
1N5223B through 1N5258B

Silicon Epitaxial Planar Zener Diodes for Voltage Regulation

HITACHI

ADE-208-137 (Z)
Preliminary, Rev. 0
Aug. 1993

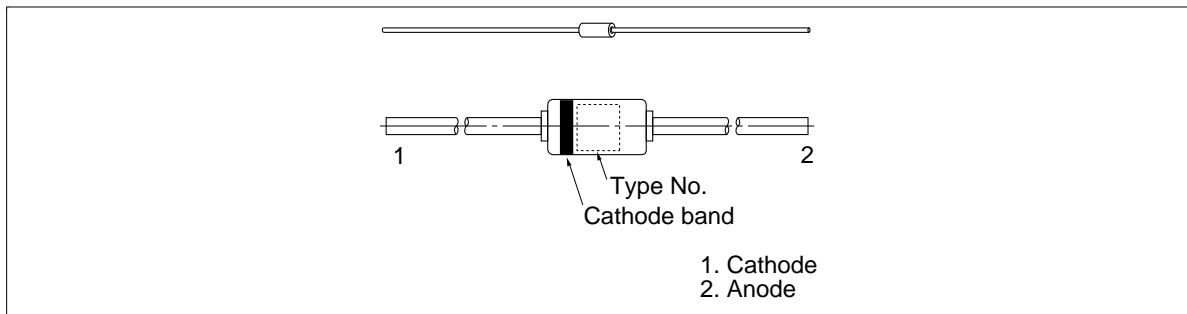
Features

- 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



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Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Value	Unit
Power dissipation	Pd* ¹	500	mW
Surge power dissipation	Pd(surge)* ²	10	W
Lead temperature	T _L * ³	230	°C
Junction temperature	T _j	200	°C
Storage temperature	T _{stg}	-65 to +200	°C

- Notes: 1. T_L = 75°C, Lead length = 3/8" (Derate 4.0mW/°C above 75°C).
 2. Non-recurrent square wave, pw = 8.3ms, T_j = 55°C, T_j is prior to surge.
 3. 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)	
	I _z (mA)	Test Condition	Max	Test Condition	Max	Test Condition	Max	Test Condition
		I _z (mA)		V _R (V)		I _{zT} (mA)		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
1N5228B	3.9 ± 5 (%)	20	10	1.0	23	20	1900	0.25
1N5229B	4.3 ± 5 (%)	20	5	1.0	22	20	2000	0.25
1N5230B	4.7 ± 5 (%)	20	5	2.0	19	20	1900	0.25
1N5231B	5.1 ± 5 (%)	20	5	2.0	17	20	1600	0.25
1N5232B	5.6 ± 5 (%)	20	5	3.0	11	20	1600	0.25
1N5233B	6.0 ± 5 (%)	20	5	3.5	7	20	1600	0.25
1N5234B	6.2 ± 5 (%)	20	5	4.0	7	20	1000	0.25
1N5235B	6.8 ± 5 (%)	20	3	5.0	5	20	750	0.25
1N5236B	7.5 ± 5 (%)	20	3	6.0	6	20	500	0.25
1N5237B	8.2 ± 5 (%)	20	3	6.5	8	20	500	0.25
1N5238B	8.7 ± 5 (%)	20	3	6.5	8	20	600	0.25
1N5239B	9.1 ± 5 (%)	20	3	7.5	10	20	600	0.25
1N5240B	10 ± 5 (%)	20	3	8.0	17	20	600	0.25
1N5241B	11 ± 5 (%)	20	2	8.4	22	20	600	0.25

Note: Tested with DC.

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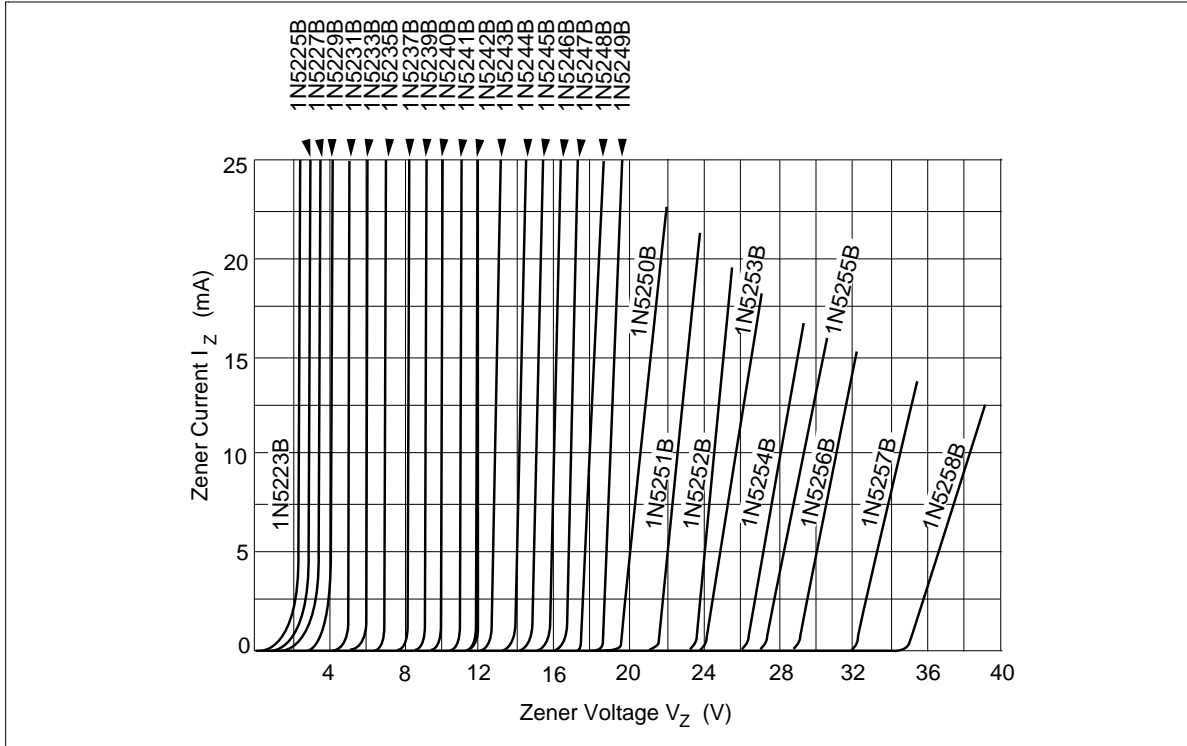
Electrical Characteristics (Ta = 25°C) (cont)

	V _z (V)*	I _r (μA)		Z _{zT} (Ω)		Z _{zK} (Ω)		
		Test Condition	Max	Test Condition	Max	Test Condition	Max	
		I _z (mA)	V _R (V)	I _{zT} (mA)	I _{zK} (mA)			
1N5241B	11 ± 5 (%)	20	2	8.4	22	20	600	0.25
1N5242B	12 ± 5 (%)	20	1	9.1	30	20	600	0.25
1N5243B	13 ± 5 (%)	9.5	0.5	9.9	13	9.5	600	0.25
1N5244B	14 ± 5 (%)	9.0	0.1	10	15	9.0	600	0.25
1N5245B	15 ± 5 (%)	8.5	0.1	11	16	8.5	600	0.25
1N5246B	16 ± 5 (%)	7.8	0.1	12	17	7.8	600	0.25
1N5247B	17 ± 5 (%)	7.4	0.1	13	19	7.4	600	0.25
1N5248B	18 ± 5 (%)	7.0	0.1	14	21	7.0	600	0.25
1N5249B	19 ± 5 (%)	6.6	0.1	14	23	6.6	600	0.25
1N5250B	20 ± 5 (%)	6.2	0.1	15	25	6.2	600	0.25
1N5251B	22 ± 5 (%)	5.6	0.1	17	29	5.6	600	0.25
1N5252B	24 ± 5 (%)	5.2	0.1	18	33	5.2	600	0.25
1N5253B	25 ± 5 (%)	5.0	0.1	19	35	5.0	600	0.25
1N5254B	27 ± 5 (%)	4.6	0.1	21	41	4.6	600	0.25
1N5255B	28 ± 5 (%)	4.5	0.1	21	44	4.5	600	0.25
1N5256B	30 ± 5 (%)	4.2	0.1	23	49	4.2	600	0.25
1N5257B	33 ± 5 (%)	3.8	0.1	25	58	3.8	700	0.25
1N5258B	36 ± 5 (%)	3.4	0.1	27	70	3.4	700	0.25

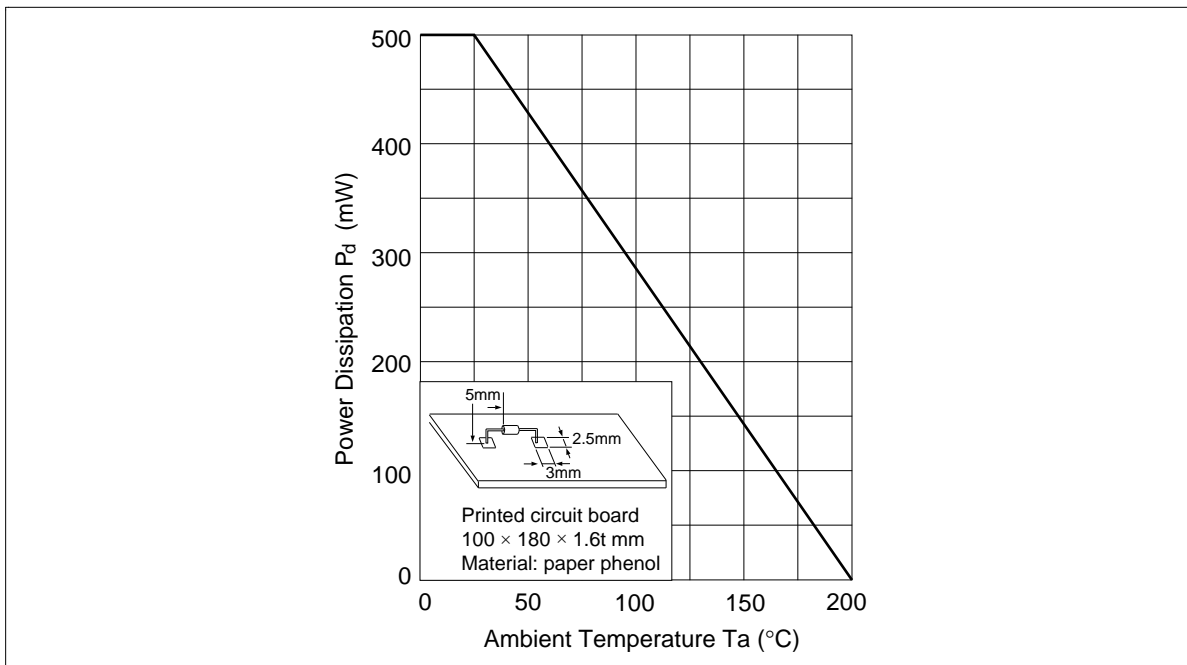
Note: Tested with DC.

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Zener current Vs. Zener voltage



Power Dissipation Vs. Ambient Temperature



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Package Dimensions

