0.5W, 20mA I_{ZT} , Bare Die Zener Diode

Rev 1.0
07/07/17

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

Features:

- I_R characterized at 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:

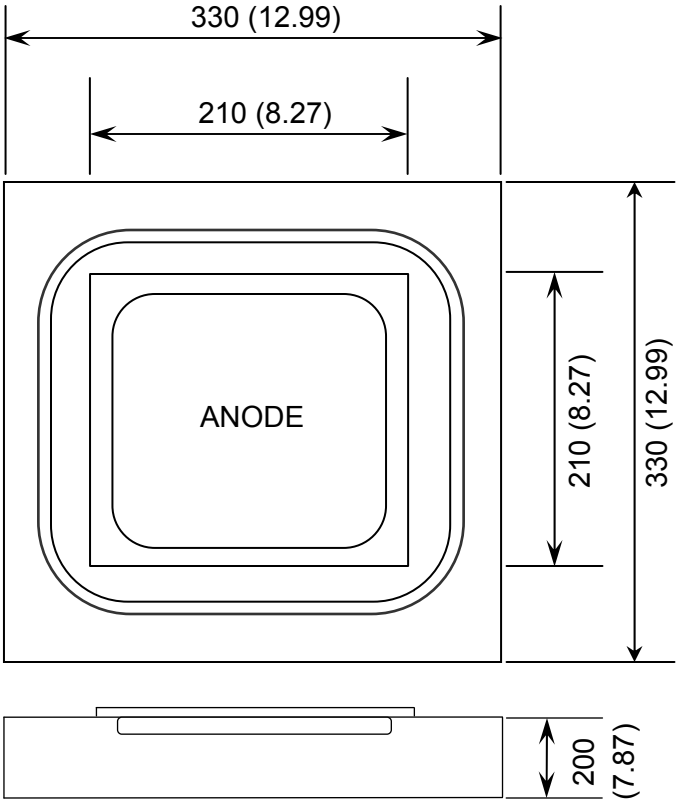
- No suffix - MIL-STD-750 /2073 Visual Inspection
- "**H**" - MIL-STD-750 /2073 Visual Inspection
  + MIL-PRF-38534 Class H LAT
- "**K**" - MIL-STD-750 /2073 Visual Inspection
  + MIL-PRF-38534 Class K LAT

LAT = Lot Acceptance Test.

For further information on LAT process flows see below.

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

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
- Tighter V_Z tolerances:

  2% or 1% – 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[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_{STG}	-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			REVERSE LEAKAGE CURRENT				DYNAMIC RESISTANCE	MAXIMUM REGULATOR CURRENT
	V_Z @ I_{ZT}			I_{ZT}	I_R @ V_R			Z_Z @ I_{ZT}	I_{ZM}
					T_A = 25°C	T_A = 125°C		f = 1 kHz	
	V			mA	μA Max.		V_R	Ω	mA
	Min.	Nom.	Max.					Max.	
1N4370A	2.28	2.4	2.52	20	100	200	1	30	150
1N4371A	2.57	2.7	2.84	20	75	150	1	30	135
1N4372A	2.85	3.0	3.15	20	50	100	1	29	120
1N746A	3.14	3.3	3.47	20	10	30	1	28	110
1N747A	3.42	3.6	3.78	20	10	30	1	24	100
1N748A	3.71	3.9	4.10	20	10	30	1	23	95
1N749A	4.09	4.3	4.52	20	2	30	1	22	85
1N750A	4.47	4.7	4.94	20	2	30	1	19	75
1N751A	4.85	5.1	5.36	20	1	20	1	17	70
1N752A	5.32	5.6	5.88	20	1	20	1	11	65
1N753A	5.89	6.2	6.51	20	0.1	20	1	7	60
1N754A	6.46	6.8	7.14	20	0.1	20	1	5	55
1N755A	7.13	7.5	7.88	20	0.1	20	1	6	50
1N756A	7.79	8.2	8.61	20	0.1	20	1	8	45
1N757A	8.65	9.1	9.56	20	0.1	20	1	10	40
1N758A	9.50	10	10.5	20	0.1	20	1	17	35
1N759A	11.4	12	12.6	20	0.1	20	1	30	30

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.

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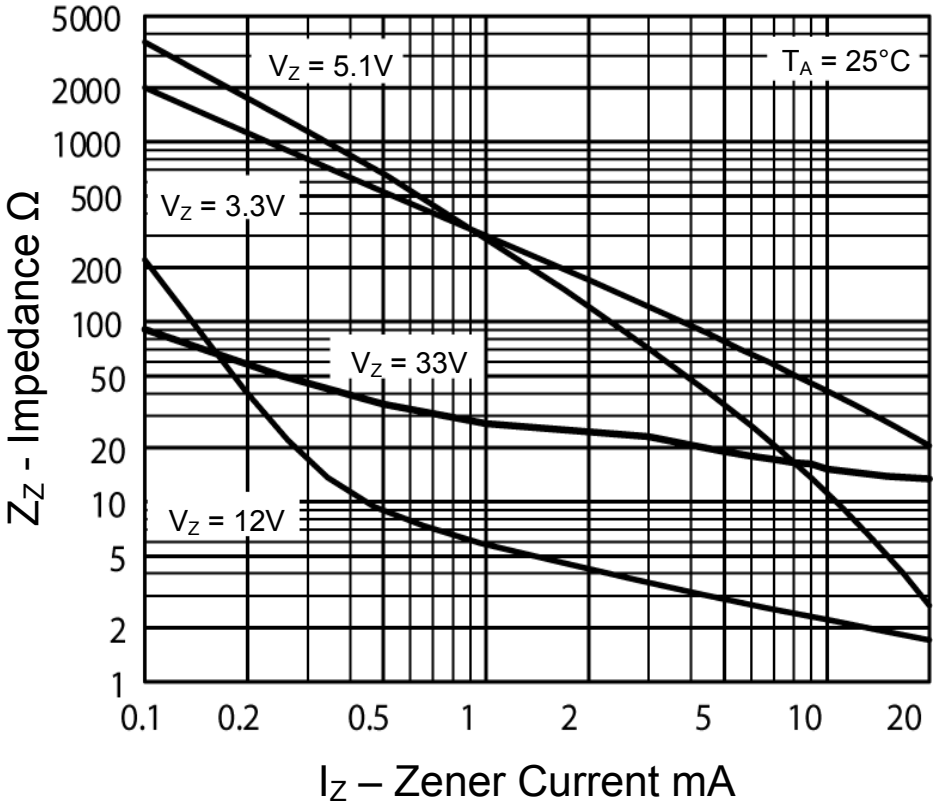
Typical Electrical Characteristics



Zener Impedance Versus Operating Current - Z_Z Versus I_Z

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