ESD Protection Diode – SiSTVS3V3

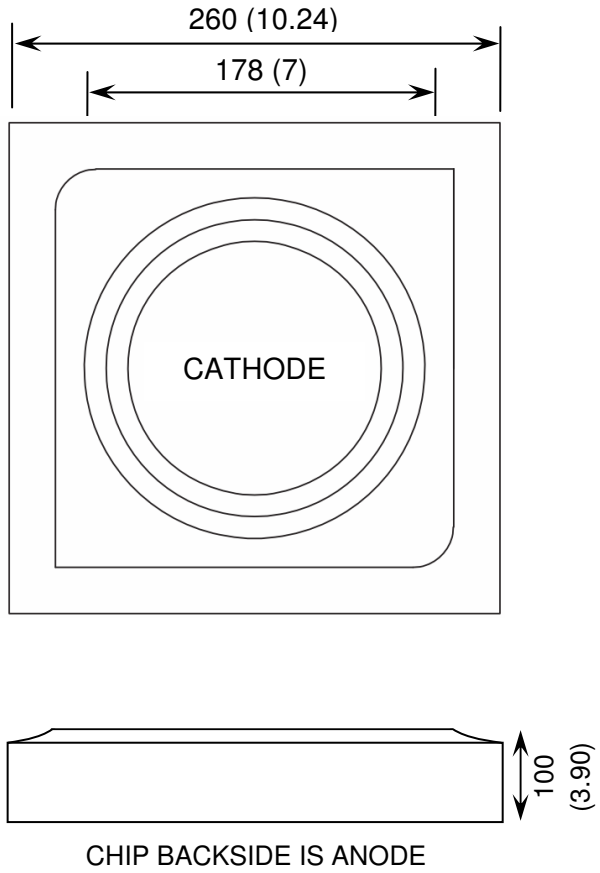
Rev 1.0
23/06/25

Unidirectional transient voltage suppressor diode in bare die form

Features:

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

Die Dimensions in µm (mils)



CHIP BACKSIDE IS ANODE

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

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 <> 100µm(3.9 Mils) – On request
- With additional electrical selection – On request

Mechanical Specification

Die Size (Unsawn)	260 x 260 10.24 x 10.24	µm mils
Anode Pad Size	178 Ø 7 Ø	µm mils
Die Thickness	100 (±15) 3.90 (±0.59)	µm mils
Top Metal Composition	Al	
Back Metal Composition	Au	

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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}	80	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, IEC 61000-4-4

PARAMETER	SYMBOL	VALUE	UNIT
Electrical Fast Transient (IEC 61000-4-4) (5 x 50ns)	EFT	40	A
Air	V_{ESD}	30	kV
Contact		30	kV

Electrical Characteristics T_J = 25°C unless otherwise stated, $V_{F(MAX)}$ = 0.9V @ I_F=10mA

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Stand-Off Voltage	V_{RWM}		-	-	3.3	V
Reverse Breakdown Voltage	V_{BR}	I_T = 1mA	5	-	-	V
Reverse Leakage	I_R	V_{RWM} = 3.3V	-	-	2.5	µA
Clamping Voltage[2]	V_C	I_{PP} = 5.3A	-	3	-	V
		I_{PP} = 11.3A	-	6	-	
Dynamic Resistance[2]	R_{DYN}		-	0.5	-	Ω
Junction Capacitance	C_J	V_R = 0V, f = 1MHz	-	45	-	pF

2. Clamping Transmission Line Pulse (TLP) conditions: Z_0 = 50Ω, tp = 100ns