

1N5223B through 1N5258B
Silicon Epitaxial Planar Zener Diodes
for Voltage Regulation

HITACHI

Preliminary
Rev. 0
Aug. 1993

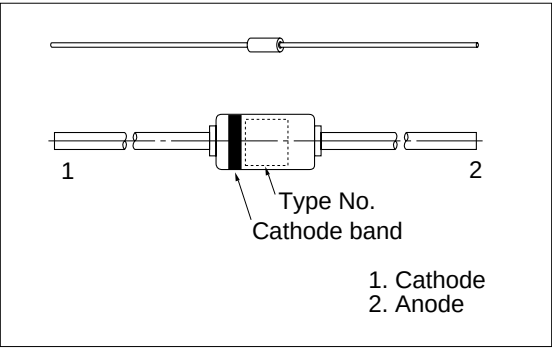
Features

- Glass package DO-35 structure ensures high reliability.
- Wide spectrum from 2.7V through 36V of zener voltage provide flexible application.

Ordering Information

Type No.	Mark	Package Code
1N5223B through 1N5258B	Type No.	DO-35

Outline



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Value	Unit
Power dissipation	p _d *	500	mW
Surge power dissipation	p _d (surge) **	10	W
Lead temperature	T _L ***	230	°C
Junction temperature	T _j	200	°C
Storage temperature	T _{stg}	-65 to +200	°C

* T_L = 75°C, Lead length = 3/8" (Derate 4.0mW/°C above 75°C).
** Non-recurrent square wave, pw = 8.3ms, T_j = 55°C, T_j is prior to surge.
*** Less than 1/16" from the case for 10 seconds.

Electrical Characteristics (Ta = 25°C)

	V _Z (V) *		I _R (μA)		Z _{ZT} (Ω)		Z _{ZK} (Ω)	
	Test Condition	I _Z (mA)	Test Condition	V _R (V)	Test Condition	I _{ZT} (mA)	Test Condition	I _{ZK} (mA)
1N5223B	2.7±5(%)	20	75	1.0	30	20	1300	0.25
1N5224B	2.8±5(%)	20	75	1.0	30	20	1400	0.25
1N5225B	3.0±5(%)	20	50	1.0	29	20	1600	0.25
1N5226B	3.3±5(%)	20	25	1.0	28	20	1600	0.25
1N5227B	3.6±5(%)	20	15	1.0	24	20	1700	0.25

* Tested with DC.

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	V_Z (V) *		I_R (μ A)		Z_{ZT} (Ω)		Z_{ZK} (Ω)	
		Test Condition I_Z (mA)	Max	Test Condition V_R (V)	Max	Test Condition I_{ZT} (mA)	Max	Test Condition I_{ZK} (mA)
1N5228B	3.9 $\pm$ 5(%)	20	10	1.0	23	20	1900	0.25
1N5229B	4.3 $\pm$ 5(%)	20	5	1.0	22	20	2000	0.25
1N5230B	4.7 $\pm$ 5(%)	20	5	2.0	19	20	1900	0.25
1N5231B	5.1 $\pm$ 5(%)	20	5	2.0	17	20	1600	0.25
1N5232B	5.6 $\pm$ 5(%)	20	5	3.0	11	20	1600	0.25
1N5233B	6.0 $\pm$ 5(%)	20	5	3.5	7	20	1600	0.25
1N5234B	6.2 $\pm$ 5(%)	20	5	4.0	7	20	1000	0.25
1N5235B	6.8 $\pm$ 5(%)	20	3	5.0	5	20	750	0.25
1N5236B	7.5 $\pm$ 5(%)	20	3	6.0	6	20	500	0.25
1N5237B	8.2 $\pm$ 5(%)	20	3	6.5	8	20	500	0.25
1N5238B	8.7 $\pm$ 5(%)	20	3	6.5	8	20	600	0.25
1N5239B	9.1 $\pm$ 5(%)	20	3	7.5	10	20	600	0.25
1N5240B	10 $\pm$ 5(%)	20	3	8.0	17	20	600	0.25
1N5241B	11 $\pm$ 5(%)	20	2	8.4	22	20	600	0.25
1N5242B	12 $\pm$ 5(%)	20	1	9.1	30	20	600	0.25
1N5243B	13 $\pm$ 5(%)	9.5	0.5	9.9	13	9.5	600	0.25
1N5244B	14 $\pm$ 5(%)	9.0	0.1	10	15	9.0	600	0.25
1N5245B	15 $\pm$ 5(%)	8.5	0.1	11	16	8.5	600	0.25
1N5246B	16 $\pm$ 5(%)	7.8	0.1	12	17	7.8	600	0.25
1N5247B	17 $\pm$ 5(%)	7.4	0.1	13	19	7.4	600	0.25
1N5248B	18 $\pm$ 5(%)	7.0	0.1	14	21	7.0	600	0.25
1N5249B	19 $\pm$ 5(%)	6.6	0.1	14	23	6.6	600	0.25
1N5250B	20 $\pm$ 5(%)	6.2	0.1	15	25	6.2	600	0.25
1N5251B	22 $\pm$ 5(%)	5.6	0.1	17	29	5.6	600	0.25
1N5252B	24 $\pm$ 5(%)	5.2	0.1	18	33	5.2	600	0.25
1N5253B	25 $\pm$ 5(%)	5.0	0.1	19	35	5.0	600	0.25
1N5254B	27 $\pm$ 5(%)	4.6	0.1	21	41	4.6	600	0.25
1N5255B	28 $\pm$ 5(%)	4.5	0.1	21	44	4.5	600	0.25
1N5256B	30 $\pm$ 5(%)	4.2	0.1	23	49	4.2	600	0.25
1N5257B	33 $\pm$ 5(%)	3.8	0.1	25	58	3.8	700	0.25
1N5258B	36 $\pm$ 5(%)	3.4	0.1	27	70	3.4	700	0.25

* Tested with DC.

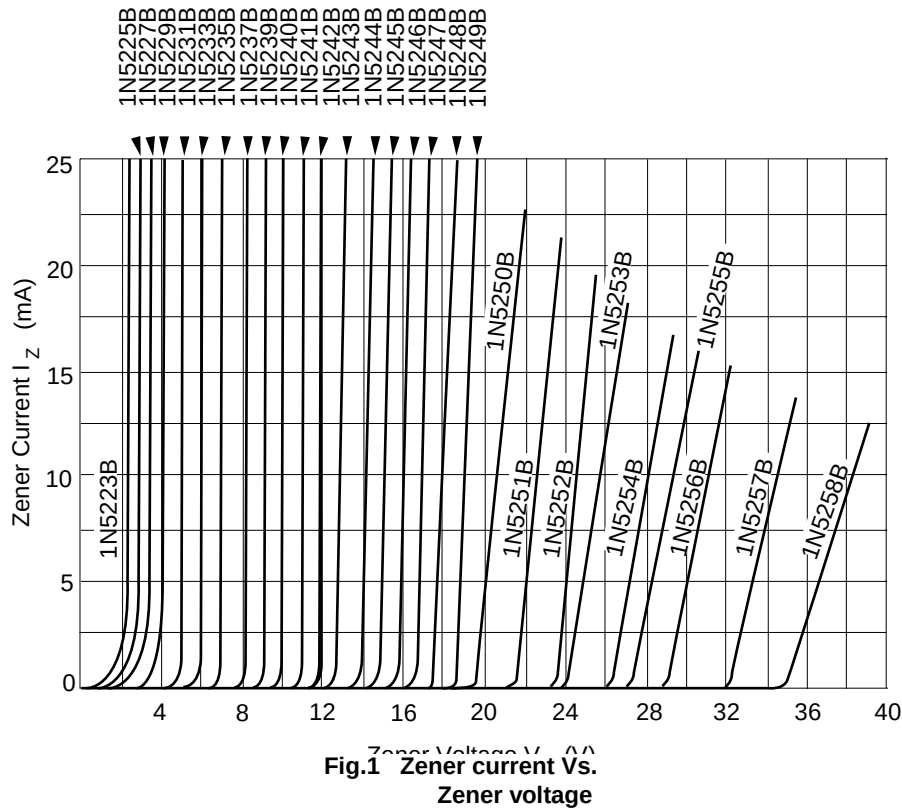


Fig.1 Zener current I_z Vs. Zener voltage V_z

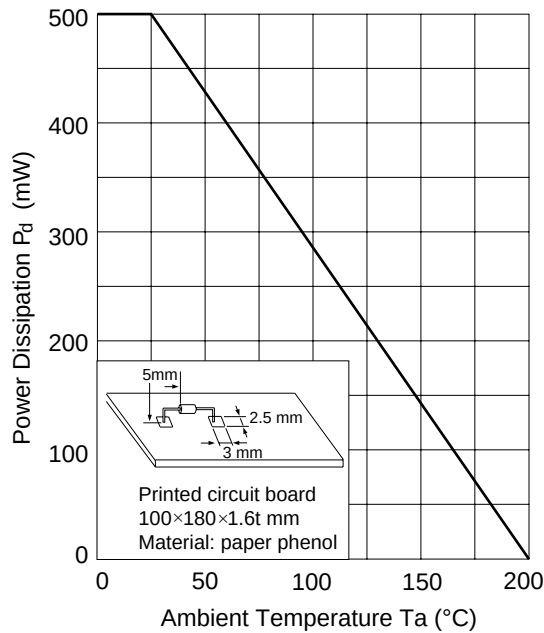
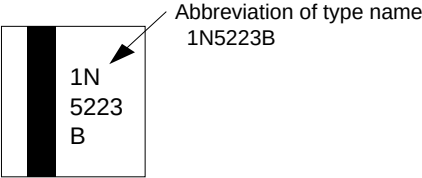
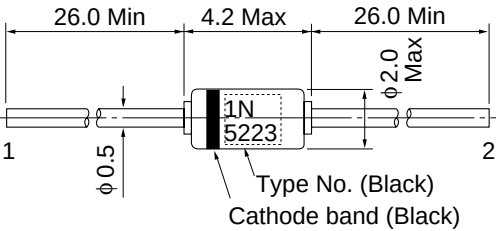


Fig.2 Power Dissipation Vs. Ambient Temperature

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Package Dimensions

Unit: mm



- 1 Cathode
- 2 Anode

Expanded drawing of marking

HITACHI Code	DO-35
JEDEC Code	DO-35
EIAJ Code	SC-48
Weight (g)	0.13