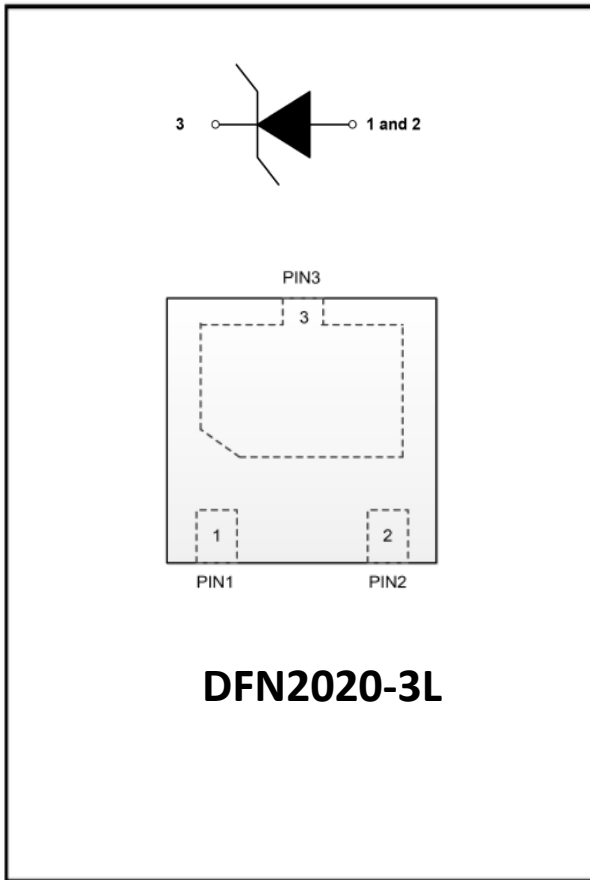


1-Line, Uni-directional, Transient Voltage Suppressor



Features

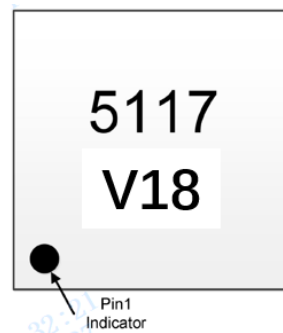
- Ultra small package
- Stand-off voltage: 12V Max
- Transient protection for each line according to
IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact)
IEC61000-4-5(surge): 200A (8/20 μs)
- Low leakage current
- Low clamping voltage
- Compliant

Applications

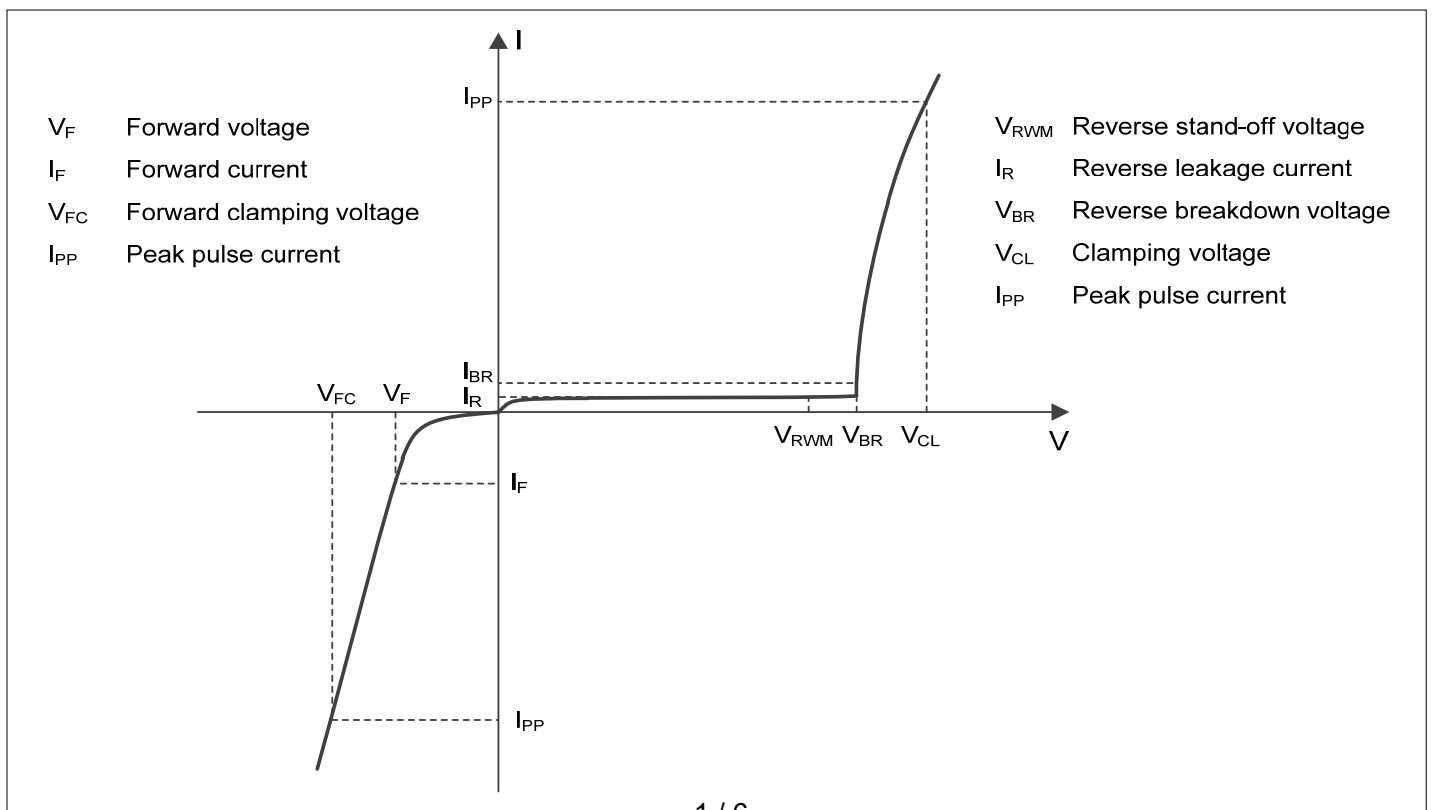
- Power supply protection
- Power management
- Battery Contacts

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 ($t_p = 8/20\mu s$)	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 (Ta=25°C 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	$I_{PP} = 150A, t_p = 8/20\mu s$			38
Junction capacitance	C_J	pF	$V_R = 0V, f = 1MHz$		1000	1200

Notes:

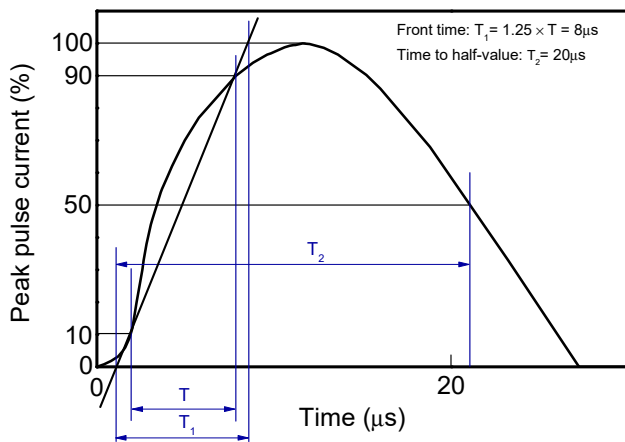
- 1) Non-repetitive current pulse, according to IEC61000-4-5. (8/20 μs current waveform)
- 2) Non-repetitive current pulse, according to IEC61643-321. (10/1000 μs current waveform)
- 3) Measured from pin 3 to pin 1 and pin 2.

■Ordering Information (Example)

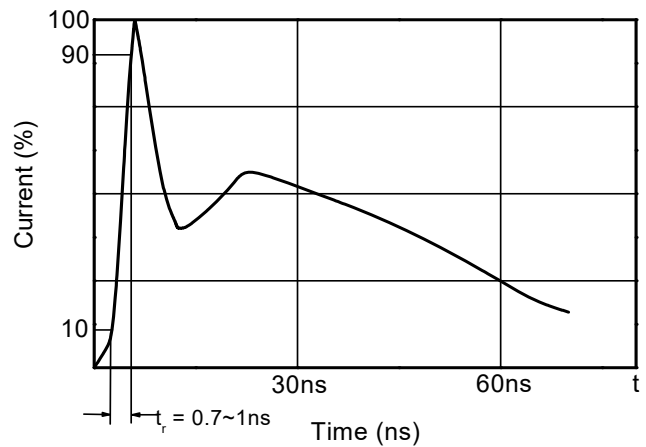
PREFERED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD18VP4A1	F1	Approximate 7	3000	30000	120000	7" reel

■ Typical Performance Characteristics ($T_a=25^\circ\text{C}$ unless otherwise Specified)

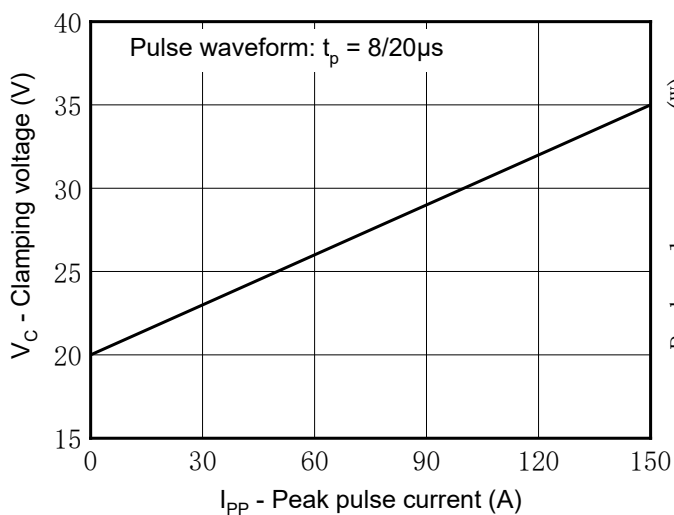
8/20 μs waveform per IEC61000-4-5



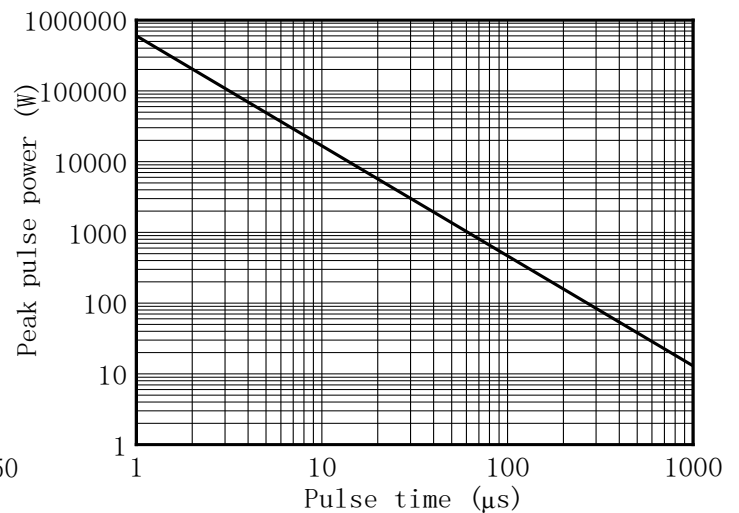
Contact discharge current waveform per IEC61000-4-2



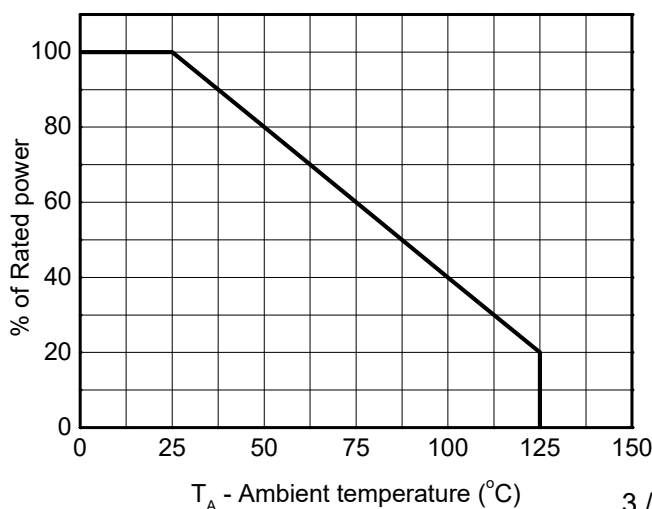
Clamping voltage vs. Peak pulse current



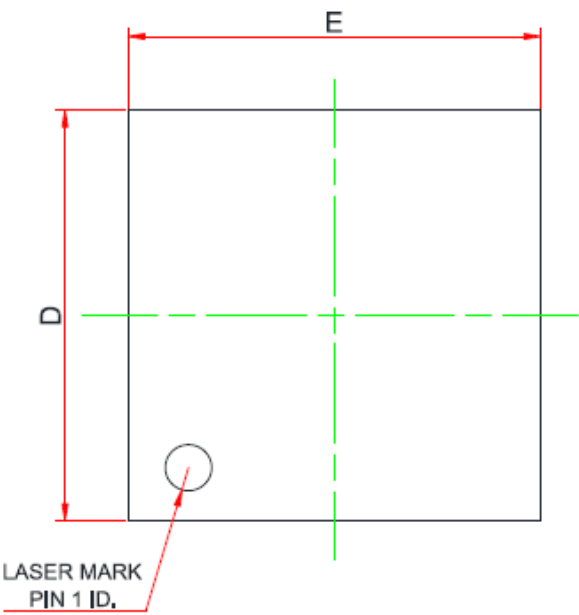
Non-repetitive peak pulse power vs. Pulse time



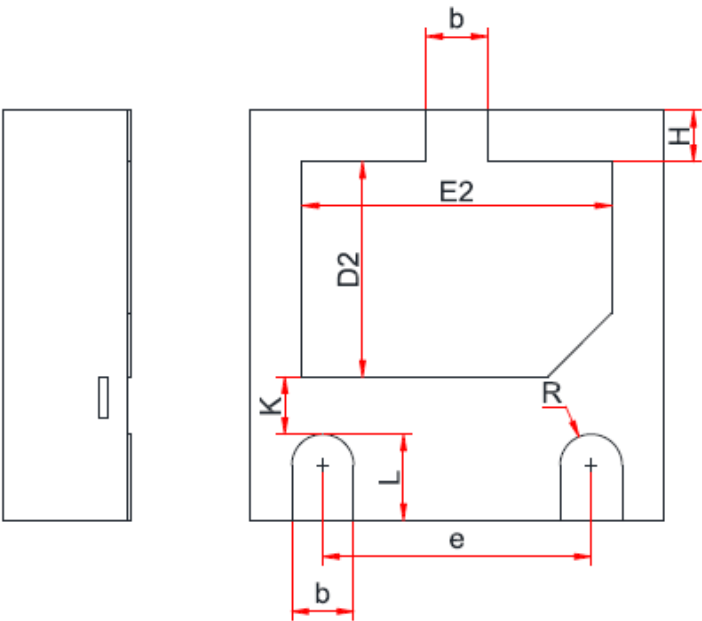
Power derating vs. Ambient temperature



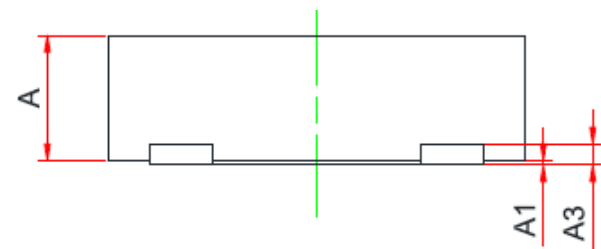
■ Outline Dimensions



Top View



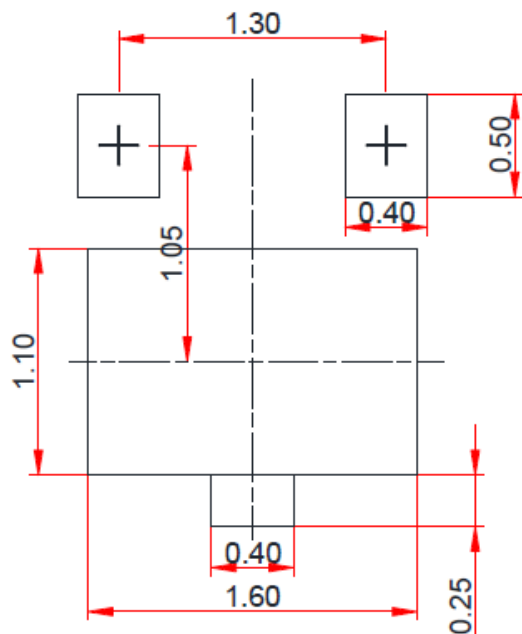
Bottom View



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

Disclaimer

The information presented in this document is for reference only. Shanghai Sunco Electronics Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Russiansunco or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.russiansunco.com](http://www.russiansunco.com) , or consult your nearest Russiansunco's sales office for further assistance.