0.5W Zener Diode – 1N9*B Series

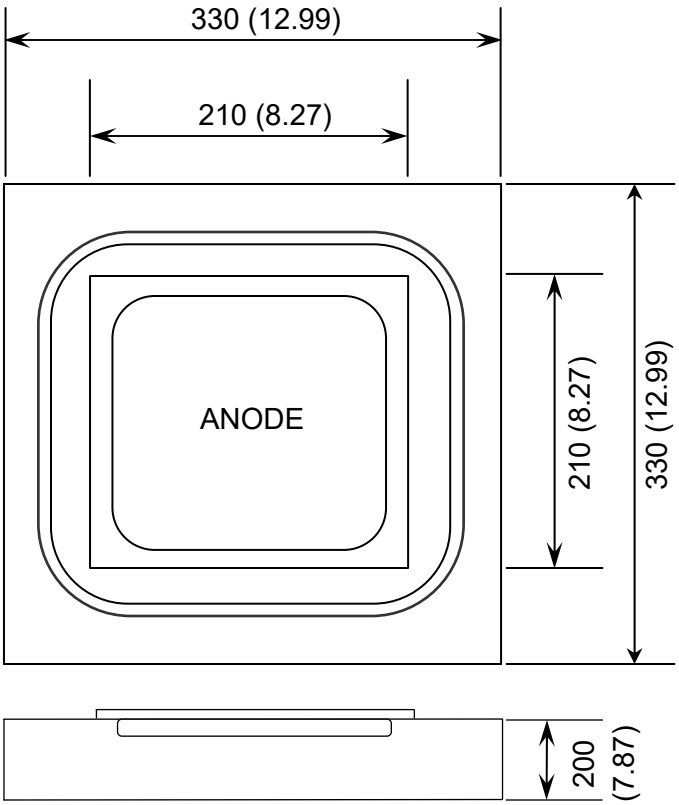
Rev 1.0
19/07/19

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

Features:

- High peak reverse power dissipation
- Sharp Reverse Characteristics
- Low Reverse Current Levels
- High Reliability Gold Back Metal
- High Reliability tested grades.

Die Dimensions in µm (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

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)	330 x 330 12.99 x 12.99	µm mils
Anode Pad Size	210 x 210 8.27 x 8.27	µm mils
Die Thickness	200 7.87	µm mils
Top Metal Composition	Al	
Back Metal Composition	AuAs	

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

PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation[2]	P_{TOT}	0.5	W
Junction Temperature	T_J	-65 to +175	°C
Storage Temperature Range	T_S	-65 to +175	°C
Forward Voltage @ I_F = 200mA	V_F	1.5	V

Electrical Characteristics T_A = 25°C unless otherwise stated

DEVICE	ZENER VOLTAGE RANGE			TEST CURRENT		REVERSE LEAKAGE		DC ZENER CURRENT	DYNAMIC RESISTANCE	
	V_Z @ I_{ZT1}			I_{ZT1}	I_{ZT2}	I_R @ V_R	V_R	I_{ZM}	Z_Z @ I_{ZT1}	Z_{ZK} @ I_{ZT2}
	V			mA		μA	V	mA	Ω	
	Min.	Nom	Max.			Max.			Max.	Max.
1N957B	6.46	6.8	7.14	18.5	1.0	5.0	5.2	55	4.5	700
1N958B	7.13	7.5	7.88	16.5	0.5	5.0	5.7	50	5.5	700
1N959B	7.79	8.2	8.61	15.0	0.5	5.0	6.2	45	6.5	700
1N960B	8.65	9.1	9.56	14.0	0.5	5.0	6.9	41	7.5	700
1N961B	9.50	10	10.50	12.5	0.25	2.0	7.6	38	8.5	700
1N962B	10.45	11	11.55	11.5	0.25	1.0	8.4	32	9.5	700
1N963B	11.40	12	12.60	10.5	0.25	1.0	9.1	31	11.5	700
1N964B	12.35	13	13.65	9.5	0.25	0.5	9.9	28	13	700
1N965B	14.25	15	15.75	8.5	0.25	0.5	11	25	16	700
1N966B	15.20	16	16.80	7.8	0.25	0.5	12	24	17	700
1N967B	17.10	18	18.90	7.0	0.25	0.5	14	20	21	750
1N968B	19.00	20	21.00	6.2	0.25	0.5	15	18	25	750
1N969B	20.90	22	23.10	5.6	0.25	0.5	17	16	29	750
1N970B	22.80	24	25.20	5.2	0.25	0.5	18	15	33	750
1N971B	25.65	27	28.35	4.6	0.25	0.5	21	13	41	750
1N972B	28.50	30	31.50	4.2	0.25	0.5	23	12	49	1000
1N973B	31.35	33	34.65	3.8	0.25	0.5	25	11	58	1000
1N974B	34.20	36	37.80	3.4	0.25	0.5	27	10	70	1000
1N975B	37.05	39	40.95	3.2	0.25	0.5	30	9.5	90	1000
1N976B	40.85	43	45.15	3.0	0.25	0.5	33	8.8	93	1500
1N977B	44.65	47	49.35	2.7	0.25	0.5	36	7.9	105	1500
1N978B	48.45	51	53.55	2.5	0.25	0.5	39	7.4	125	1500
1N979B	53.20	56	58.80	2.2	0.25	0.5	43	6.8	150	2000
1N980B	58.90	62	65.10	2.0	0.25	0.5	47	6.0	185	2000
1N981B	64.60	68	71.40	1.8	0.25	0.5	52	5.5	230	2000
1N982B	71.25	75	78.75	1.7	0.25	0.5	56	5.0	270	2000

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-41 package. Performance in die form subject to assembly heat sinking and die attach methods.

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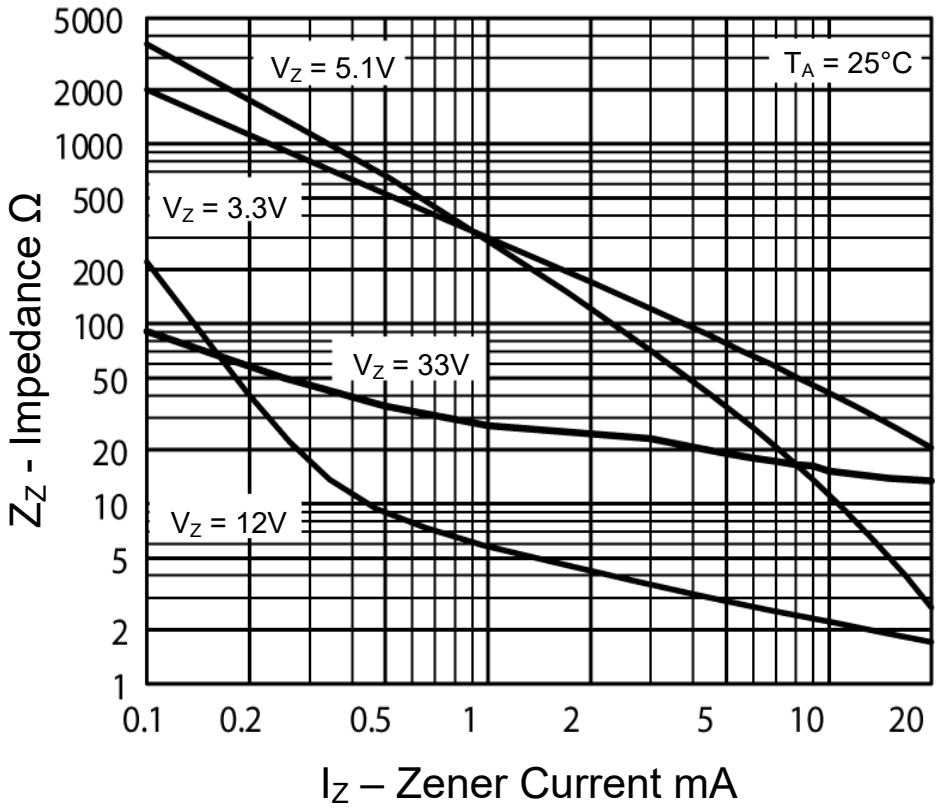
Typical Electrical Characteristics



Zener Impedance Versus Operating Current - Z_Z Versus I_Z