



# 5W Zener Diode - 1N5338B to 1N5379B

Rev 1.0  
04/02/25

Silicon Planar Zener diode in bare die form – 5% tolerance

## Features:

- High Power Rating
- Sharp Reverse Characteristics
- Low Reverse Current Levels
- High Reliability tested grades.

## Ordering Information

The following part suffixes apply:

- No suffix - Commercial grade die
- “H” – Hi-rel grade die + MIL-PRF-38534 Class H LAT
- “K” – Hi-rel grade die + MIL-PRF-38534 Class K LAT.

LAT = Lot acceptance Test.

For information on Hi-Rel LAT flows please see below.

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

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



CHIP BACKSIDE IS CATHODE

## Supply Formats:

- Default – Die in Waffle Pack (100 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)	1580 x 1580 62.20 x 62.20	$\mu\text{m}$ mils
Anode Pad Size	1372 x 1372 54 x 54	$\mu\text{m}$ mils
Die Thickness	250 ( $\pm 20$ ) 9.84 ( $\pm 0.79$ )	$\mu\text{m}$ mils
Top Metal Composition	AlSi 3 $\mu\text{m}$	
Back Metal Composition	NiTi-Ag 0.2-0.8 $\mu\text{m}$	





# 5W Zener Diode - 1N5338B to 1N5379B

Rev 1.0  
04/02/25

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

PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation <sup>2</sup>	$P_{TOT}$	5	W
Junction Temperature	$T_J$	175	$^\circ\text{C}$
Storage Temperature Range	$T_S$	-65 to +200	$^\circ\text{C}$
Forward Voltage @ $I_F = 1\text{A}$	$V_F$	0.87	V

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

DEVICE	ZENER VOLTAGE RANGE			TEST CURRENT		REVERSE LEAKAGE CURRENT				DYNAMIC RESISTANCE	
	$V_Z @ I_{ZT1}$			$I_{ZT1}$	$I_{ZT2}$	$I_{R1} @ V_{R1}$		$I_{R1} @ V_{R2}$		$Z_Z @ I_{ZT1}$	$Z_{ZK} @ I_{ZT2}$
	V			mA		$T_A = 25^\circ\text{C}$				$f = 1\text{ kHz}$	
	Min.	Nom.	Max.			$I_{R1}$	$V_{R1}$	$I_{R2}$	$V_{R2}$	Max.	Max.
						$\mu\text{A}$	V	$\mu\text{A}$	V		
					Max.		Max.				
1N5338B	4.886	5.1	5.314	240	1	5	1	5	1	2	400
1N5339B	5.365	5.6	5.835	220	1	5	2	5	2	1	400
1N5340B	5.748	6.0	6.252	200	1	5	3	5	3	1	300
1N5341B	5.940	6.2	6.460	200	1	5	3	5	3	1	200
1N5342B	6.514	6.8	7.086	175	1	5	5.2	5	5.2	1	200
1N5343B	7.185	7.5	7.815	175	1	5	5.7	5	5.7	1	200
1N5344B	7.856	8.2	8.544	150	1	5	6.2	5	6.2	2	200
1N5345B	8.335	8.7	9.065	150	1	5	6.6	5	6.6	2	200
1N5346B	8.718	9.1	9.482	150	1	0.1	6.9	0.1	6.9	2	150
1N5347B	9.58	10	10.42	125	1	0.1	8	0.1	8	2	125
1N5348B	10.54	11	11.46	125	1	0.1	8.4	0.5	9.4	2.5	125
1N5349B	11.50	12	12.50	100	1	0.1	9.1	0.5	10.3	3	125
1N5350B	12.45	13	13.55	100	1	0.1	9.9	0.5	11.1	3	100
1N5351B	13.41	14	14.59	100	1	0.1	10.6	1.2	12	3	75
1N5352B	14.37	15	15.63	75	1	0.1	11.5	1	12.8	3	75
1N5353B	15.33	16	16.67	75	1	0.1	12.2	0.1	13.7	3	75
1N5354B	16.29	17	17.71	70	1	0.1	12.9	0.5	14.5	3	75
1N5355B	17.24	18	18.76	65	1	0.1	13.7	0.5	15.4	3	75
1N5356B	18.20	19	19.80	65	1	0.1	14.4	0.1	16.2	3	75
1N5357B	19.16	20	20.84	65	1	0.1	15.2	0.5	17.1	3	75
1N5358B	21.08	22	22.92	50	1	0.1	16.7	0.5	18.8	4	75
1N5359B	22.99	24	25.01	50	1	0.1	18.2	0.5	20.5	4	100
1N5360B	23.95	25	26.05	50	1	0.1	19	0.5	21.4	4	110
1N5361B	25.87	27	28.13	50	1	0.1	20.6	0.5	23.1	5	120
1N5362B	26.82	28	29.18	50	1	0.1	21.2	1	23.9	6	130
1N5363B	28.74	30	31.26	40	1	0.1	22.8	0.5	25.7	8	140





# 5W Zener Diode - 1N5338B to 1N5379B

Rev 1.0  
04/02/25

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

DEVICE	ZENER VOLTAGE RANGE			TEST CURRENT		REVERSE LEAKAGE CURRENT				DYNAMIC RESISTANCE	
	$V_Z @ I_{ZT1}$			$I_{ZT1}$	$I_{ZT2}$	$I_{R1} @ V_{R1}$		$I_{R1} @ V_{R2}$		$Z_Z @ I_{ZT1}$	$Z_{ZK} @ I_{ZT2}$
	V			mA		$T_A = 25^\circ\text{C}$				$f = 1 \text{ kHz}$	
	Min.	Nom.	Max.			$I_{R1}$	$V_{R1}$	$I_{R2}$	$V_{R2}$	$\Omega$	
						$\mu\text{A}$	V	$\mu\text{A}$	V	Max.	Max.
			Max.		Max.						
1N5364B	31.61	33	34.39	40	1	0.1	25.1	0.5	28.2	10	150
1N5365B	34.49	36	37.51	30	1	0.1	27.4	0.5	30.8	11	160
1N5366B	37.36	39	40.64	30	1	0.1	29.7	0.5	33.3	14	170
1N5367B	41.19	43	44.81	30	1	0.1	32.7	1	36.8	20	190
1N5368B	45.03	47	48.97	25	1	0.1	35.8	0.7	40.2	25	210
1N5369B	48.86	51	53.14	25	1	0.1	38.8	0.2	43.6	27	230
1N5370B	53.65	56	58.35	20	1	0.1	42.6	0.8	47.9	35	280
1N5371B	57.48	60	62.52	20	1	0.1	45.5	0.8	51.3	40	350
1N5372B	59.40	62	64.60	20	1	0.1	47.1	0.8	53	42	400
1N5373B	65.14	68	70.86	20	1	0.1	51.7	0.8	58.1	44	500
1N5374B	71.85	75	78.15	20	1	0.1	56	0.8	64.1	45	620
1N5375B	78.56	82	85.44	15	1	0.1	62.2	0.15	70.1	60	720
1N5376B	83.35	87	90.65	15	1	0.1	66	0.15	74.4	75	760
1N5377B	87.18	91	94.82	15	1	0.1	69.2	1	77.8	75	760
1N5378B	95.8	100	104.2	12	1	0.1	76	1	85.5	90	800
1N5379B	105.4	110	114.6	12	1	0.1	83.6	1	94.1	125	1000

1. Operation above the absolute maximum rating may cause device failure. Operation at the absolute maximum ratings, for extended periods, may reduce device reliability. 2. Assembled in DO-15 package. Die form performance subject to assembly heat sinking & die attach methods.

**DISCLAIMER:** The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics. With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Silicon Supplies Ltd hereby disclaims any and all warranties and liabilities of any kind.

**LIFE SUPPORT POLICY:** Silicon Supplies Ltd components may be used in life support devices or systems only with the express written approval of Silicon Supplies Ltd, if a failure of such components can reasonably be expected to cause the failure of that life support device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

