



# 200 Watt, Uni-Directional TVS Diode

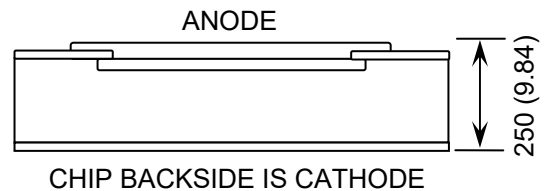
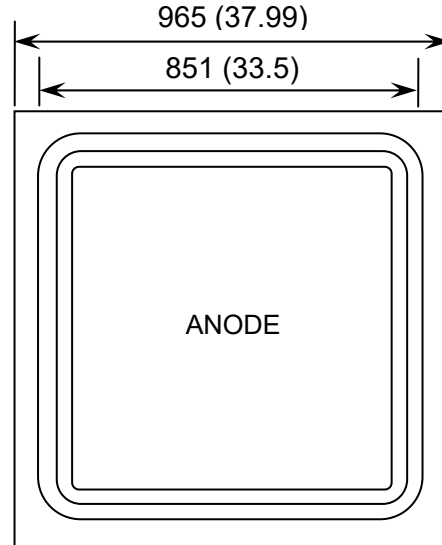
Rev 1.0  
02/12/24

Silicon Transient Voltage Suppressor diode in bare die form

## Features:

- 200W peak pulse power dissipation
- Excellent clamping capabilities
- Very fast response time
- Metalized for Wire Bonding
- High Reliability tested grades.

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



## 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 /2072 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)

## Supply Formats:

- Default – Die in Waffle Pack (400 per tray capacity)
- Sawn Wafer on Tape – By specific request
- Unsawn Wafer – By specific request
- With additional electrical selection – By specific request

## Mechanical Specification

Die Size (Unsawn)	965 x 965 37.99 x 37.99	$\mu\text{m}$ mils
Anode Pad Size	851 x 851 33.5 x 33.5	$\mu\text{m}$ mils
Die Thickness	250 ( $\pm 20$ ) 9.84 ( $\pm 0.79$ )	$\mu\text{m}$ mils
Top Metal Composition	Al $\geq 4\mu\text{m}$	
Back Metal Composition	NiTi/Ag (0.2/0.8 $\mu\text{m}$ )	





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## Absolute Maximum Ratings $T_J = 25^\circ\text{C}$ unless otherwise stated

PARAMETER	SYMBOL	VALUE	UNIT
Peak power dissipation 10/1000 $\mu\text{s}$ waveform <sup>1</sup>	$P_{PP}$	200	W
Peak forward surge current, 8.3ms single half sine-wave <sup>2</sup>	$I_{FSM}$	20	A
ESD IEC61000-4-2 (Air) <sup>3</sup>	$V_{ESD}$	$\pm 30\text{V}$	kV
ESD IEC61000-4-2 (Contact) <sup>3</sup>			
Operating Temperature Range	$T_J$	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	$T_S$	-65 to +200	$^\circ\text{C}$

1. Performance at die level dependent on assembly method and substrate choice. 2. Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum. 3. Tested in SOD-123FL package.

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

DEVICE <sup>4</sup>	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE @ $I_T$		TEST CURRENT	MAX CLAMPING VOLTAGE $V_C$ @ $I_{PP}$	PEAK PULSE CURRENT	REVERSE LEAKAGE $I_R$ @ $V_{RRM}$
	$V_{RRM}$	$V_{BR(MIN)}$ (V)	$V_{BR(MAX)}$ (V)	$I_T$	$V_C$	$I_{PP}$	$I_R$
	V	V	V	mA	V	A	$\mu\text{A}$
SSL3.3A	3.3	5.23	5.97	10	8.0	23.5	30
SSL5.0A	5	6.43	6.97	10	9.2	21.7	4
SSL6.0A	6	6.70	7.34	10	10.3	19.4	1
SSL6.5A	6.5	7.25	7.95	10	11.2	17.9	1
SSL7.0A	7	7.81	8.57	10	12.0	16.7	1
SSL7.5A	7.5	8.36	9.18	1	12.9	15.5	1
SSL8.0A	8	8.92	9.80	1	13.6	14.7	1
SSL8.5A	8.5	9.47	10.37	1	14.4	13.9	1
SSL9.0A	9	10.03	11.07	1	15.4	13.0	0.25
SSL10A	10	11.13	12.27	1	17.0	11.8	0.25
SSL11A	11	12.23	13.47	1	18.2	11.0	0.25
SSL12A	12	13.33	14.67	1	19.9	10.1	0.25
SSL13A	13	14.43	15.87	1	21.5	9.3	0.08
SSL14A	14	15.63	17.17	1	23.2	8.6	0.08
SSL15A	15	16.73	18.29	1	24.4	8.2	0.08
SSL16A	16	17.83	19.67	1	26.0	7.7	0.08
SSL17A	17	18.93	20.87	1	27.6	7.2	0.08
SSL18A	18	20.03	22.07	1	29.2	6.8	0.08
SSL20A	20	22.23	24.47	1	32.4	6.2	0.08
SSL22A	22	24.43	26.87	1	35.5	5.6	0.08





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	$V_{RRM}$	$V_{BR(MIN)}$ (V)	$V_{BR(MAX)}$ (V)	$I_T$	$V_C$	$I_{PP}$	$I_R$
	V	V	V	mA	V	A	$\mu\text{A}$
SSL24A	24	26.73	29.47	1	38.9	5.1	0.8
SSL26A	26	28.93	31.87	1	42.1	4.8	0.8
SSL28A	28	31.13	34.37	1	45.4	4.4	0.8
SSL30A	30	33.33	36.77	1	48.4	4.1	0.8
SSL33A	33	36.73	40.57	1	53.3	3.8	0.8
SSL36A	36	40.03	44.17	1	58.1	3.4	0.8
SSL40A	40	44.40	49.10	1	64.5	3.1	0.8

4. Suffix "A" denotes 5% tolerance of  $V_{BR}$

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