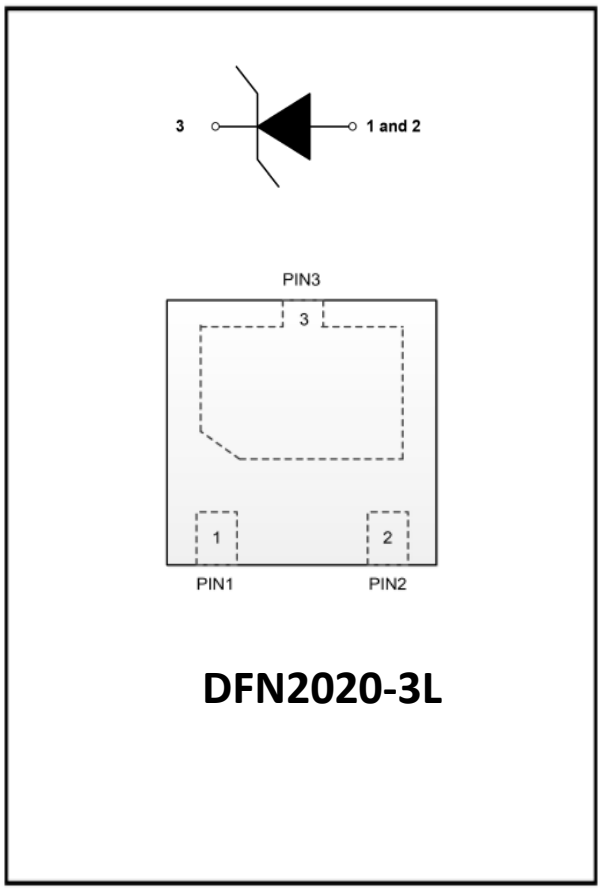
1-Line, Uni-directional, Transient Voltage Suppressor



Features

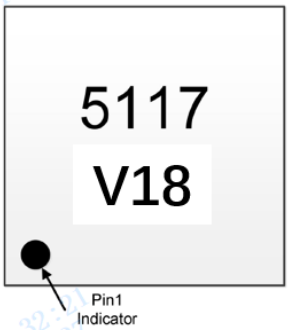
- Ultra small package
  - Stand-off voltage: 12V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±30kV (contact)
  IEC61000-4-5(surge): 200A (8/20μs)
- Low leakage current
- Low clamping voltage
  - RoHS Compliant

Applications

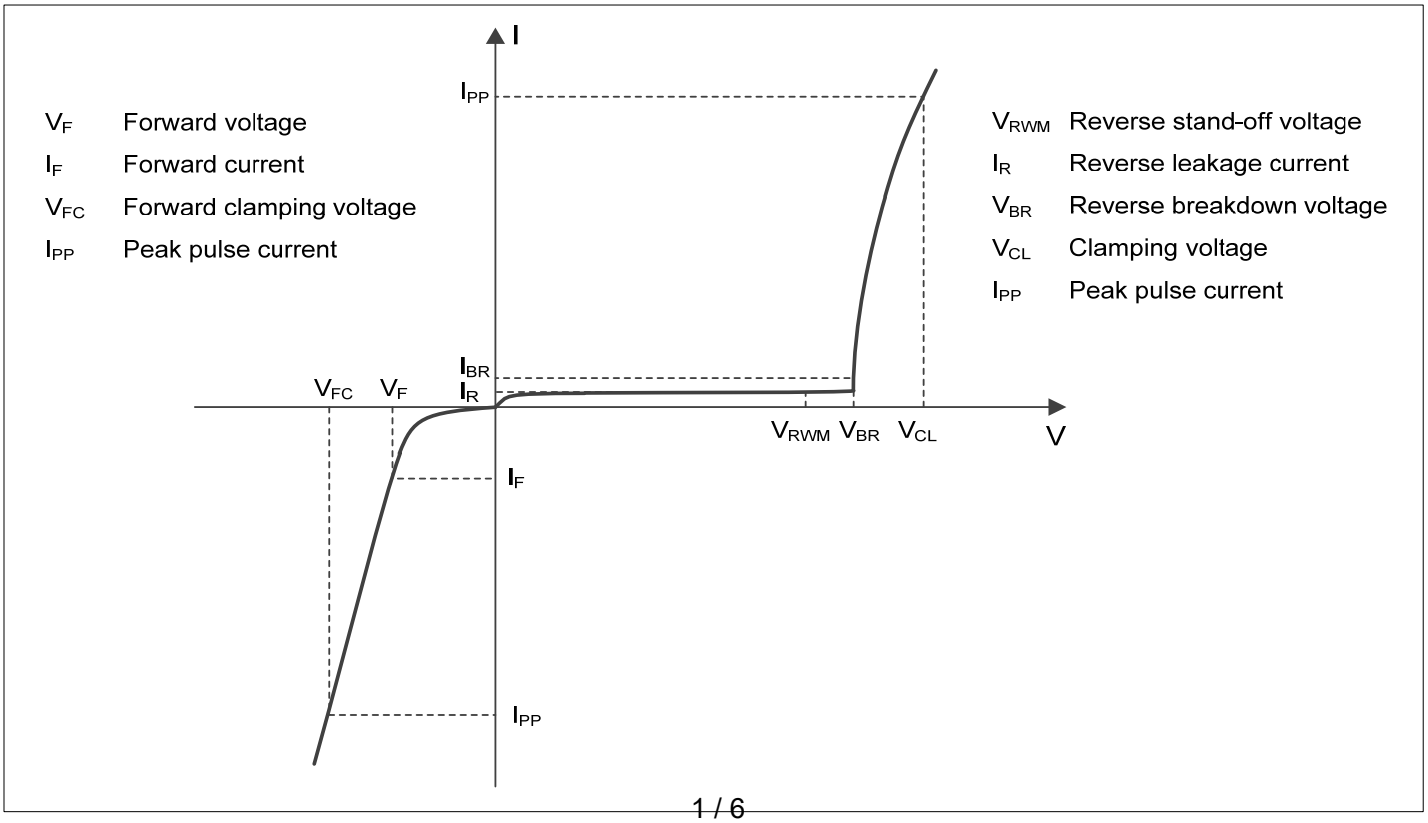
- Power supply protection
- Power management
- Battery Contacts

Mechanical Characteristics

- Package: DFN2020-3L
- Case Material: “Green” Molding Compound.
- Marking Information: See Below



■Definitions of electrical characteristics



■Absolute Maximum Ratings (Ta=25°C unless otherwise specified)

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	5700	W
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±30	KV
ESD according to IEC61000-4-2 contact discharge		±30	KV
Junction temperature	T_J	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				18
Reverse leakage current	I_R	μA	V_{RWM} =18V			1
Reverse breakdown voltage	V_{BR}	V	I_{BR} = 1mA	18		22
Clamping voltage [3]	V_{CL}	V	I_{PP} = 150A, t_p = 8/20μs			38
Junction capacitance	C_J	pF	V_R = 0V, f = 1MHz		1000	1200

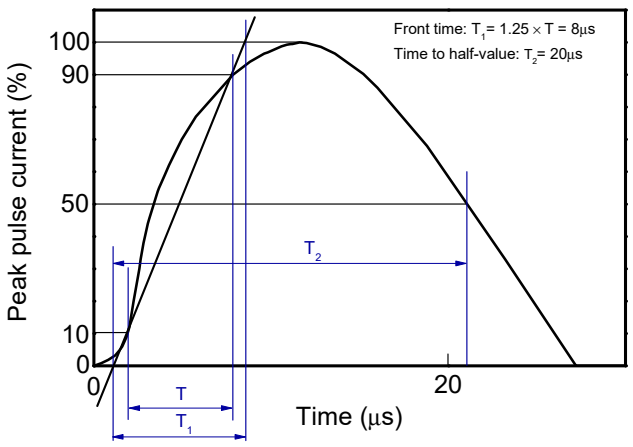
Notes:
1) Non-repetitive current pulse, according to IEC61000-4-5. (8/20μs current waveform)
2) Non-repetitive current pulse, according to IEC61643-321. (10/1000μs current waveform)
3) Measured from pin 3 to pin 1 and pin 2.

■Ordering Information (Example)

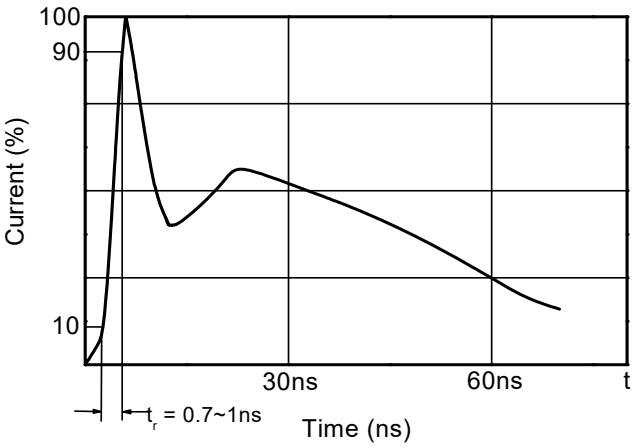
PREFERED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD18VP4A1	F1	Approximate 7	3000	30000	120000	7” reel

■ Typical Performance Characteristics (Ta=25℃ unless otherwise Specified)

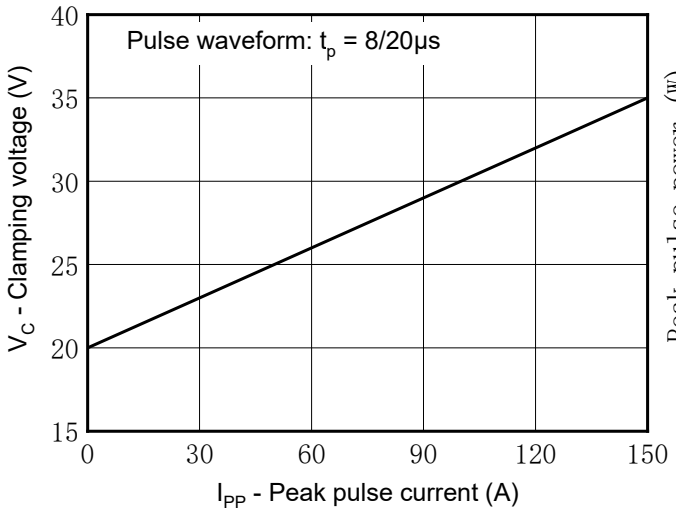
8/20μs waveform per IEC61000-4-5



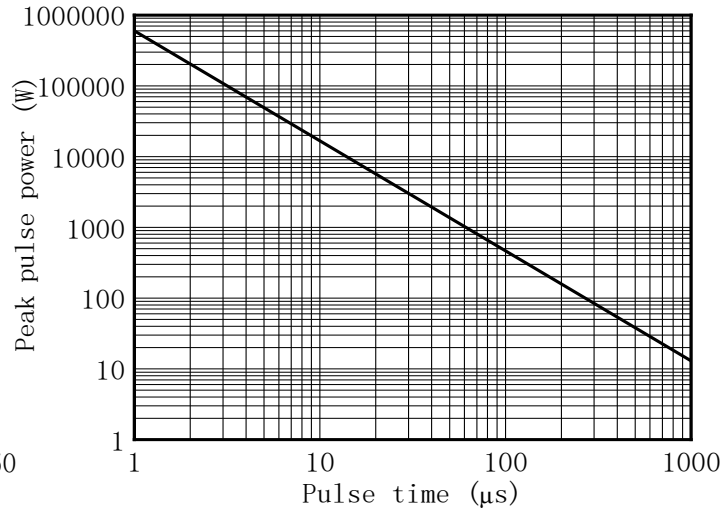
Contact discharge current waveform per IEC61000-4-2



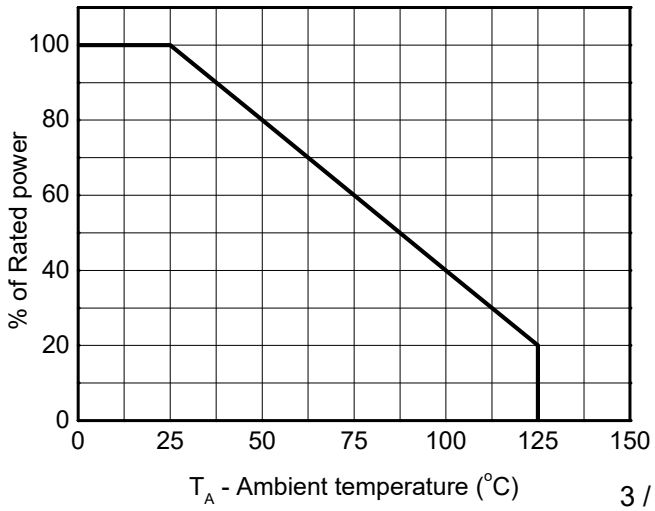
Clamping voltage vs. Peak pulse current



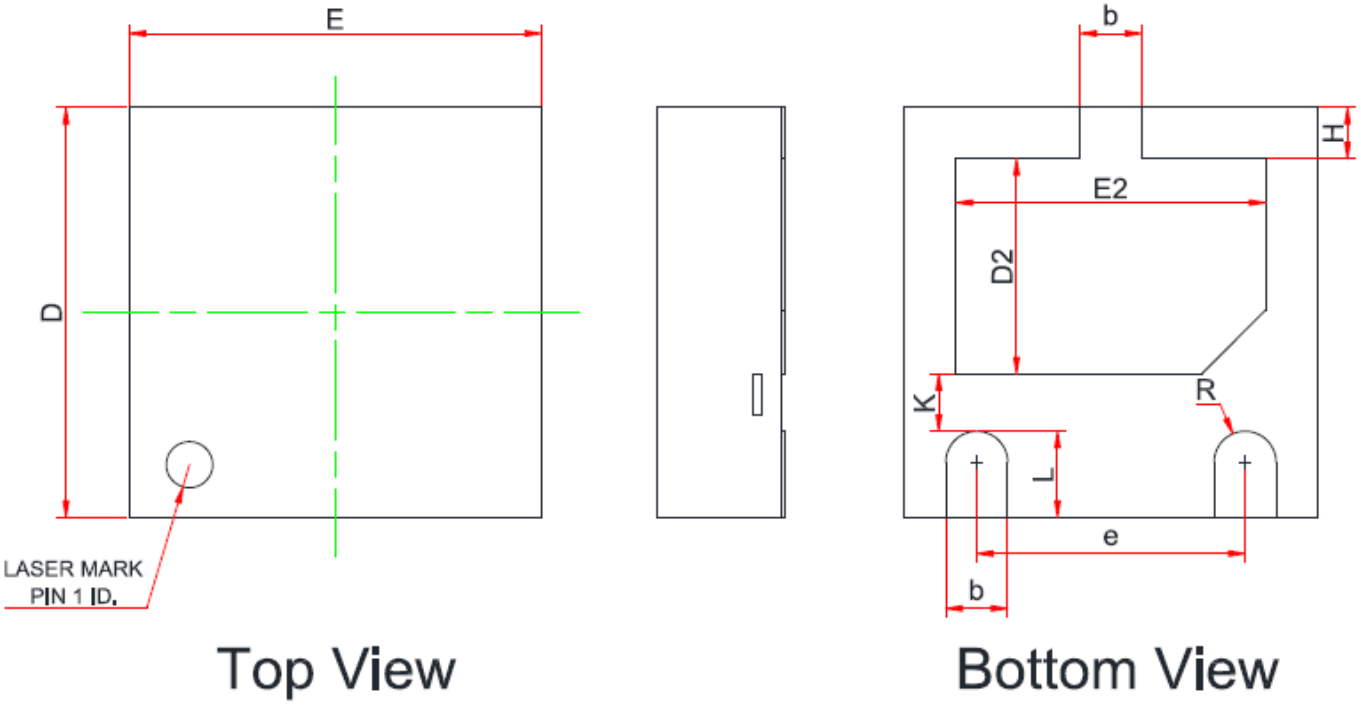
Non-repetitive peak pulse power vs. Pulse time



Power derating vs. Ambient temperature

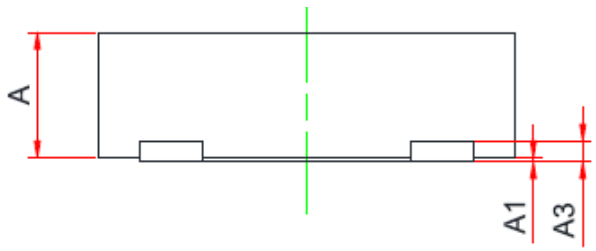


■ Outline Dimensions



Top View

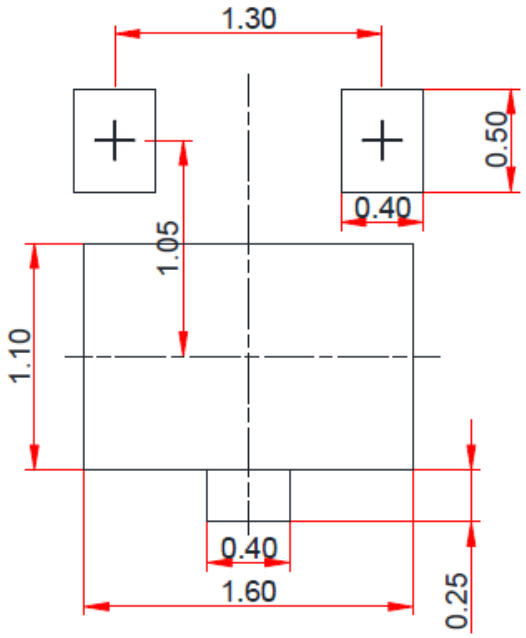
Bottom View



Side View

Symbol	Dimensions In Millimeters		
	Min.	Typ.	Max.
A	0.50	0.60	0.65
A1	0.00	0.02	0.05
A3	0.15 REF.		
b	0.25	0.30	0.35
D	1.90	2.00	2.10
E	1.90	2.00	2.10
D2	0.95	1.05	1.15
E2	1.40	1.50	1.60
e	1.20	1.30	1.40
H	0.20	0.25	0.30
K	0.20	0.30	0.40
L	0.35	0.40	0.45
R	0.13	-	-

■ Recommend land pattern



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

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