	2.05
E1	1.00	1.05	1.10
e		1.30BSC	
L	0.35	0.40	0.45
L1	0.20	0.25	0.30

Recommended PCB Layout



Unit：mm

Notes:
This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met