1. Description

The SENC3D30V1U is a Transient Voltage Suppressor that designed to protect components which are connected to data and transmission lines against electrostatic discharge (ESD), electrical fast Transients (EFT), and lightning. All pins are rated to withstand 30kV ESD pulses using the IEC61000-4-2 air discharge method.

2. Features

- IEC 61000-4-2 Level 4 ESD Protection
  - ±30kV Contact Discharge
  - ±30kV Air Discharge
- 350W Peak pulse Power (8/20us)
- Low clamping voltage
- Working voltage: 30V
- Low leakage current
- RoHS compliant
- Protecting one uni-directional line

3. Applications

- Portable electronics
- Control & monitoring systems
- Servers, notebooks, and desktop PCs
- Set-top box
- Communication systems
- Peripherals

4. Ordering Information

Part Number	Package	Marking	Material	Packing	Quantity per reel	Flammability Rating	Reel Size
SENC3D30V1U	SOD-323	|30W	Halogen free	Tape & Reel	3,000 PCS	UL 94V-0	7 inches

Table-1 Ordering information

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5. Pin Configuration and Functions

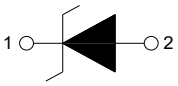
Pin	Name	Description	Outline	Circuit Diagram
1	IO	Connect to IO		
2	GND	Connect to GND		

Table-2 Pin configuration

6. Specification

6.1. Absolute Maximum rating

Over operating free-air temperature range (unless otherwise noted)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20us)@25℃	P_{pk}	-	350	W
Peak pulse current (tp=8/20us)@25℃	I_{PP}		7	A
ESD (IEC61000-4-2 air discharge) @25℃	V_{ESD}	-	±30	kV
ESD (IEC61000-4-2 contact discharge) @25℃	V_{ESD}	-	±30	kV
Operating temperature	T_{OP}	-40	125	℃
Storage temperature	T_{STG}	-55	150	℃
Lead temperature	T_L	-	260	℃

Table-3 Absolute Maximum rating

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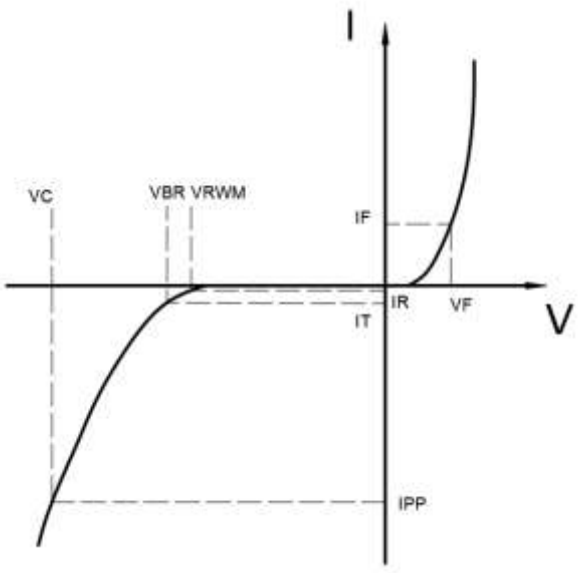
6.2. Electrical Characteristics

At TA = 25℃ unless otherwise noted

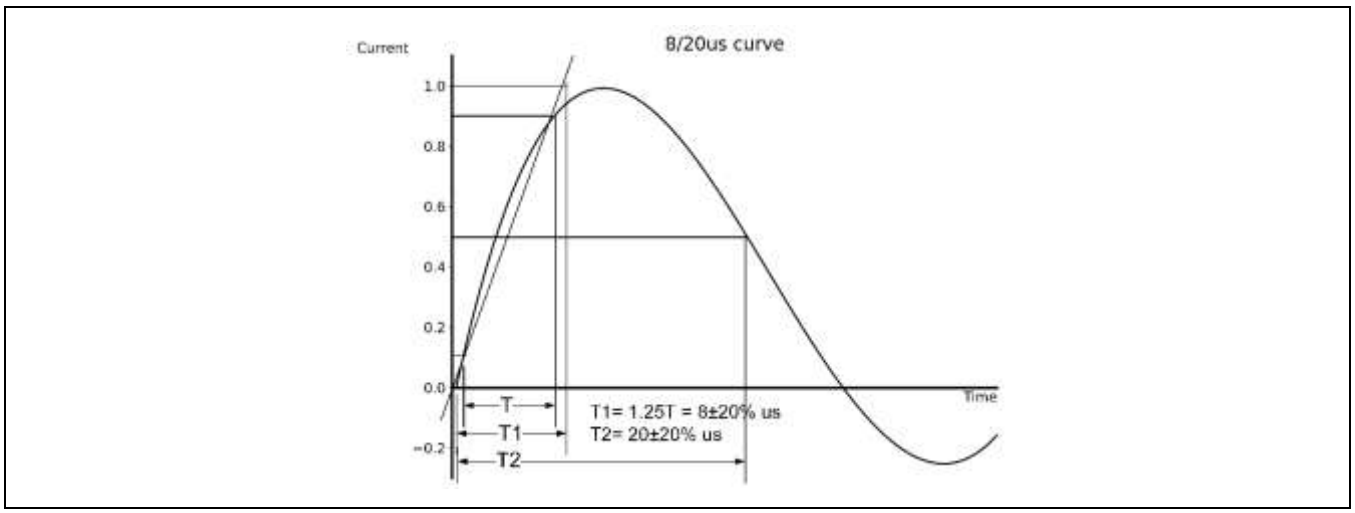
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				30	V
Reverse Breakdown Voltage	V_{BR}	IT=1mA	31	32.5	36	V
Reverse Leakage Current	I_R	V_{RWM}=30V			0.1	uA
Clamping Voltage	V_C	I_{PP}=1A; tp=8/20us		33	35	V
Clamping Voltage	V_C	I_{PP}=7A; tp=8/20us		43	50	V
Junction Capacitance	C_J	I/O to GND; VR=0V; f=1MHz		35	50	pF

Table-4 Electrical Characteristics

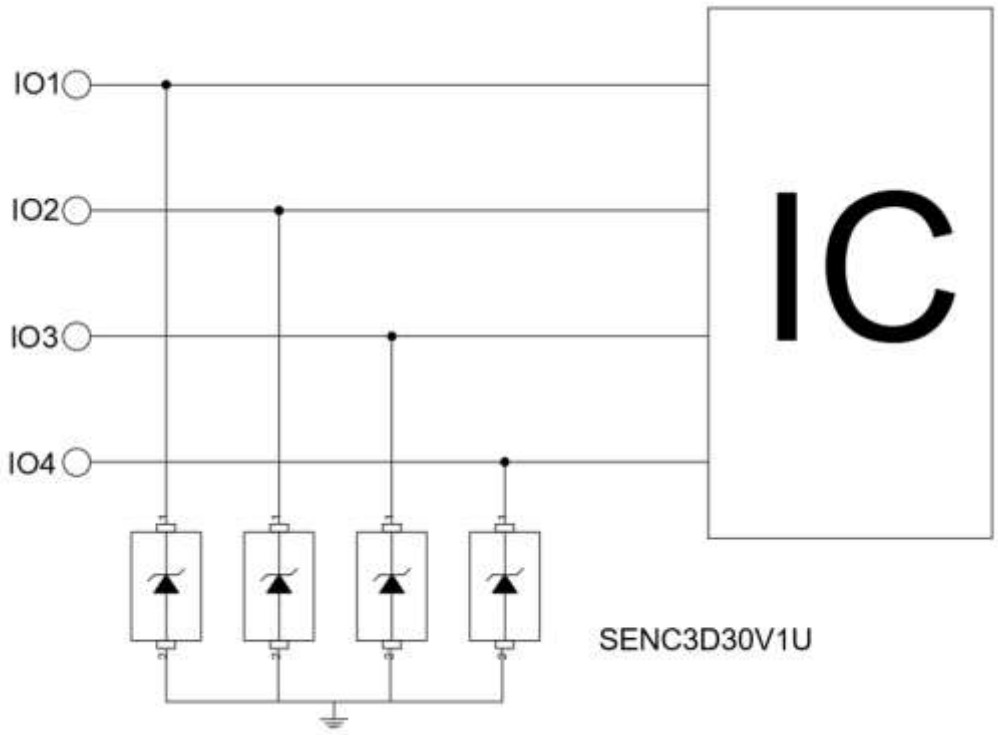
Symbol	Parameters
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
I_F	Forward Current
V_F	Forward Voltage @ I_F



7. Typical Characteristic



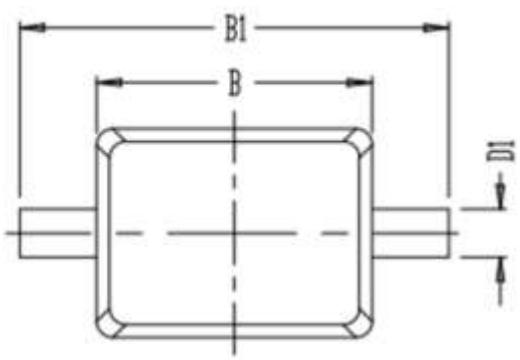
8. Typical Application



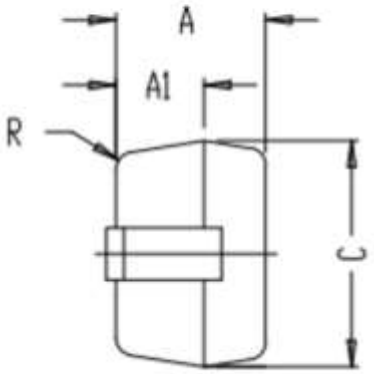
Typical Interface Application

9. Dimension (SOD-323)

POD

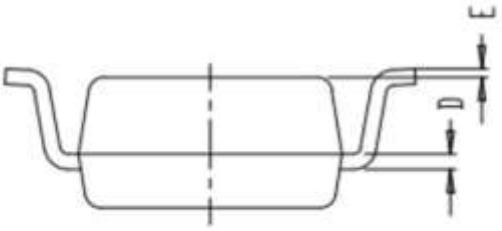


TOP VIEW



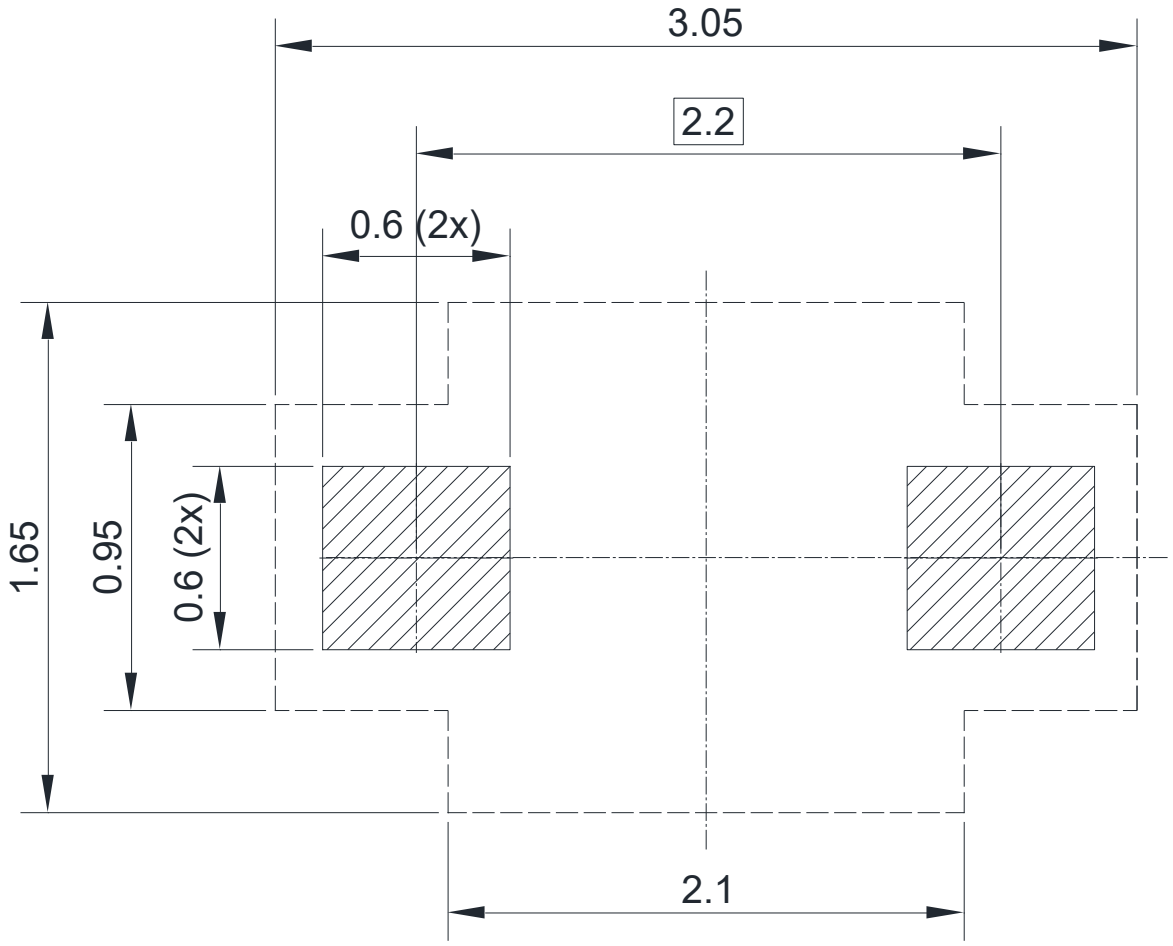
SIDE VIEW

SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	Min	Typ	Max	Min	Typ	Max
A	0.70	0.80	0.90	0.0276	0.0315	0.0354
A1	0.45	0.50	0.55	0.0177	0.0197	0.0217
B	1.65	1.70	1.75	0.0650	0.0669	0.0689
B1	2.55	2.65	2.75	0.1004	0.1043	0.1083
C	1.25	1.30	1.35	0.0492	0.0512	0.0531
D	0.10	0.11	0.12	0.0039	0.0043	0.0047
D1	0.28	0.30	0.32	0.0110	0.0118	0.0126
E	-	-	0.10	-	-	0.0039
R	0.02	-	0.05	0.0008	-	0.0020



SIDE VIEW

10. Recommended Soldering Footprint



DIMENSIONS: MILLIMETERS

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