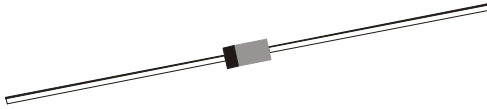


## SILICON PLANAR ZENER DIODES

1N5223B to 1N5279B  
2.7V to 180V



DO- 35  
Glass Axial Package

### FEATURES

The zeners with glass passivated junction in the hermetically sealed glass package with double studs, provides excellent stability, reliability and better power dissipation.

### ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNIT
DC Power Dissipation	$P_D$	500	mW
Power Derating above 75°C		4.0	mW/°C
Operating and Storage Temperature	$T_{stg}$	- 65 to +200	°C

### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ unless specified otherwise)

Forward Voltage at  $I_F=200\text{mA}$   $V_F < 1.1\text{V}$

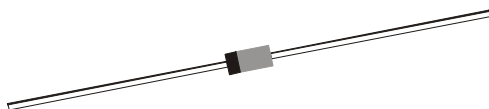
No Suffix  $\pm 20\%$  tolerance, Suffix 'A'  $\pm 10\%$  tolerance, and Suffix 'B'  $\pm 5\%$  tolerance

Device (Note 1)	Nominal Voltage $V_Z$ at $I_{ZT}$  V	Test Current $I_{ZT}$  mA	Max Zener Impedance A & B Suffix only (Note 2)		Max Reverse Leakage Current  $I_R$ at $V_R$		Max Zener Voltage Temp. Coeff. $\alpha V_Z$ (Note 3)  (A&B Suffix only) $a V_Z$ (% /°C)
			$Z_{ZT}$ at $I_{ZT}$ W	$Z_{ZK}$ at $I_{ZK}=0.25\text{mA}$ W	mA	V	
1N5223B	2.7	20	30	1300	75	1.0	-0.080
1N5224B	2.8	20	30	1400	75	1.0	-0.080
1N5225B	3.0	20	29	1600	50	1.0	-0.075
1N5226B	3.3	20	28	1600	25	1.0	-0.070
1N5227B	3.6	20	24	1700	15	1.0	-0.065
1N5228B	3.9	20	23	1900	10	1.0	-0.060
1N5229B	4.3	20	22	2000	5.0	1.0	+/-0.055
1N5230B	4.7	20	19	1900	5.0	2.0	+/-0.030
1N5231B	5.1	20	17	1600	5.0	2.0	+/-0.030
1N5232B	5.6	20	11	1600	5.0	3.0	0.038
1N5233B	6.0	20	7	1600	5.0	3.5	0.038
1N5234B	6.2	20	7	1000	5.0	4.0	0.045
1N5235B	6.8	20	5	750	3.0	5.0	0.050
1N5236B	7.5	20	6	500	3.0	6.0	0.058
1N5237B	8.2	20	8	500	3.0	6.5	0.062
1N5238B	8.7	20	8	600	3.0	6.5	0.065
1N5239B	9.1	20	10	600	3.0	7.0	0.068
1N5240B	10	20	17	600	3.0	8.0	0.075
1N5241B	11	20	22	600	2.0	8.4	0.076
1N5242B	12	20	30	600	1.0	9.1	0.077

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# SILICON PLANAR ZENER DIODES

1N5223B to 1N5279B  
2.7V to 180V



DO-35  
Glass Axial Package

## ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless specified otherwise)

Forward Voltage at I<sub>F</sub>=200mA      V<sub>F</sub> <1.1 V

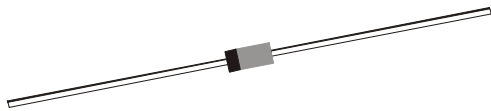
No Suffix ±20% tolerance, Suffix 'A' ±10% tolerance, and Suffix 'B' ±5% tolerance

Device (Note 1)	Nominal Voltage V <sub>Z</sub> at I <sub>ZT</sub>	Test Current I <sub>ZT</sub>	Max Zener Impedance A & B Suffix only (Note 2)		Max Reverse Leakage Current I <sub>R</sub> at V <sub>R</sub>		Max Zener Voltage Temp. Coeff. qV <sub>Z</sub> (Note 3)  (A&B Suffix only) a V <sub>Z</sub> (% /°C)
			Z <sub>ZT</sub> at I <sub>ZT</sub>	Z <sub>ZK</sub> at I <sub>ZK</sub> =0.25mA	mA	V	
	V	mA	W	W			
1N5243B	13	9.5	13	600	0.5	9.9	0.079
1N5244B	14	9.0	15	600	0.1	10	0.082
1N5245B	15	8.5	16	600	0.1	11	0.082
1N5246B	16	7.8	17	600	0.1	12	0.083
1N5247B	17	7.4	19	600	0.1	13	0.084
1N5248B	18	7.0	21	600	0.1	14	0.085
1N5249B	19	6.6	23	600	0.1	14	0.086
1N5250B	20	6.2	25	600	0.1	15	0.086
1N5251B	22	5.6	29	600	0.1	17	0.087
1N5252B	24	5.2	33	600	0.1	18	0.088
1N5253B	25	5.0	35	600	0.1	19	0.089
1N5254B	27	4.6	41	600	0.1	21	0.090
1N5255B	28	4.5	44	600	0.1	21	0.091
1N5256B	30	4.2	49	600	0.1	23	0.091
1N5257B	33	3.8	58	700	0.1	25	0.092
1N5258B	36	3.4	70	700	0.1	27	0.093
1N5259B	39	3.2	80	800	0.1	30	0.094
1N5260B	43	3.0	93	900	0.1	33	0.095
1N5261B	47	2.7	105	1000	0.1	36	0.095
1N5262B	51	2.5	125	1100	0.1	39	0.096
1N5263B	56	2.2	150	1300	0.1	43	0.096
1N5264B	60	2.1	170	1400	0.1	46	0.097
1N5265B	62	2.0	185	1400	0.1	47	0.097
1N5266B	68	1.8	230	1600	0.1	52	0.097
1N5267B	75	1.7	270	1700	0.1	56	0.098
1N5268B	82	1.5	330	2000	0.1	62	0.098
1N5269B	87	1.4	370	2200	0.1	68	0.099

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# SILICON PLANAR ZENER DIODES

1N5223B to 1N5279B  
2.7V to 180V



DO- 35  
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## ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless specified otherwise)

Forward Voltage at I<sub>F</sub>=200mA V<sub>F</sub> <1.1 V

No Suffix ±20% tolerance, Suffix 'A' ±10% tolerance, and Suffix 'B' ±5% tolerance

Device (Note 1)	Nominal Voltage V <sub>Z</sub> @ I <sub>ZT</sub>  V	Test Current I <sub>ZT</sub>  mA	Max Zener Impedance A & B Suffix only (Note 2) Z <sub>ZT</sub> @ I <sub>ZT</sub> Z <sub>ZK</sub> @ I <sub>ZK</sub> =0.25mA W                      W		Max Reverse Leakage Current  I <sub>R</sub> at V <sub>R</sub>  mA                      V		Max Zener Voltage Temp. Coeff. qV <sub>Z</sub> (Note 3)  (A&B Suffix only) a V <sub>Z</sub> (% /°C)
1N5270B	91	1.4	400	2300	0.1	69	0.099
1N5271B	100	1.3	500	2600	0.1	76	0.099
1N5272B	110	1.1	750	3000	0.1	84	0.11
1N5273B	120	1.0	900	4000	0.1	91	0.11
1N5274B	130	0.95	1100	4500	0.1	99	0.11
1N5275B	140	0.90	1300	4500	0.1	106	0.11
1N5276B	150	0.85	1500	5000	0.1	114	0.11
1N5277B	160	0.80	1700	5500	0.1	122	0.11
1N5278B	170	0.74	1900	5500	0.1	129	0.11
1N5279B	180	0.68	2200	6000	0.1	137	0.11

**NOTE 1:** The electrical characteristics are measured after allowing the device to stabilize for 20 seconds when mounted with a 9.525 mm (3/8") minimum lead length from the case.

**NOTE 2:** The zener impedance is derived from the 50 Hz AC voltage, which results when AC current having an RMS value equal to 10% of the DC zener current (I<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed on I<sub>ZT</sub> or I<sub>ZK</sub>. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve, thereby, eliminating unstable units.

**NOTE 3:** Temperature coefficient (qV<sub>Z</sub>).

Test conditions for temperature coefficient are as follows.

a. I<sub>ZT</sub>=7.5mA, T<sub>J</sub>=25°C

T<sub>2</sub>=125°C(1N5223A, B thru 1N5242A, B )

b. I<sub>ZT</sub>=Rated I<sub>ZT</sub>, T<sub>J</sub>=25°C

T<sub>2</sub>=125°C(1N5243A, B thru 1N5279A, B )

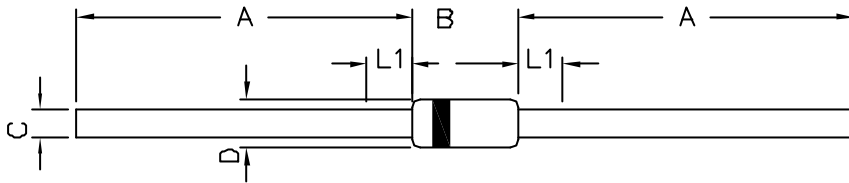
Device to be temperature stabilized with current applied prior to reading breakdown voltage at the specified ambient temperature

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**1N5223B to 1N5279B  
2.7V to 180V**

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**DO-35 Glass Axial Package**

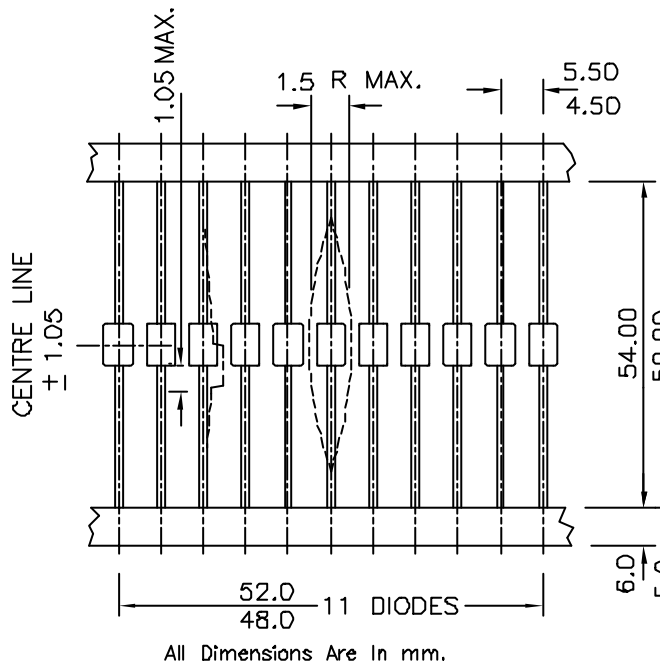


DIM	MIN	MAX
A	25.40	38.10
B	3.05	5.08
C	0.46	0.55
D	1.53	2.28
L1	-	1.27

NOTES:-

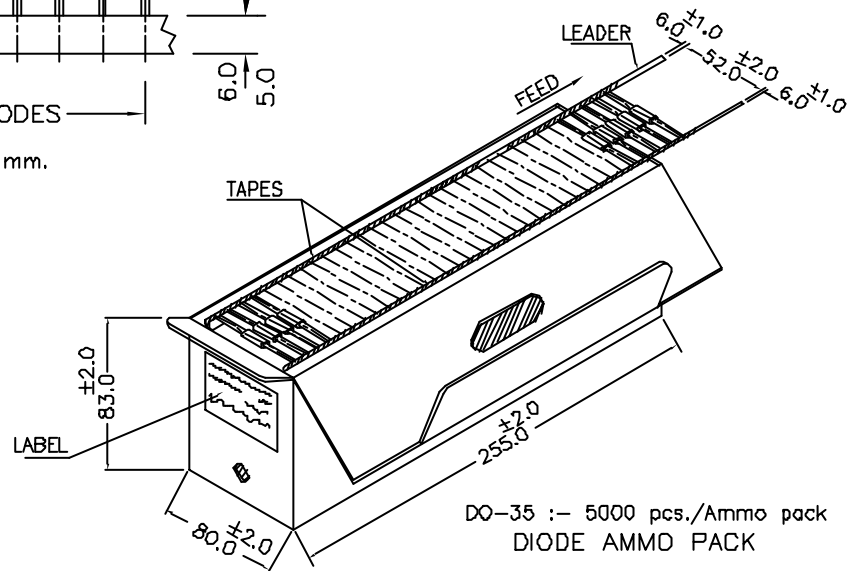
Cathode is marked by Band.  
All Dimensions Are In mm.

**DO-35, 52mm Taping Specification**



**52mm Taping Specification**

1. T & A Indicates Axial Tape & Ammo packing (52 mm Tape Specing)
2. 300 mm (min) leader tape on every spool.
3. No. of empty places allowed 0.25% without consecutive empty places.
4. Ends of leads shall preferably not protrude beyond the tapes.
5. Components shall be held sufficiently in the tape or tapes so that they can not come free in normal handling.



on request also available in 26 mm Tape and Ammo Pack

**Packing Detail**

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Qty
DO-35 T&A	5K/ammo box	0.88kg/5K pcs	10"X3.5"X3.5"	5.0K	12.7"X12.7"X20"	125.0K	25Kgs

### **Disclaimer**

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