0.5W Zener Diode - BZX55A* series

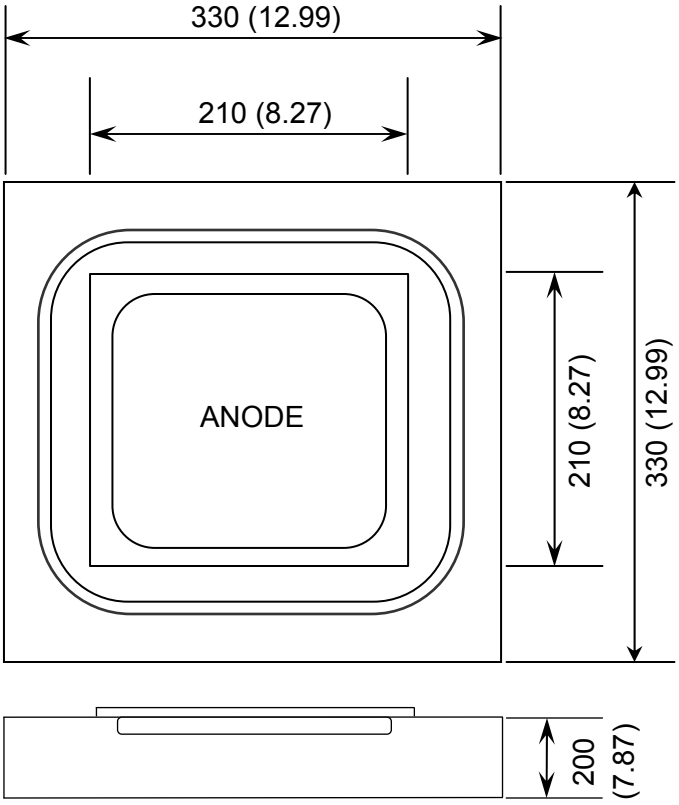
Rev 1.0

0.5W 5mA I_{ZT} Silicon Planar Zener diode in bare die form – 1% tolerance, "A" grade **07/04/19**

Features:

- Tight tolerance reverse breakdown voltage
- I_R characterized at 125°C
- Sharp reverse characteristics
- Low reverse current Levels
- High reliability gold back metal

Die Dimensions in µm (mils)



CHIP BACKSIDE IS CATHODE

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
- Lower precision V_Z tolerances:

  2% - B grade, 5% - C grade

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	Au	

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

PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation[2]	P_{TOT}	500	mW
Junction Temperature	T_J	200	°C
Storage Temperature Range	T_S	-65 to +200	°C
Forward Voltage @ I_F = 100mA	V_F	1	V

Electrical Characteristics T_A = 25°C unless otherwise stated

DEVICE	ZENER VOLTAGE RANGE			TEST CURRENT		REVERSE LEAKAGE CURRENT			DYNAMIC RESISTANCE	
	V_Z @ I_{ZT1}			I_{ZT1}	I_{ZT2}	I_R @ V_R			Z_Z @ I_{ZT1}	Z_{ZK} @ I_{ZT2}
						T_A = 25°C	T_A = 125°C		f = 1 kHz	
	V			mA		µA Max.		V	Ω	
	Min.	Nom.	Max.						Max.	Max.
BZX55A2V4	2.376	2.4	2.424	5	1	50.0	100	1.0	85	600
BZX55A2V7	2.673	2.7	2.727	5	1	10.0	50	1.0	85	600
BZX55A3V0	2.97	3.0	3.03	5	1	4.0	40	1.0	85	600
BZX55A3V3	3.267	3.3	3.333	5	1	2.0	40	1.0	85	600
BZX55A3V6	3.564	3.6	3.636	5	1	2.0	40	1.0	85	600
BZX55A3V9	3.861	3.9	3.939	5	1	2.0	40	1.0	85	600
BZX55A4V3	4.257	4.3	4.343	5	1	1.0	20	1.0	75	600
BZX55A4V7	4.653	4.7	4.747	5	1	0.5	10	1.0	60	600
BZX55A5V1	5.049	5.1	5.151	5	1	0.1	2.0	1.0	35	550
BZX55A5V6	5.544	5.6	5.656	5	1	0.1	2.0	1.0	25	450
BZX55A6V2	6.138	6.2	6.262	5	1	0.1	2.0	2.0	10	200
BZX55A6V8	6.732	6.8	6.868	5	1	0.1	2.0	3.0	8.0	150
BZX55A7V5	7.425	7.5	7.575	5	1	0.1	2.0	5.0	7.0	50
BZX55A8V2	8.118	8.2	8.282	5	1	0.1	2.0	6.2	7.0	50
BZX55A9V1	9.009	9.1	9.191	5	1	0.1	2.0	6.8	10	50

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-35 package. Performance in die form subject to assembly heat sinking and die attach methods.

Zener Voltages 10V to 75V are constructed using a larger die geometry.

Please see here for further details

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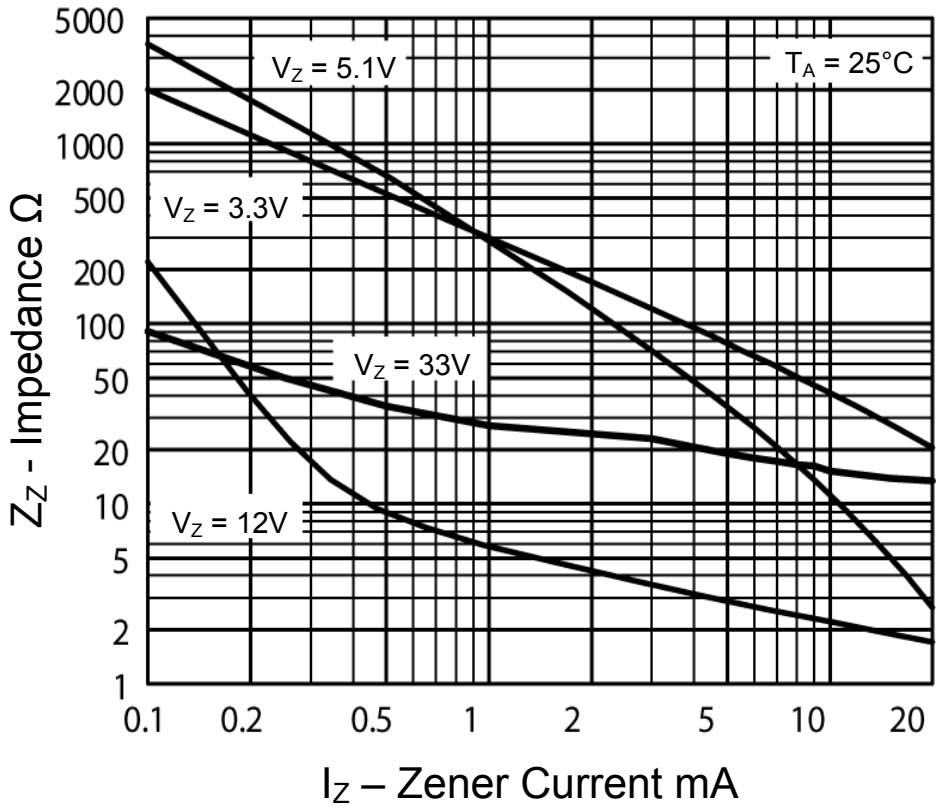
Typical Electrical Characteristics



Zener Impedance Versus Operating Current - Z_Z Versus I_Z