



# ESD Protection Diode – SiSTVSE33B

Rev 1.0  
23/06/25

**Bidirectional transient voltage suppressor diode in bare die form**

## Features:

- Bidirectional configuration
- Low leakage
- Low capacitance
- 3.3V stand-off voltage
- Single bond-wire requirement

## Ordering Information

The following part suffixes apply:

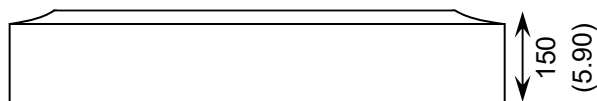
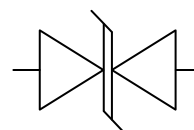
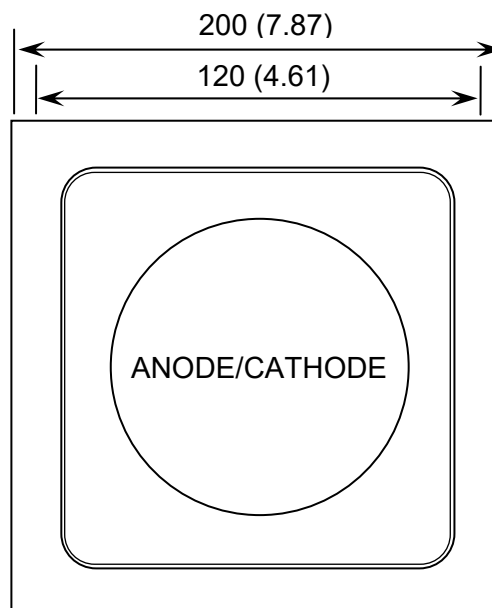
- No suffix - MIL-STD-750 /2073 Visual Inspection
- “H” - MIL-STD-750 /2073 Visual Inspection  
+ MIL-PRF-38534 Class H LAT
- “K” - MIL-STD-750 /2073 Visual Inspection  
+ MIL-PRF-38534 Class K LAT

LAT = Lot Acceptance Test.

For further information on LAT process flows see below.

[www.siliconsupplies.com/quality/bare-die-lot-qualification](http://www.siliconsupplies.com/quality/bare-die-lot-qualification)

## Die Dimensions in $\mu\text{m}$ (mils)



CHIP BACKSIDE IS ANODE/CATHODE

## Supply Formats:

- Default – Die in Waffle Pack (400 per tray capacity)
- Sawn Wafer on Tape – By specific request
- Unsawn Wafer – By specific request
- Die Thickness  $\leftrightarrow$  150 $\mu\text{m}$ (5.9 Mils) – On request
- With additional electrical selection – On request

## Mechanical Specification

Die Size (Unsawn)	200 x 200 7.87 x 7.87	$\mu\text{m}$ mils
Anode Pad Size	120 $\varnothing$ 4.61 $\varnothing$	$\mu\text{m}$ mils
Die Thickness	150 ( $\pm 15$ ) 5.90 ( $\pm 0.59$ )	$\mu\text{m}$ mils
Top Metal Composition	AlSiCu 4 $\mu\text{m}$	
Back Metal Composition	Ti/Ni/Ag 2 $\mu\text{m}$	





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## Absolute Maximum Ratings<sup>1</sup> $T_J = 25^\circ\text{C}$ unless otherwise stated

PARAMETER	SYMBOL	VALUE	UNIT
Peak Pulse Power ( $t_p = 8/20 \mu\text{s}$ )	$P_{PK}$	100	W
Operating Junction temperature	$T_J$	-55 to 150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to 150	$^\circ\text{C}$

1. Operation above the absolute maximum rating may cause device failure. Operation at the absolute maximum ratings, for extended periods, may reduce device reliability.

## ESD Rating Compliant to IEC 61000-4-2

PARAMETER	SYMBOL	VALUE	UNIT
Air	$V_{ESD}$	$\pm 30$	kV
Contact		$\pm 30$	kV

## Electrical Characteristics $T_J = 25^\circ\text{C}$ unless otherwise stated

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Stand-Off Voltage	$V_{RWM}$		-	-	$\pm 3.3$	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}$	3.3	4.1	5.0	V
Reverse Leakage	$I_R$	$V_{RWM} = 3.3\text{V}$	1	-	100	nA
Clamping Voltage	$V_C^2$	$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$	-	-	6.5	V
		$I_{PP} = 11\text{A}, t_p = 8/20\mu\text{s}$	-	-	10.0	
Junction Capacitance	$C_J$	$V_R = 0\text{V}, f = 1\text{MHz}$	-	15	20	pF

2. Clamping Voltage was measured by 8/20 $\mu\text{s}$  current waveform,  $R_s = 2 \Omega$ , according to IEC61000-4-5

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