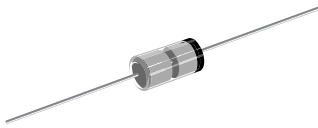




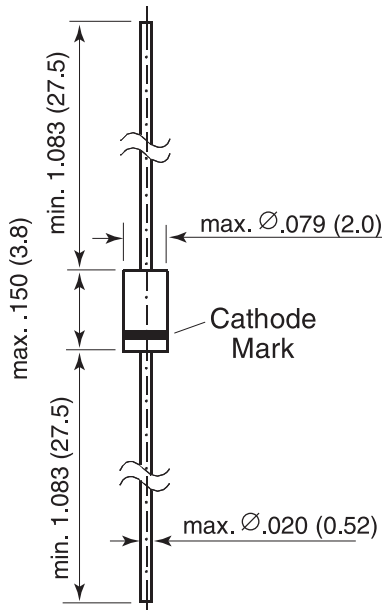
## Zener Diodes

Nominal Zener Voltage 6.8 to 91V  
Power Dissipation 500mW



DO-204AH  
(DO-35)

Extended  
Voltage  
Range



Dimensions in inches and (millimeters)

### Features

- Silicon Planar Power Zener Diodes.
- Standard Zener voltage tolerance is  $\pm 5\%$  for "B" suffix. Other tolerances are available upon request.

### Mechanical Data

**Case:** DO-35 Glass Case

**Weight:** approx. 0.004 oz., 0.13 g

**Packaging Codes/Options:**

D7/10K per 13" reel (52mm tape)

D8/10K per Ammo tape (52mm tape)

### Maximum Ratings and Thermal Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Zener Current (see Table "Characteristics")			
Power Dissipation at $T_L = 25^\circ\text{C}$	$P_D$	500 <sup>(1)</sup>	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	300 <sup>(1)</sup>	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	175	$^\circ\text{C}$
Storage Temperature Range	$T_S$	-65 to +175	$^\circ\text{C}$

**Note:**

(1) Valid provided that leads at a distance of 3/8" from case are kept at ambient temperature.

## Electrical Characteristics (T<sub>J</sub> = 25°C unless otherwise noted) Maximum V<sub>F</sub> = 1.5V at I<sub>F</sub> = 200mA

Type Number	Nominal Zener Voltage V <sub>Z</sub> <sup>(3)</sup> (Volts)	Test Current I <sub>ZT</sub> (mA)	Maximum Zener Impedance <sup>(1)</sup>			Maximum Regulator Current I <sub>ZM</sub> <sup>(2)</sup> (mA)	Maximum Reverse Current	
			Z <sub>ZT</sub> at I <sub>ZT</sub> (Ω)	Z <sub>ZK</sub> at I <sub>ZK</sub> (Ω)	I <sub>ZK</sub> (mA)		Maximum I <sub>R</sub> (μA)	Test Voltage V <sub>dc</sub> (Volts)
1N957B	6.8	18.5	4.5	700	1	58	150	5.2
1N958B	7.5	16.5	5.5	700	0.5	53	75	5.7
1N959B	8.2	15	6.5	700	0.5	47	50	6.2
1N960B	9.1	14	7.5	700	0.5	43	25	6.9
1N961B	10	12.5	8.5	700	0.25	40	10	7.6
1N962B	11	11.5	9.5	700	0.25	36	5	8.4
1N963B	12	10.5	11.5	700	0.25	32	5	9.1
1N964B	13	9.5	13	700	0.25	29	5	9.9
1N965B	15	8.5	16	700	0.25	27	5	11.4
1N966B	16	7.8	17	700	0.25	24	5	12.2
1N967B	18	7	21	750	0.25	21	5	13.7
1N968B	20	6.2	25	750	0.25	20	5	15.2
1N969B	22	5.6	29	750	0.25	18	5	16.7
1N970B	24	5.2	33	750	0.25	16	5	18.2
1N971B	27	4.6	41	750	0.25	14	5	20.6
1N972B	30	4.2	49	1000	0.25	13	5	22.8
1N973B	33	3.8	58	1000	0.25	12	5	25.1
1N974B	36	3.4	70	1000	0.25	11	5	27.4
1N975B	39	3.2	80	1000	0.25	10	5	29.7
1N976B	43	3	93	1500	0.25	9.2	5	32.7
1N977B	47	2.7	105	1500	0.25	8.5	5	35.8
1N978B	51	2.5	125	1500	0.25	7.8	5	38.8
1N979B	56	2.2	150	2000	0.25	6.9	5	42.6
1N980B	62	2.0	185	2000	0.25	6.3	5	47.1
1N981B	68	1.8	230	2000	0.25	5.7	5	51.7
1N982B	75	1.7	270	2000	0.25	5.2	5	56.0
1N983B	82	1.5	330	3000	0.25	4.7	5	62.2
1N984B	91	1.4	440	3000	0.25	4.3	5	69.2

### Notes:

- (1) The Zener Impedance is derived from the 1 KHz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current (I<sub>ZT</sub>) is superimposed on I<sub>ZT</sub>. Zener Impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units.
- (2) Valid provided that leads at a distance of 3/8" from case are kept at 25°C ambient temperature.
- (3) Measured with device junction in thermal equilibrium.



## Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.