

Description

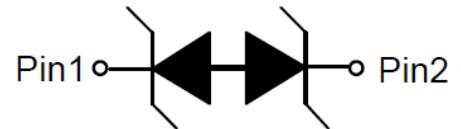
The XE3D5VB is a bi-directional ESD protection diode designed to protect sensitive electronic components which are connected to low speed data lines and control lines from over-stress caused by ESD (Electrostatic Discharge), EFT (Electrical Fast Transients) and Lightning. The XE3D5VB may be used to provide ESD protection up to $\pm 30\text{kV}$ (contact and air discharge) according to IEC61000-4-2, and withstand peak pulse current up to 5A (8/20 μs) according to IEC61000-4-5.

The XE3D5VB is available in SOD323 package. Standard products are Pb-free and Halogen-free.

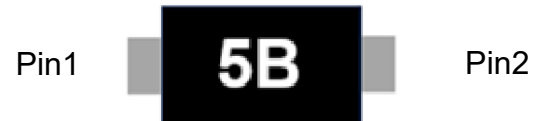
<http://www.xihangsemi.com>



SOD323



Circuit Diagram



5B=Device Code

Marking (Top View)

Features

- ◆ Working voltage: 5V
- ◆ SOD323 Package
- ◆ Transient protection for data lines to IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
IEC61000-4-5 (Surge) 5A (8/20 μs)
IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ Low leakage current
- ◆ Low clamping voltage
- ◆ Solid-state silicon-avalanche technology

Applications

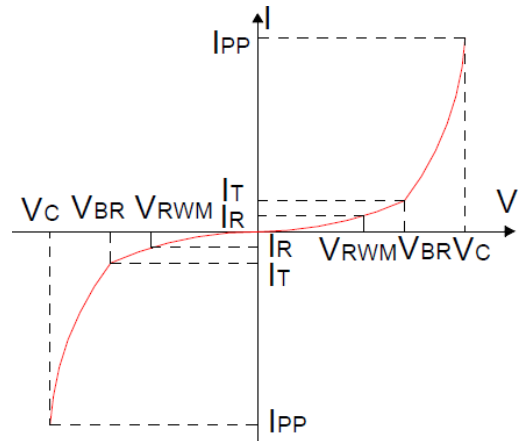
- ◆ Personal digital assistants (PDA's)
- ◆ Notebooks, Desktops, and Servers
- ◆ Cell phone Handsets and Accessories
- ◆ Portable Electronics
- ◆ Peripherals

Order Information

Device	Package	Shipping
XE3D5VB	SOD323	3000/Tape&Reel

Definitions of electrical characteristics

Symbol	Parameter
V_{RWM}	Reverse Stand-off Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Reverse Breakdown Voltage @ I_T
I_R	Reverse Breakdown Current
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}



Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_P = 8/20\mu S$)	P_{PK}	75	W
Peak Pulse Current ($t_P = 8/20\mu S$)	I_{pp}	5	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	kV
ESD according to IEC61000-4-2 contact discharge		± 30	kV
Lead Soldering Temperature	T_L	260 (10 sec)	$^{\circ}C$
Operating Temperature	T_{OP}	-55 to +125	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}C$

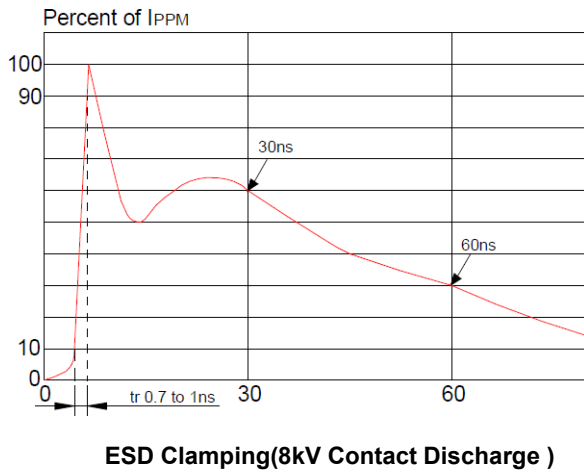
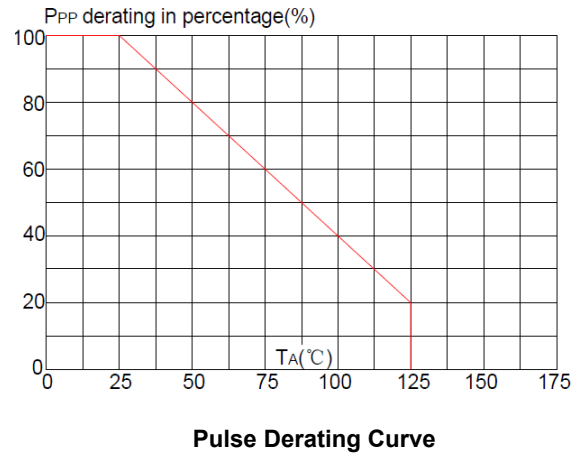
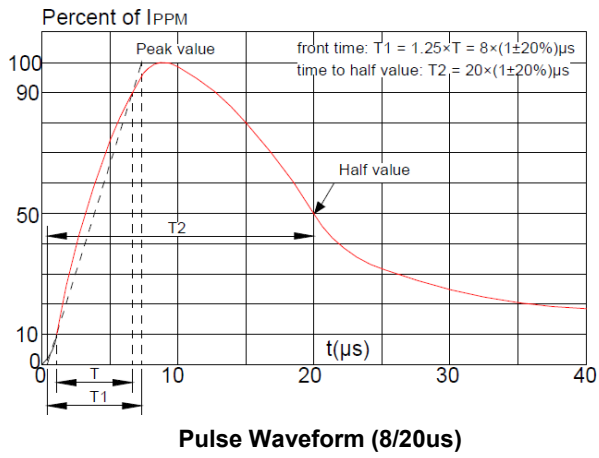
Electrical Characteristics ($T_a=25^{\circ}C$, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				5	V
Reverse Leakage Current	I_R	$V_{RWM} = 5V$			1	μA
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	5.5			V
Clamping Voltage ¹⁾	V_{CL}	$I_{PP} = 1A$ $t_P = 8/20\mu s$		9.0	10.0	V
		$I_{PP} = 5A$ $t_P = 8/20\mu s$		13.0	15.5	V
Junction Capacitance	C_j	$V_R = 0V$ $f = 1MHz$	5.0	8.0	10.0	pF

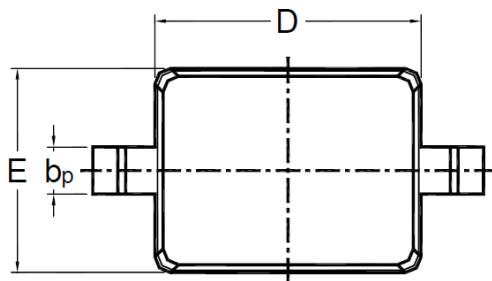
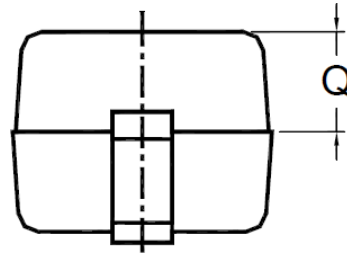
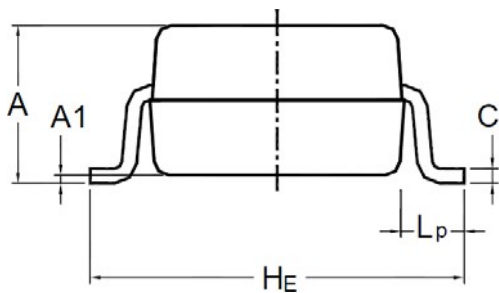
Notes:

1)Non-repetitive current pulse, according to IEC61000-4-5.

Typical Characteristics (Ta=25°C, unless otherwise noted)

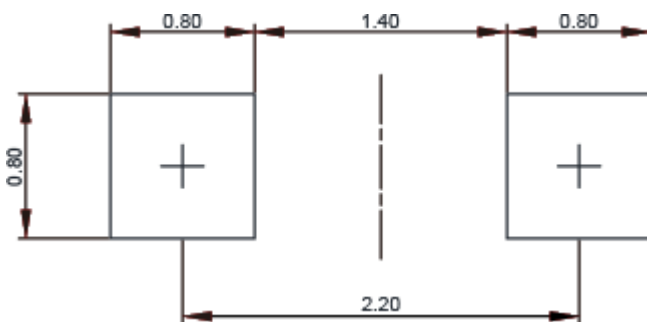


Package Outline Dimensions (SOD323)



Dim	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.031	0.043	0.8	1.0
A ₁	0.000	0.004	0	0.1
b _p	0.010	0.016	0.25	0.4
C	0.000	0.006	0	0.15
D	0.063	0.071	1.6	1.8
E	0.045	0.053	1.15	1.35
H _E	0.091	0.110	2.3	2.8
L _P	0.004	0.020	0.1	0.5
Q	0.012	0.020	0.3	0.5

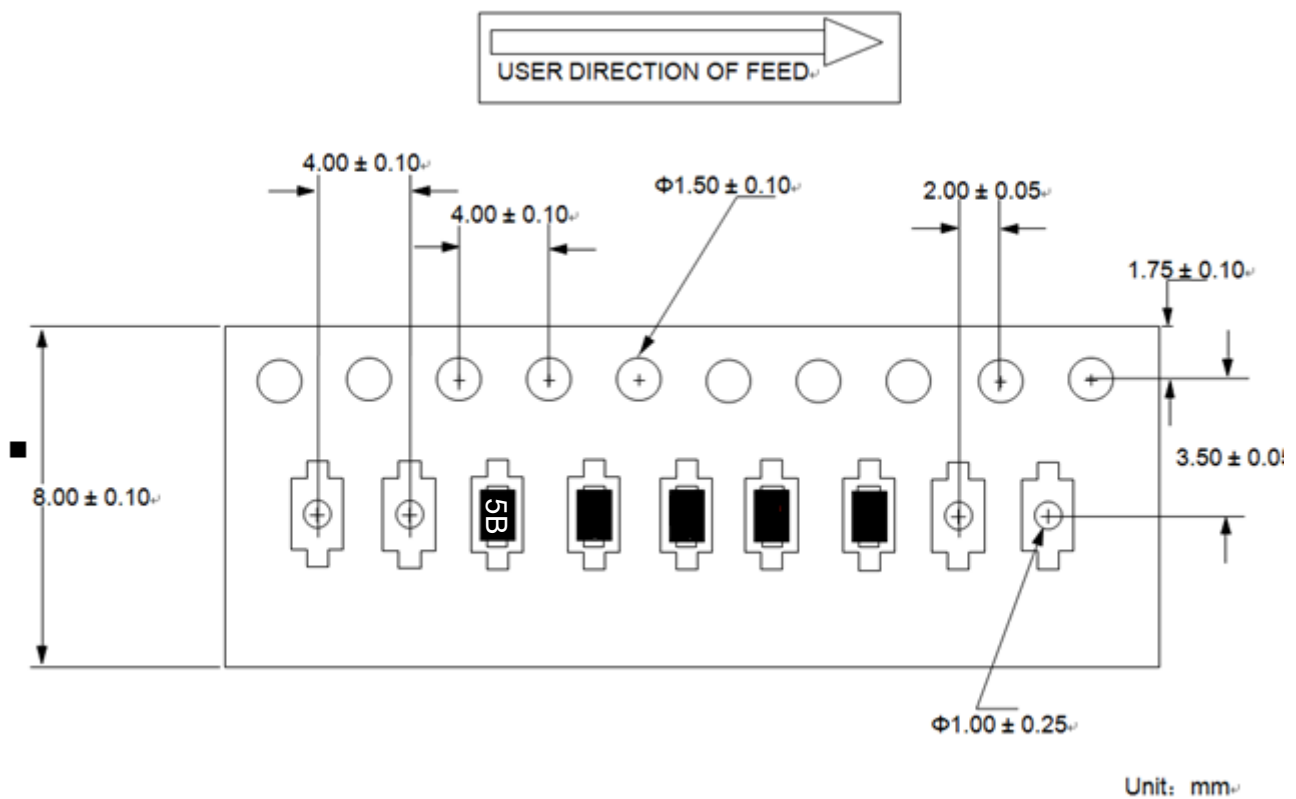
Recommend Land Pattern (Unit: mm)



Note:

This recommended land pattern is for reference purpose only.

Load With Information



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