



# 0.5W, 5mA I<sub>ZT</sub> , Bare Die Zener Diode

Rev 1.0  
07/07/17

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

## Features:

- I<sub>R</sub> Characterized @ 125°C
- Sharp Reverse Characteristics
- Low Reverse Current Levels
- High Reliability Gold Back Metal
- High Reliability tested grades.

## Ordering Information

The following part suffixes apply:

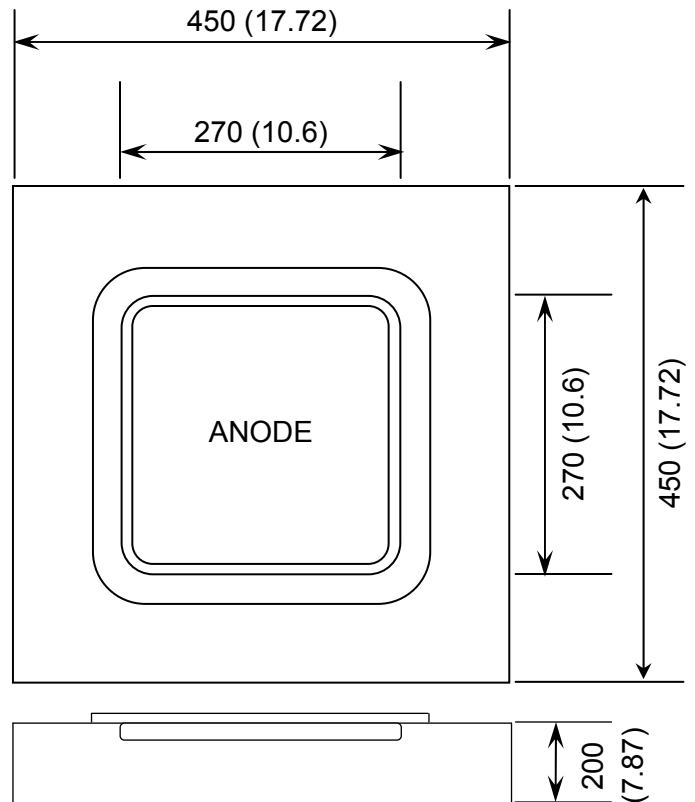
- No suffix - MIL-STD-750 /2073 Visual Inspection
- “H” - MIL-STD-750 /2073 Visual Inspection  
+ MIL-PRF-38534 Class H LAT
- “K” - MIL-STD-750 /2072 Visual Inspection  
+ MIL-PRF-38534 Class K LAT

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)

## 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
- With additional electrical selection – By specific request

## 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 <sub>TOT</sub>	500	mW
Junction Temperature	T <sub>J</sub>	200	°C
Storage Temperature Range	T <sub>S</sub>	-65 to +200	°C
Forward Voltage @ I <sub>F</sub> = 100mA	V <sub>F</sub>	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 <sub>Z</sub> @ I <sub>ZT1</sub>			I <sub>ZT1</sub>	I <sub>ZT2</sub>	I <sub>R</sub> @ V <sub>R</sub>			Z <sub>Z</sub> @ I <sub>ZT1</sub>	Z <sub>ZK</sub> @ I <sub>ZT2</sub>
	V			mA		μA Max.		V	Ω	
	Min.	Nom.	Max.						Max.	Max.
BZX55C10	9.4	10	10.6	5	1	0.1	2.0	7.5	15	70
BZX55C11	10.4	11	11.6	5	1	0.1	2.0	8.2	20	70
BZX55C12	11.4	12	12.7	5	1	0.1	2.0	9.1	20	90
BZX55C13	12.4	13	14.1	5	1	0.1	2.0	10	26	110
BZX55C15	13.8	15	15.6	5	1	0.1	2.0	11	30	110
BZX55C16	15.3	16	17.1	5	1	0.1	2.0	12	40	170
BZX55C18	16.8	18	19.1	5	1	0.1	2.0	13	50	170
BZX55C20	18.8	20	21.2	5	1	0.1	2.0	15	55	220
BZX55C22	20.8	22	23.3	5	1	0.1	2.0	16	55	220
BZX55C24	22.8	24	25.6	5	1	0.1	2.0	18	80	220
BZX55C27	25.1	27	28.9	5	1	0.1	2.0	20	80	220
BZX55C30	28	30	32	5	1	0.1	2.0	22	80	220
BZX55C33	31	33	35	5	1	0.1	2.0	24	80	220
BZX55C36	34	36	38	5	1	0.1	2.0	27	80	220

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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