



# 0.5W, 250µA I<sub>ZT</sub> , Bare Die Zener Diode

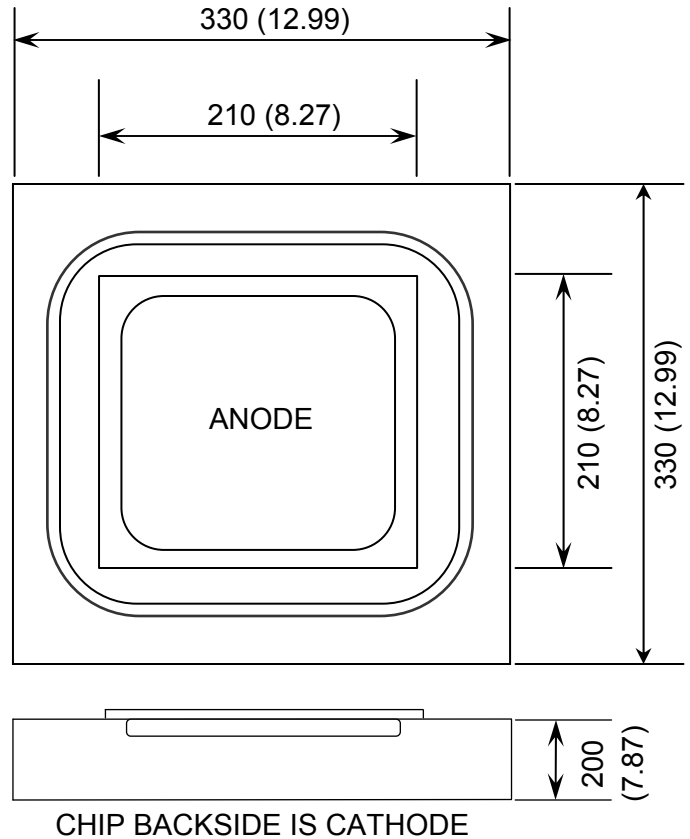
Rev 1.0  
07/07/17

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

## Features:

- 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 /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](http://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
- Tighter V<sub>Z</sub> tolerances:  
2% - B grade, 1% - A grade – 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	Au	





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

PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation <sup>2</sup>	$P_{TOT}$	500	mW
Junction Temperature	$T_J$	175	$^\circ\text{C}$
Storage Temperature Range	$T_S$	-65 to +200	$^\circ\text{C}$
Forward Voltage @ $I_F = 200\text{mA}$	$V_F$	1.5	V

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

DEVICE	ZENER VOLTAGE RANGE			TEST CURRENT	REVERSE LEAKAGE CURRENT			DYNAMIC RESISTANCE <sup>3</sup>	MAXIMUM DC ZENER CURRENT
	$V_Z @ I_{ZT}$			$I_{ZT}$	$I_R @ V_R$			$Z_Z @ I_{ZT}$	$I_{ZM}$
	V			$\mu\text{A}$	$\mu\text{A}$	V	$\Omega$	mA	
	Min.	Nom.	Max.						
1N4617	2.28	2.4	2.56	250	2	1	1400	95	
1N4618	2.5	2.7	2.9	250	1	1	1500	90	
1N4619	2.8	3.0	3.2	250	0.8	1	1600	87	
1N4620	3.1	3.3	3.5	250	7.5	1.5	1650	85	
1N4621	3.4	3.6	3.8	250	7.5	2	1700	83	
1N4622	3.7	3.9	4.1	250	5	2	1650	80	
1N4623	4.0	4.3	4.6	250	4	2	1600	77	
1N4624	4.4	4.7	5.0	250	10	3	1550	75	
1N4625	4.8	5.1	5.4	250	10	3	1550	70	
1N4626	5.2	5.6	6.0	250	10	4	1400	65	
1N4627	5.8	6.2	6.6	250	10	5	1200	61	

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.

3. Zener impedance is derived by superimposing on  $I_{ZT}$  a 60Hz rms AC current equal to 10% of  $I_{ZT}$ .

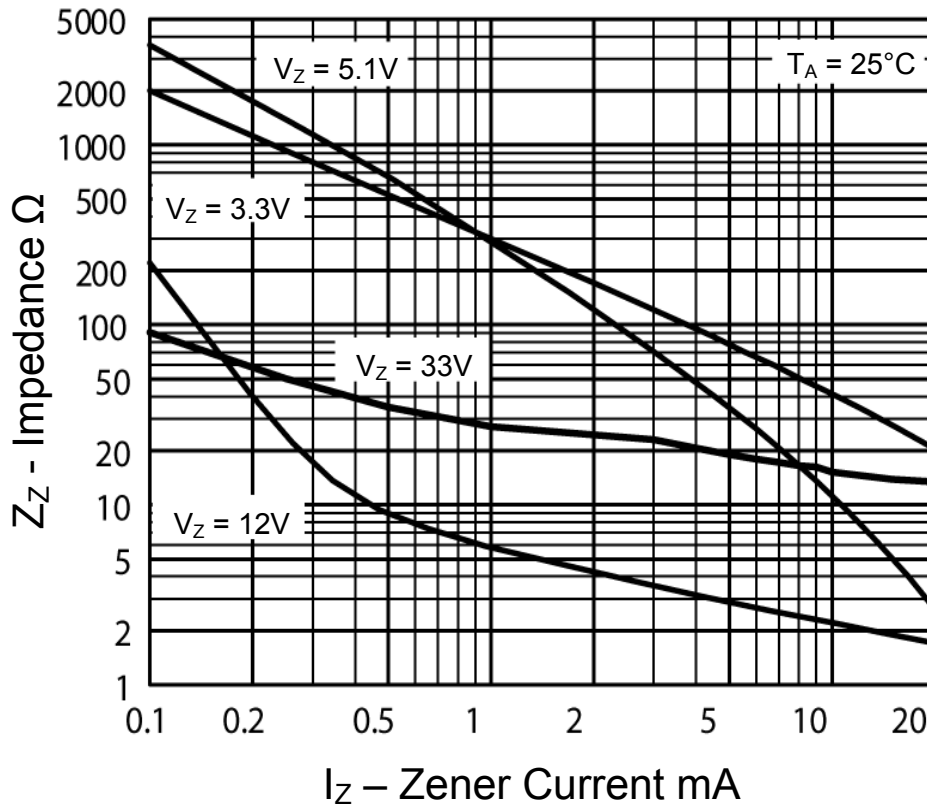




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## Typical Electrical Characteristics



Zener Impedance Versus Operating Current -  $Z_Z$  Versus  $I_Z$

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