

## 0.5W Zener Diodes

### Features

- Zener Voltage: 3.0v to 68v
- Zener Voltage Tolerance:  $\pm 5\%$
- RoHS compliant



DO-35



### Mechanical Data

<b>Case:</b>	Hermetically sealed axial lead glass case, DO-35 package
<b>Epoxy:</b>	Plastic package has UL flammability classification 94V-0
<b>Terminals:</b>	Leads, tin-lead plated solderable per MIL-STD-750, method 2026
<b>Polarity:</b>	Color band denotes cathode end
<b>Approx Weight:</b>	0.13 gram

### Maximum Ratings *(T<sub>Ambient</sub>=25°C unless noted otherwise)*

Symbol	Description	Value	Unit	Conditions
<b>P<sub>tot</sub></b>	Power Dissipation	500	mW	T <sub>L</sub> ≤ 75°C, Lead Length = 3/8"
		4.0	mW/°C	Derate above 75°C
<b>V<sub>F</sub></b>	Forward Voltage	1.2	V	I <sub>F</sub> = 200mA
<b>T<sub>J</sub>, T<sub>STG</sub></b>	Operating Junction and Storage Temperature Range	-65 to +200	°C	

**Note:** These ratings are limiting values above which the serviceability of the diode maybe impaired.

# 0.5W Zener Diodes

## 1N5987B - 1N6020B

### Electrical Characteristics ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

0.5W	Normal Zener Voltage @ I <sub>ZT</sub> (Note 1)			Test Current	Max.Zener Impedance (Ω)			Maximum Reverse Leakage Current IR @ VR		Max. Zener Current (Note 2)
	Nom.	Min.	Max.		Z <sub>ZT</sub> @ I <sub>ZT</sub>	Z <sub>Zk</sub> @ I <sub>Zk</sub>	I <sub>zk</sub> (mA)	I <sub>R</sub> (μA)	V <sub>R</sub> (V)	
P/N	V <sub>Z</sub> (V)	V <sub>Z</sub> (V)	V <sub>Z</sub> (V)	I <sub>ZT</sub> (mA)	Z <sub>ZT</sub> @ I <sub>ZT</sub>	Z <sub>Zk</sub> @ I <sub>Zk</sub>	I <sub>zk</sub> (mA)	I <sub>R</sub> (μA)	V <sub>R</sub> (V)	I <sub>ZM</sub> (mA)
1N5987B	3.0	2.85	3.15	5.0	95	2000	0.25	50	1	167
1N5988B	3.3	3.14	3.47	5.0	95	2200	0.25	25	1	152
1N5989B	3.6	3.42	3.78	5.0	90	2300	0.25	15	1	139
1N5990B	3.9	3.71	4.10	5.0	90	2400	0.25	10	1	128
1N5991B	4.3	4.09	4.52	5.0	88	2500	0.25	5	1	116
1N5992B	4.7	4.47	4.94	5.0	70	2200	0.25	3	1.5	106
1N5993B	5.1	4.85	5.36	5.0	50	2050	0.25	2	2	98
1N5994B	5.6	5.32	5.88	5.0	25	1800	0.25	2	3	89
1N5995B	6.2	5.89	6.51	5.0	10	1300	0.25	1	4	81
1N5996B	6.8	6.46	7.14	5.0	8	750	0.25	1	5.2	74
1N5997B	7.5	7.13	7.88	5.0	7	600	0.25	0.5	6	67
1N5998B	8.2	7.79	8.61	5.0	7	600	0.25	0.5	6.5	61
1N5999B	9.1	8.65	9.56	5.0	10	600	0.25	0.1	7	55
1N6000B	10	9.50	10.50	5.0	15	600	0.25	0.1	8	50
1N6001B	11	10.45	11.55	5.0	18	600	0.25	0.1	8.4	45
1N6002B	12	11.40	12.60	5.0	22	600	0.25	0.1	9.1	42
1N6003B	13	12.35	13.65	5.0	25	600	0.25	0.1	9.9	38
1N6004B	15	14.25	15.75	5.0	32	600	0.25	0.1	11	33
1N6005B	16	15.20	16.80	5.0	36	600	0.25	0.1	12	31
1N6006B	18	17.10	18.90	5.0	42	600	0.25	0.1	14	28
1N6007B	20	19.00	21.00	5.0	48	600	0.25	0.1	15	25
1N6008B	22	20.90	23.10	5.0	55	600	0.25	0.1	17	23
1N6009B	24	22.80	25.20	5.0	62	600	0.25	0.1	18	21
1N6010B	27	25.65	28.35	5.0	70	600	0.25	0.1	21	19
1N6011B	30	28.50	31.50	5.0	78	600	0.25	0.1	23	17
1N6012B	33	31.35	34.65	5.0	88	700	0.25	0.1	25	15
1N6013B	36	34.20	37.80	5.0	95	700	0.25	0.1	27	14
1N6014B	39	37.05	40.95	2.0	130	800	0.25	0.1	30	13

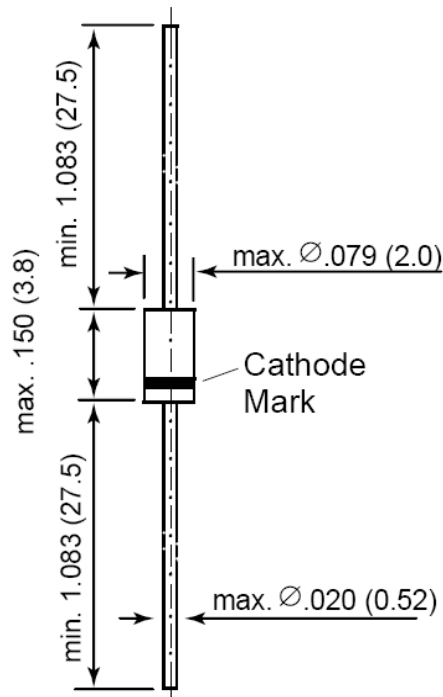
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## 1N5987B - 1N6020B

0.5W	Normal Zener Voltage @ I <sub>ZT</sub> (Note 1)			Test Current	Max.Zener Impedance (Ω)			Maximum Reverse Leakage Current I <sub>R</sub> @ V <sub>R</sub>		Max. Zener Current (Note 2)
	Nom.	Min.	Max.		Z <sub>ZT</sub> @ I <sub>ZT</sub>	Z <sub>Zk</sub> @ I <sub>Zk</sub>	I <sub>zk</sub> (mA)	I <sub>R</sub> (μA)	V <sub>R</sub> (V)	
P/N	V <sub>Z</sub> (V)	V <sub>Z</sub> (V)	V <sub>Z</sub> (V)	I <sub>ZT</sub> (mA)	Z <sub>ZT</sub> @ I <sub>ZT</sub>	Z <sub>Zk</sub> @ I <sub>Zk</sub>	I <sub>zk</sub> (mA)	I <sub>R</sub> (μA)	V <sub>R</sub> (V)	I <sub>ZM</sub> (mA)
1N6015B	43	40.85	45.15	2.0	150	900	0.25	0.1	33	12
1N6016B	47	44.65	49.35	2.0	170	1000	0.25	0.1	36	11
1N6017B	51	48.45	53.55	2.0	180	1300	0.25	0.1	39	9.8
1N6018B	56	53.20	58.80	2.0	200	1400	0.25	0.1	43	8.9
1N6019B	62	58.90	65.10	2.0	225	1400	0.25	0.1	47	8
1N6020B	68	64.60	71.40	2.0	240	1600	0.25	0.1	52	7.4

- Note:** 1.The zener voltage (V<sub>Z</sub>) is measured with the device junction in the thermal equilibrium at the lead temperature (T<sub>L</sub>) at 30°C ± 1°C and 3/8" lead length.  
 2. The maximum zener current (I<sub>ZM</sub>) handling capability on a worst case basis is limited by the actual zener voltage at the operation point and the power derating curve.

### Dimensions in inch (mm)



DO-35

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