



ESD3Z3V3BU

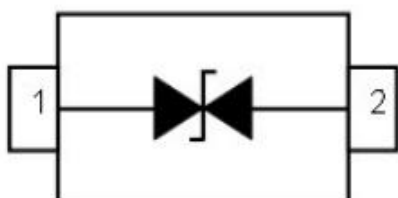
Description

ESD3Z3V3BU is an ultra low-capacitance Transient Voltage Suppressor(TVS) designed to provide electrostatic discharge(ESD) protection for high-speed Data interfaces. With typical capacitance of 0.3pF, ESD3Z3V3BU is designed to protect parasitic-sensitive systems against over-voltage and over-current transient events. It complies with IEC 61000-4-2(ESD), Level 4 ($\pm 15\text{kV}$ air, $\pm 8\text{kV}$ contact discharge), IEC 61000-4-4 (electrical fast transient - FET)(40A, 5/50ns), very fast Charged device model(CDM), etc. ESD3Z3V3BU uses ultra-small SOD-323 package. Each ESD3Z3V3BU Device can protect one high-speed data line. It offers system designers flexibility to protect single data line Where space is a premium concern. The combined Features of low capacitance, ultra-small size and high ESD robustness make ESD3Z3V3BU ideal for high-speed data port and high-frequency line applications, Such as cellular phones and HD visual devices.

Ordering Information

- Device:ESD3Z3V3BU
- Package:SOD-323
- Marking:3BU
- Material:Halogen free
- Packing:Tape & Reel
- Quantity per reel:3000pcs

PIN CONFIGURATION



Features

- Transient protection for high-speed data lines
- IEC61000-4-2(ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- IEC61000-4-4(EFT)40A(5/50ns)
- Cable Discharge Event(CDE)
- Ultra-small package
- Protects one data, control line
- Low capacitance:0.3pF(Typical)
- Low leakage current
- Low clamping voltage

Mechanical Data

- SOD-323 package
- Flammability Rating:UL 94V-0
- Packaging:Tape and Reel
- High temperature soldering guaranteed: $260^{\circ}\text{C}/10\text{s}$
- Reel size:7 inch

Applications

- 10/100M Ethernet Ports
- WAN/LAN Equipment
- Desktops, Servers and Notebooks
- Cellular Phones
- Switching Systems
- Audio/Video Input

PACKAGE OUTLINE





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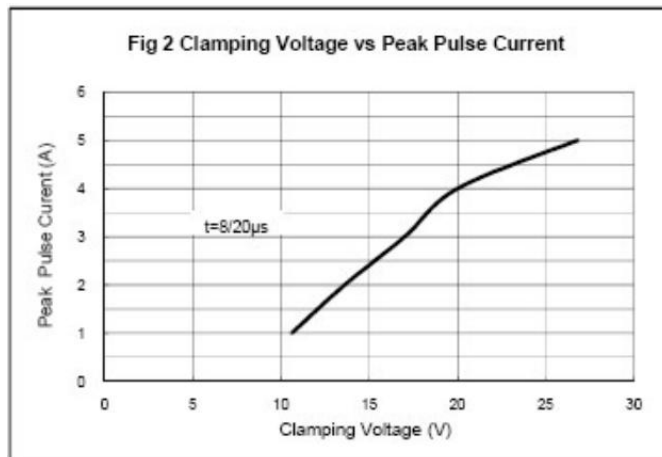
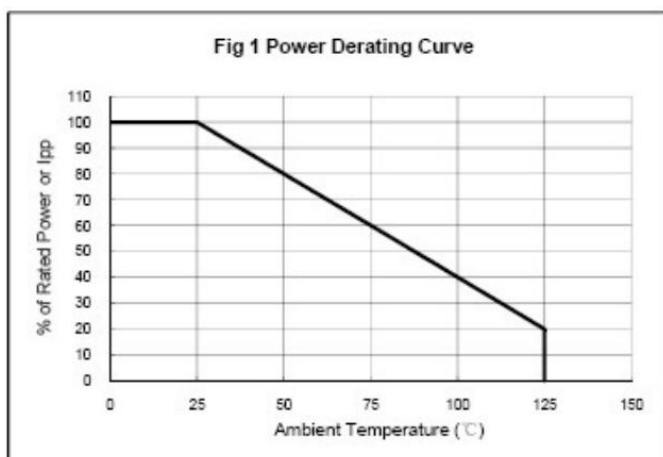
Absolute Maximum Rating

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2(Air)	V_{ESD}	± 20	kV
ESD per IEC 61000-4-2(Contact)		± 20	
Peak Pulse Power(8/20 μ s)	P_{PP}	100	W
Operating Temperature	T_{OPT}	-55~+125	$^{\circ}C$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}C$

Electrical Characteristics ($T_A=25^{\circ}C$)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	4.2			V
Reverse Leakage Current	I_R	$V_{RWM}=3.3V$			100	nA
Clamping Voltage	V_C	$I_{PP}=1A, t_p=8/20\mu s$			12	V
		$I_{PP}=4A, t_p=8/20\mu s$			25	V
Junction Capacitance	C_J	$V_R=0V, f=1MHz$		0.25	0.40	pF

Typical Characteristics





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Fig 3 Voltage Sweeping

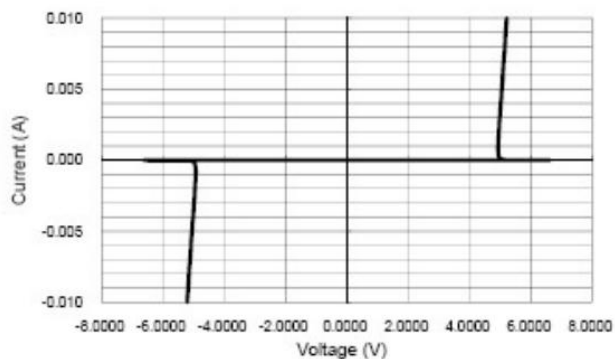


Fig 4 Voltage vs Capacitance

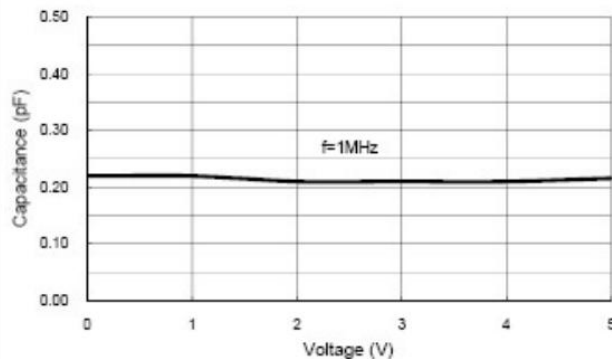


Fig 5 ESD Clamping
(+8kV Contact per IEC 61000-4-2)

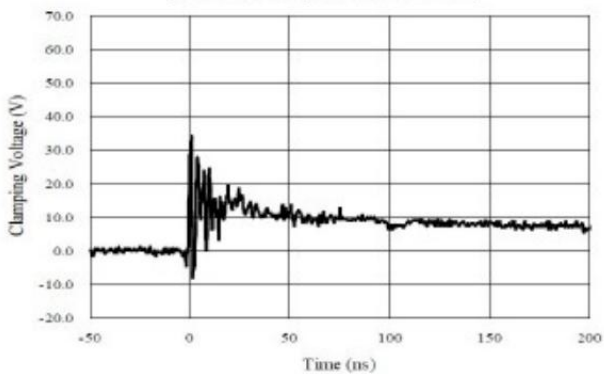
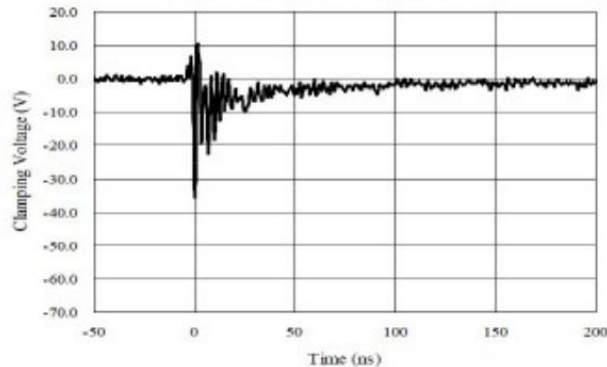


Fig 6 ESD Clamping
(-8kV Contact per IEC 61000-4-2)



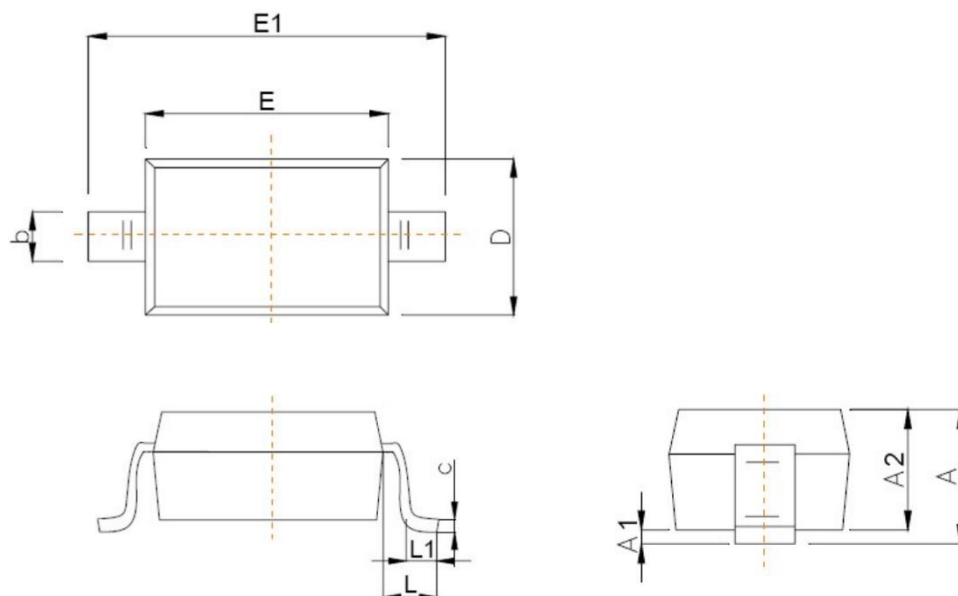


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Package Information

SOD-323

Dimensions in mm



Symbol	Dimensions In Millimeters	
	Min	Max
A		1.00
A1	0.000	0.100
A2	0.800	0.900
b	0.250	0.350
c	0.080	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.500	2.700
e	1.800	2.040
L	0.475 REF	
L1	0.250	0.400
θ	0°	8°

