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:

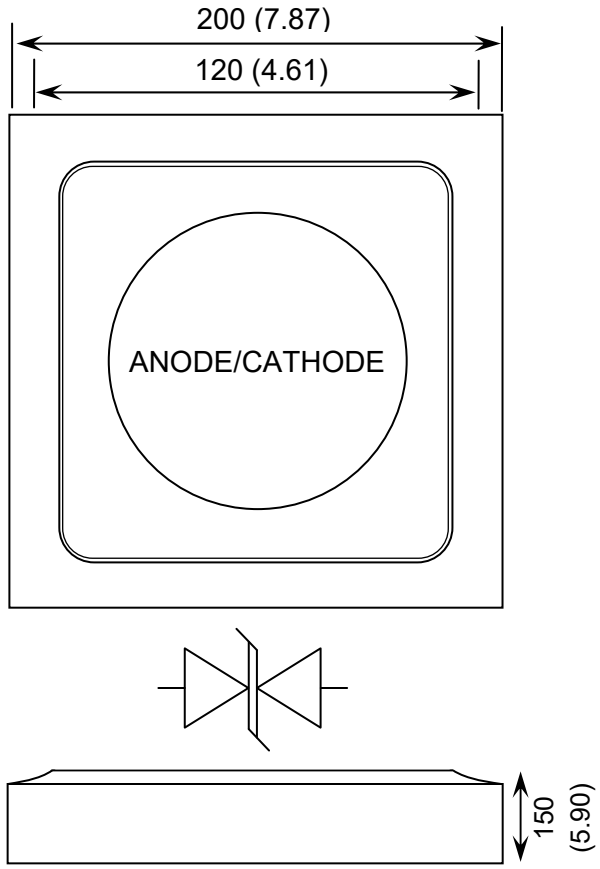
- No suffix - MIL-STD-750 /2073 Visual Inspection
- "**H**" - MIL-STD-750 /2073 Visual Inspection
  + MIL-PRF-38534 Class H LAT
- "**K**" - MIL-STD-750 /2073 Visual Inspection
  + MIL-PRF-38534 Class K LAT

LAT = Lot Acceptance Test.

For further information on LAT process flows see below.

www.siliconsupplies.com\quality\bare-die-lot-qualification

Die Dimensions in µm (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 <> 150µm(5.9 Mils) – On request
- With additional electrical selection – On request

Mechanical Specification

Die Size (Unsawn)	200 x 200 7.87 x 7.87	µm mils
Anode Pad Size	120 Ø 4.61 Ø	µm mils
Die Thickness	150 (±15) 5.90 (±0.59)	µm mils
Top Metal Composition	AlSiCu 4µm	
Back Metal Composition	Ti/Ni/Ag 2µm	

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Absolute Maximum Ratings[1] T_J = 25°C unless otherwise stated

PARAMETER	SYMBOL	VALUE	UNIT
Peak Pulse Power (t_p = 8/20 µs)	P_{PK}	100	W
Operating Junction temperature	T_J	-55 to 150	°C
Storage Temperature Range	T_{STG}	-65 to 150	°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}	±30	kV
Contact		±30	kV

Electrical Characteristics T_J = 25°C unless otherwise stated

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

2. Clamping Voltage was measured by 8/20µs current waveform, R_S = 2 Ω, according to IEC61000-4-5