



0.5 Watt, Bare Die Zener Diode

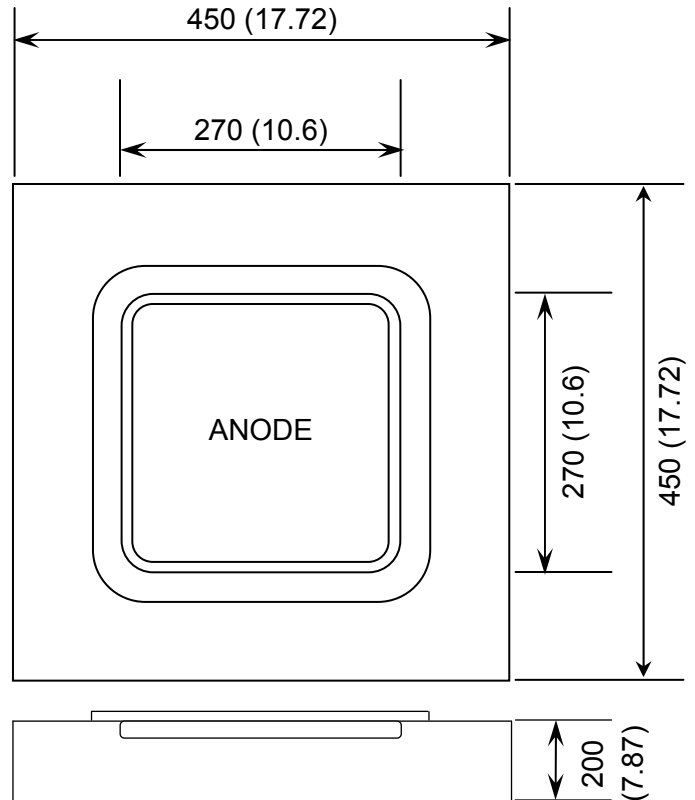
Rev 1.0
07/07/17

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

Features:

- High peak reverse power dissipation
- 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 /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

CHIP BACKSIDE IS CATHODE

Note: Zener Voltages 2.4V to 9.1V are constructed using a smaller die geometry and are specified [here](#)

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	270 x 270 10.6 x 10.6	μm mils
Die Thickness	200 7.87	μm mils
Top Metal Composition	Al	
Back Metal Composition	Au	





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Absolute Maximum Ratings¹ $T_A = 25^\circ\text{C}$ unless otherwise stated

PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation ²	P_{TOT}	0.5	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_S	-65 to +150	$^\circ\text{C}$
Forward Voltage @ $I_F = 10\text{mA}$	V_F	0.9	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		$\mu\text{A Max.}$	@ V_R	Ω	
	Min.	Nom	Max.					Max.	Max.
BZX84C10	9.4	10	10.6	5	0.25	0.1	8	15	600
BZX84C11	10.4	11	11.6	5	0.25	0.1	8.4	18	600
BZX84C12	11.4	12	12.7	5	0.25	0.1	9.1	22	600
BZX84C13	12.4	13	14.1	5	0.25	0.1	9.9	25	600
BZX84C15	13.8	15	15.6	5	0.25	0.1	11	32	600
BZX84C16	15.3	16	17.1	5	0.25	0.1	12	36	600
BZX84C18	16.8	18	19.1	5	0.25	0.1	14	42	600
BZX84C20	18.8	20	21.2	5	0.25	0.1	15	48	600
BZX84C22	20.8	22	23.3	5	0.25	0.1	17	55	600
BZX84C24	22.8	24	25.6	5	0.25	0.1	18	62	600
BZX84C27	25.1	27	28.9	5	0.25	0.1	21	70	600
BZX84C30	28	30	32	5	0.25	0.1	23	78	600
BZX84C33	31	33	35	5	0.25	0.1	25	88	700
BZX84C36	34	36	38	5	0.25	0.1	27	95	700
BZX84C39	37	39	41	5	0.25	0.1	30	130	800
BZX84C43	40	43	46	2	0.25	0.1	33	150	900
BZX84C47	44	47	50	2	0.25	0.1	36	170	1000
BZX84C51	48	51	53	2	0.25	0.1	39	180	1300
BZX84C56	52	56	60	2	0.25	0.1	43	200	1400
BZX84C62	58	62	66	2	0.25	0.1	47	225	1400
BZX84C68	64	68	72	2	0.25	0.1	52	240	1600
BZX84C75	70	75	80	2	0.25	0.1	56	265	1700

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 TO-236 package. Performance in die form subject to assembly heat sinking and die attach methods.

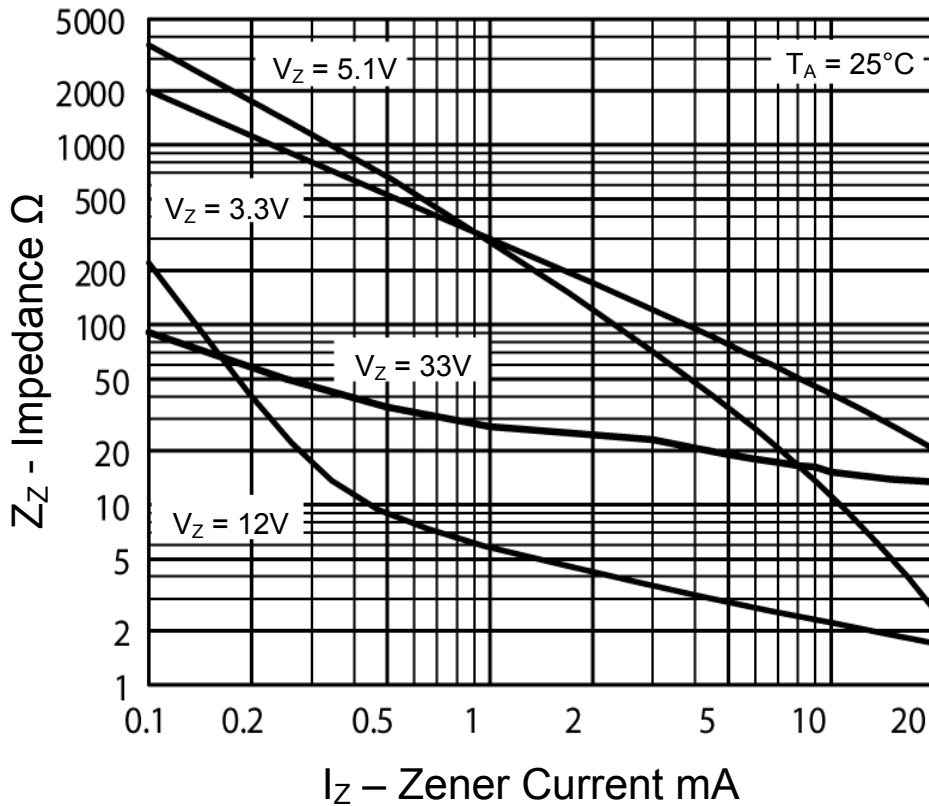




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Typical Electrical Characteristics



Zener Impedance Versus Operating Current - Z_Z Versus I_Z

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