



PROTECTION PRODUCTS

Description

The ESD3D14VB1S501J 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.

Feature

- 500W peak pulse power ($t_p=8/20\mu s$)
- Low clamping voltage
- Protects one bidirectional or two unidirectional lines
- Working voltage: 14V
- Low leakage current
- RoHS compliant
- Transient protection for high speed data Lines to IEC61000-4-2(ESD) $\pm 30kV$ (air), $\pm 30kV$ (Contact)

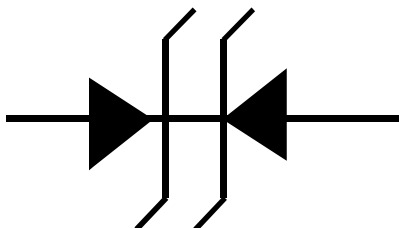
Ordering Information

- Package : SOD-323
- Material : Halogen free
- Packing : Tape & Reel
- Quantity per reel : 3,000 PCS
- Flammability Rating : UL94V-0
- Reel size : 7 inch

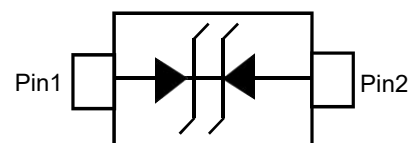
Applications

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

Circuit Diagram



Schematic & Pin Configuration





PROTECTION PRODUCTS

Ordering Information per line@25°C (unless otherwise specified)

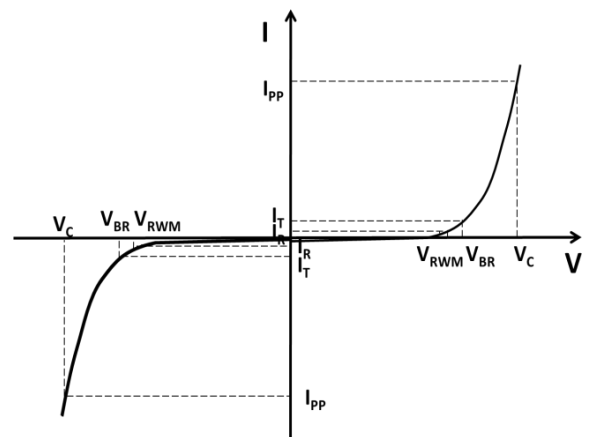
Parameter	Symbol	Rating	Unit
Peak pulse power (tp = 8/20µs)	P _{pk}	500	W
ESD according to IEC61000-4-2 air discharge	V _{ESD}	±30	kV
ESD according to IEC61000-4-2 contact discharge		±30	
Junction temperature	T _J	125	°C
Operating temperature	T _{OP}	-40~85	°C
Lead temperature	T _L	260	°C
Storage temperature	T _{STG}	-55~150	°C

Electrical Characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V _{RWM}				14	V
Reverse Breakdown Voltage	V _{BR}	I _T =1mA	15	16		V
Reverse Leakage Current	I _R	V _{RWM} =14V			0.1	uA
Clamping Voltage	V _C	I _{PP} =1A tp=8/20us			20	V
Clamping Voltage	V _C	I _{PP} =25A tp=8/20us			35	V
Junction Capacitance	C _J	V _R =0V, f = 1MHz		70		pF

Electronics Parameter

Symbol	Parameter
V _{RWM}	Peak Reverse Working Voltage
I _R	Reverse Leakage Current @ V _{RWM}
V _{BR}	Breakdown Voltage @ I _T
I _T	
I _{PP}	Maximum Reverse Peak Pulse Current
V _C	Clamping Voltage @ I _{PP}
P _{PP}	Peak Pulse Power
C _J	Junction Capacitance
I _F	Forward Current
V _F	Forward Voltage @ I _F





Typical Characteristics

Fig 1. 8/20 ms pulse waveform according to IEC 61000-4-5

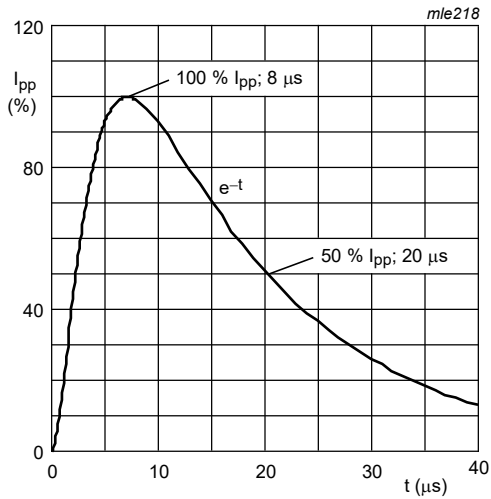
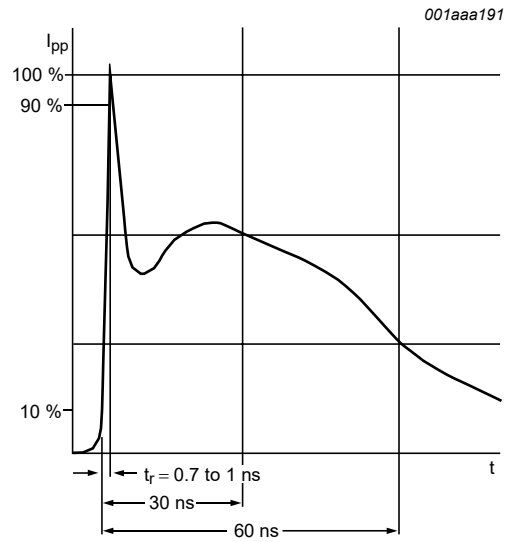
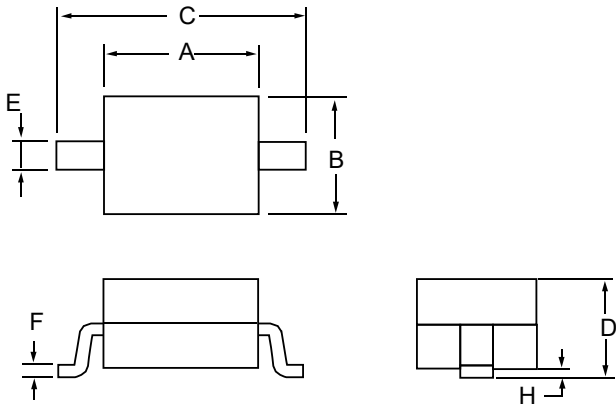


Fig 2. ElectroStatic Discharge (ESD) pulse waveform according to IEC 61000-4-2



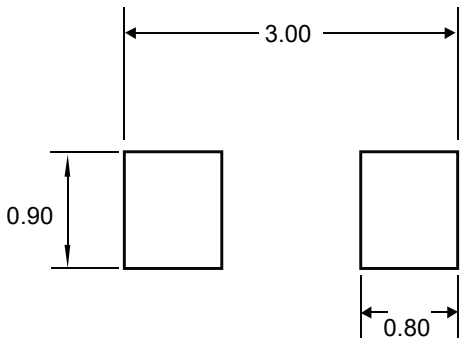


Product dimension(SOD323)

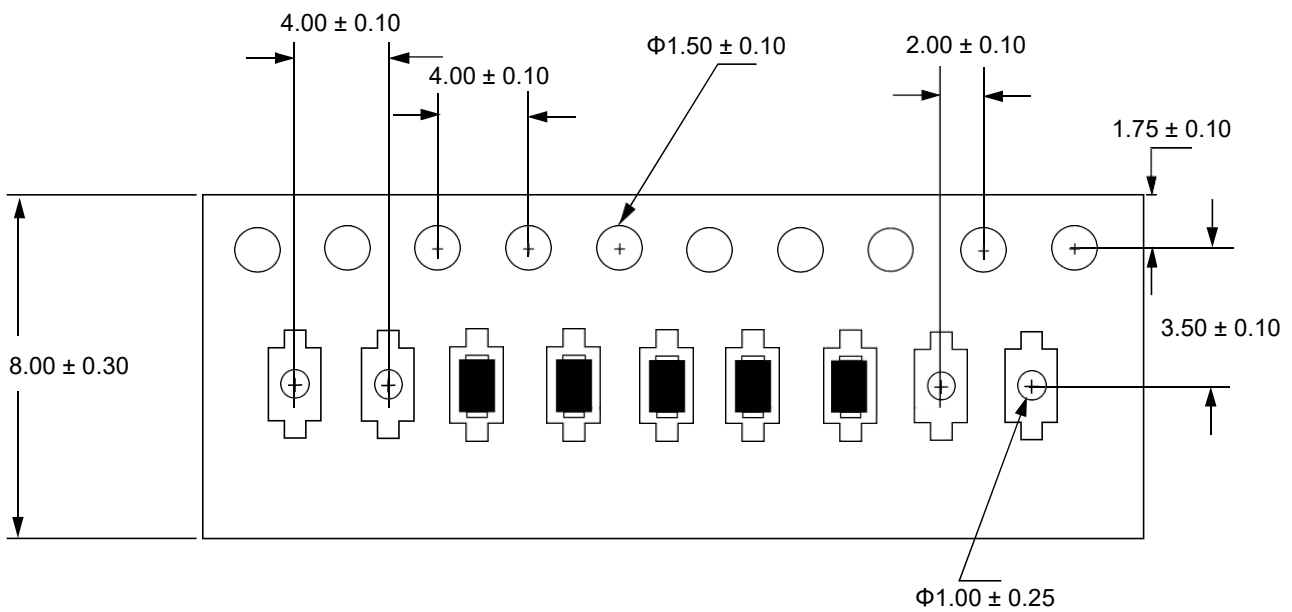
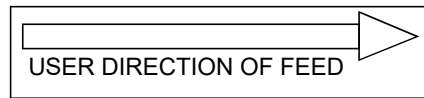


Dim	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.063	0.075	1.60	1.90
B	0.045	0.057	1.15	1.45
C	0.090	0.106	2.30	2.70
D	0.031	0.043	0.80	1.10
E	0.010	0.01	0.25	0.40
F	0.004	0.007	0.09	0.18
H	0.000	0.004	0.00	0.10

Suggested PCB Layout



Unit:mm



Unit: mm



NOTICE

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