

# ESD2020HC18VU

## ESD2020HC18VU Transient Voltage Suppressors ESD Protection Diode

### General description

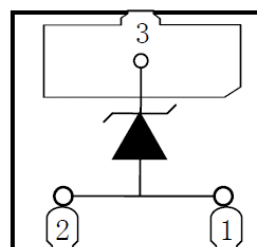
Silicon Protection Diode in a DFN2020-3L Package.

### FEATURES

- 4500 Watt peak pulse power ( $t/p=8/20$ )
- DFN2020-3L Package
- Bidirectional configurations
- Low Leakage Current
- Low clamping voltage
- Capacitance Typ. 950pF
- Protection one data line / Power Line to :
- IEC 61000-4-2  $\pm 30\text{Kv}$  Contact  $\pm 30\text{Kv}$  air.
- IEC 61000-4-4 EFT 40A(5/50nS)
- IEC 61000-4-5 Lightning 140A(8/20uS)
- RoHS Compliant , Halogen Free
- Lead Free
- UL94-V0



DFN2020-3L Package



### Absolute Maximum Ratings ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
P <sub>pp</sub>	Peak pulse power	4500	W
T <sub>stg</sub>	Storage Temperature Range	-55 to +150	°C
T <sub>J</sub>	Junction Temperature	-55 to +125	°C
ESD	IEC61000-4-2 Air Discharge Contact Discharge	$\pm 30$ $\pm 30$	KV
EFT	IEC61000-4-4	40	A
Lightning	IEC61000-4-5	140	A

### Device Marking:

Device Type	Marking
ESD2020HC12VU	T18 or 018

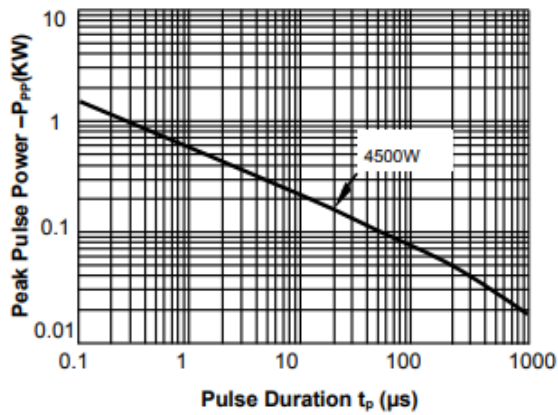
### Electrical Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	V <sub>RWM</sub>				18	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> =1mA	19.0			V
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> =18V			1	uA
Clamping Voltage (IEC 61000-4-5)	V <sub>C</sub>	I <sub>PP</sub> =30A			25	V
Clamping Voltage (IEC 61000-4-5)	V <sub>C</sub>	I <sub>PP</sub> =100A			29	V
Clamping Voltage (IEC 61000-4-5)	V <sub>C</sub>	I <sub>PP</sub> =140A			33	V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V, f=1MHz		900		pF

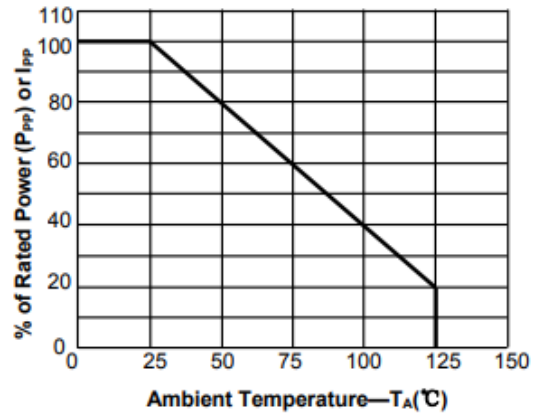
# ESD2020HC18VU

**Typical Characteristics** ( $T_{amb} = 25^{\circ}\text{C}$  unless otherwise specified)

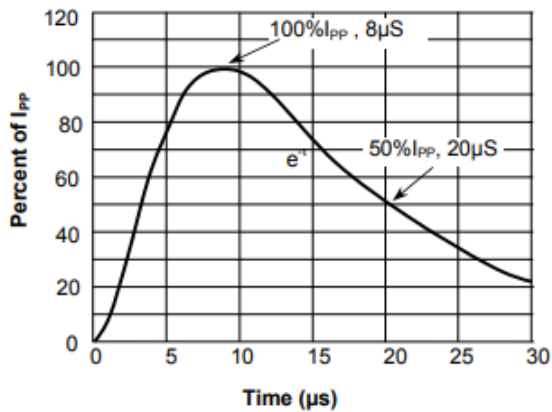
**Fig.1 Peak Pulse Power Rating Curve**



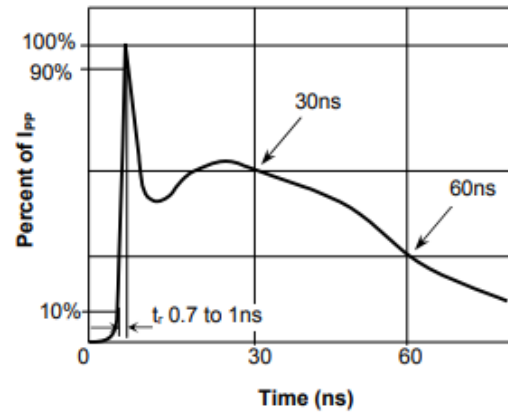
**Fig.2 Pulse Derating Curve**



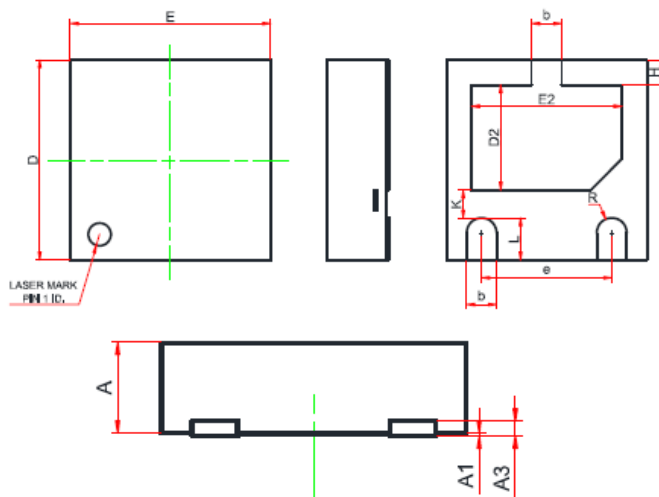
**Fig.3 Pulse Waveform-8/20μs**



**Fig.4 Pulse Waveform-ESD(IEC61000-4-2)**

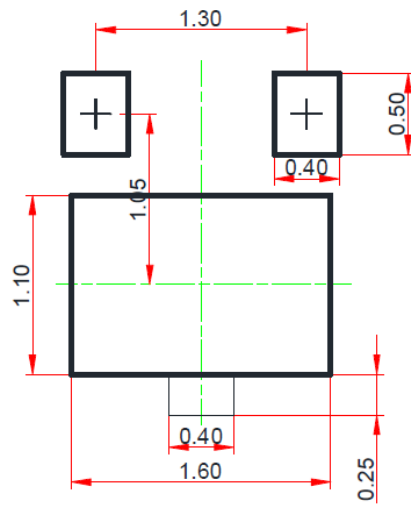


## DFN2020-3L Package Outline Package Dimensions



Symbol	Dimensions In Millimeters		
	Min.	Typ.	Max.
A	0.51	0.55	0.60
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	0.85	1.00	1.10
E2	1.35	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	0.15	-	-

## PAD Dimensions



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