



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
- Larger die size for dissipation
- I_R characterized at 125°C
- Sharp reverse characteristics & low reverse current
- High reliability gold back metal

Ordering Information

The following part suffixes apply:

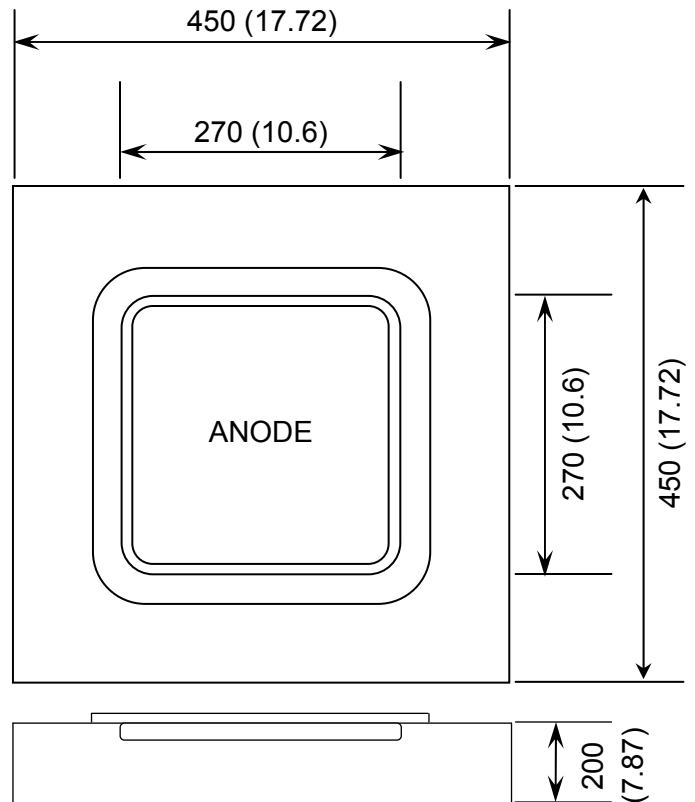
- No suffix - MIL-STD-750 /2073 Visual Inspection
- “H” - MIL-STD-750 /2073 Visual Inspection
+ MIL-PRF-38534 Class H LAT
- “K” - MIL-STD-750 /2072 Visual Inspection
+ MIL-PRF-38534 Class K LAT

LAT = Lot Acceptance Test.

For further information on LAT process flows see below.

www.siliconsupplies.com/quality/bare-die-lot-qualification

Die Dimensions in μm (mils)



CHIP BACKSIDE IS CATHODE

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)	450 x 450 17.72 x 17.72	μm mils
Anode Pad Size	235 x 235 9.25 x 9.25	μm mils
Die Thickness	200 7.87	μm mils
Top Metal Composition	Al	
Back Metal Composition	Au	





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

PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation	P_{TOT}	500	mW
Junction Temperature	T_J	200	$^\circ\text{C}$
Storage Temperature Range	T_S	-65 to +200	$^\circ\text{C}$
Forward Voltage @ $I_F = 100\text{mA}$	V_F	1.3	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}	$I_R @ V_R$			$Z_Z @ I_{ZT1}$	$Z_{ZK} @ I_{ZT2}$
	V			mA		$T_A = 25^\circ\text{C}$	$T_A = 125^\circ\text{C}$		f = 1 kHz	
	Min.	Nom.	Max.			$\mu\text{A Max.}$		V	Max.	Max.
BZX55A10	9.90	10	10.10	5	1	0.1	2.0	7.5	15	70
BZX55A11	10.89	11	11.11	5	1	0.1	2.0	8.2	20	70
BZX55A12	11.88	12	12.12	5	1	0.1	2.0	9.1	20	90
BZX55A13	12.87	13	13.13	5	1	0.1	2.0	10	26	110
BZX55A15	14.85	15	15.15	5	1	0.1	2.0	11	30	110
BZX55A16	15.84	16	16.16	5	1	0.1	2.0	12	40	170
BZX55A18	17.82	18	18.18	5	1	0.1	2.0	13	50	170
BZX55A20	19.80	20	20.20	5	1	0.1	2.0	15	55	220
BZX55A22	21.78	22	22.22	5	1	0.1	2.0	16	55	220
BZX55A24	23.76	24	24.24	5	1	0.1	2.0	18	80	220
BZX55A27	26.73	27	27.27	5	1	0.1	2.0	20	80	220
BZX55A30	29.70	30	30.30	5	1	0.1	2.0	22	80	220
BZX55A33	32.67	33	33.33	5	1	0.1	2.0	24	80	220
BZX55A36	35.64	36	36.36	5	1	0.1	2.0	27	80	220

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 2.4V to 9.1V are constructed using a smaller 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

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