

500 mW DO-35 Hermetically Sealed Glass Zener Voltage Regulators



Maximum Ratings (Note 1)

Rating	Symbol	Value	Units
Maximum Steady State Power Dissipation @TL≤75°C, Lead Length = 3/8"	P _D	500	mW
Derate Above 75°C		4.0	mW/°C
Operating and Storage Temperature Range	T _J , T _{stg}	-65 to +200	°C

Note 1: Some part number series have lower JEDEC registered ratings.

Specification Features:

- Zener Voltage Range = 2.4V to 110V
- ESD Rating of Class 3 (>6 KV) per Human Body Model
- DO-35 Package (DO-204AH)
- Double Slug Type Construction
- Metallurgical Bonded Construction
- RoHS Compliant
- Solder Hot Dip Tin (Sn) Lead Finish

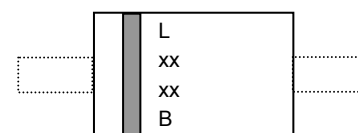
Specification Features:

Case : Double slug type, hermetically sealed glass

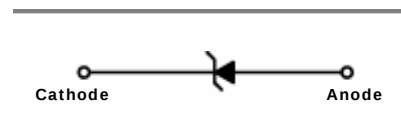
Finish : All external surfaces are corrosion resistant and leads are readily solderable

Polarity : Cathode indicated by polarity band

Mounting: Any



L = Logo
xxxxB = 1NxxxxB Device Code



ELECTRICAL CHARACTERIZATION ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Device (Note 2.)	Device Marking	Zener Voltage (Note 3.)				Zener Impedance (Note 4.)			Leakage Current		I _{ZM} (Note 5.)
		V _Z (Volts)			@I _{ZT}	Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}	IR @VR = 1V			
		Min	Nom	Max	(mA)	(Ω)	(Ω)	(mA)	(uA)	(Volts)	(mA)
1N5985B	1N5985B	2.280	2.4	2.520	5	100	1800	0.25	100	1	208
1N5986B	1N5986B	2.565	2.7	2.835	5	100	1900	0.25	75	1	185
1N5987B	1N5987B	2.850	3.0	3.150	5	95	2000	0.25	50	1	167
1N5988B	1N5988B	3.135	3.3	3.465	5	95	2200	0.25	25	1	152
1N5989B	1N5989B	3.420	3.6	3.780	5	90	2300	0.25	15	1	139
1N5990B	1N5990B	3.705	3.9	4.095	5	90	2400	0.25	10	1	128
1N5991B	1N5991B	4.085	4.3	4.515	5	88	2500	0.25	5	1	116
1N5992B	1N5992B	4.465	4.7	4.935	5	70	2200	0.25	3	1.5	106
1N5993B	1N5993B	4.845	5.1	5.355	5	50	2050	0.25	2	2	98
1N5994B	1N5994B	5.320	5.6	5.880	5	25	1800	0.25	2	3	89
1N5995B	1N5995B	5.890	6.2	6.510	5	10	1300	0.25	1	4	81
1N5996B	1N5996B	6.460	6.8	7.140	5	8	750	0.25	1	5.2	74
1N5997B	1N5997B	7.125	7.5	7.875	5	7	600	0.25	0.5	6	67
1N5998B	1N5998B	7.790	8.2	8.610	5	7	600	0.25	0.5	6.5	61
1N5999B	1N5999B	8.645	9.1	9.555	5	10	600	0.25	0.1	7	55
1N6000B	1N6000B	9.50	10	10.50	5	15	600	0.25	0.1	8	50
1N6001B	1N6001B	10.45	11	11.55	5	18	600	0.25	0.1	8.4	45
1N6002B	1N6002B	11.40	12	12.60	5	22	600	0.25	0.1	9.1	42
1N6003B	1N6003B	12.35	13	13.65	5	25	600	0.25	0.1	9.9	38
1N6004B	1N6004B	14.25	15	15.75	5	32	600	0.25	0.1	11	33
1N6005B	1N6005B	15.20	16	16.80	5	36	600	0.25	0.1	12	31
1N6006B	1N6006B	17.10	18	18.90	5	42	600	0.25	0.1	14	28
1N6007B	1N6007B	19.00	20	21.00	5	48	600	0.25	0.1	15	25
1N6008B	1N6008B	20.90	22	23.10	5	55	600	0.25	0.1	17	23
1N6009B	1N6009B	22.80	24	25.20	5	62	600	0.25	0.1	18	21
1N6010B	1N6010B	25.65	27	28.35	5	70	600	0.25	0.1	21	19
1N6011B	1N6011B	28.50	30	31.50	5	78	600	0.25	0.1	23	17
1N6012B	1N6012B	31.35	33	34.65	5	88	700	0.25	0.1	25	15
1N6013B	1N6013B	34.20	36	37.80	5	95	700	0.25	0.1	27	14
1N6014B	1N6014B	37.05	39	40.95	2	130	800	0.25	0.1	30	13
1N6015B	1N6015B	40.85	43	45.15	2	150	900	0.25	0.1	33	12
1N6016B	1N6016B	44.65	47	49.35	2	170	1000	0.25	0.1	36	11
1N6017B	1N6017B	48.45	51	53.55	2	180	1300	0.25	0.1	39	9.8
1N6018B	1N6018B	53.20	56	58.80	2	200	1400	0.25	0.1	43	8.9
1N6019B	1N6019B	58.90	62	65.10	2	225	1400	0.25	0.1	47	8.0
1N6020B	1N6020B	64.60	68	71.40	2	240	1600	0.25	0.1	52	7.4
1N6021B	1N6021B	71.25	75	78.75	2	265	1700	0.25	0.1	56	6.7
1N6022B	1N6022B	77.90	82	86.10	2	280	2000	0.25	0.1	62	6.1
1N6023B	1N6023B	86.45	91	95.55	2	300	2300	0.25	0.1	69	5.5
1N6024B	1N6024B	95.00	100	105.0	1	500	2600	0.25	0.1	76	5.0
1N6025B	1N6025B	104.5	110	115.5	1	650	3000	0.25	.1	82	4.5

VF Forward Voltage = 1.5V max @ $I_F = 100\text{mA}$ for all types

2. TOLERANCE AND VOLTAGE DESIGNATION

The type numbers listed have a standard tolerance on the nominal zener voltage of $\pm 5\%$.

3. ZENER VOLTAGE (V_Z) MEASUREMENT

The zener voltage (V_Z) is tested under pulse conditions such that T_J is no more than 2°C above T_A .

4. ZENER IMPEDANCE (Z_Z) DERIVATION

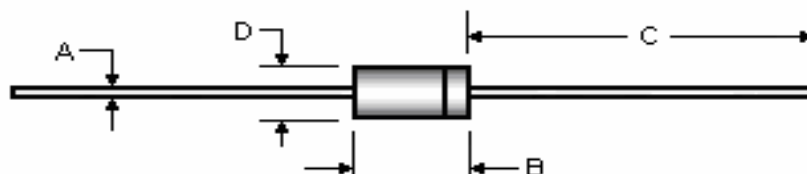
Z_{ZT} and Z_{ZK} are measured by dividing the AC voltage drop across the device by the AC current applied. The specified limits are for $I_{Z(AC)} = 0.1 I_{Z(DC)}$ with AC frequency = 60Hz.

5. MAXIMUM ZENER CURRENT RATINGS (I_{ZM})

This data was calculated using nominal voltages. The maximum current handling capability on a worst case basis is limited by the actual zener voltage at the operation point and the power duration curve.

Package Outline

Case Outline



DIM	DO-35			
	Millimeters		Inches	
	Min	Max	Min	Max
A	0.46	0.56	0.018	0.022
B	3.05	5.08	0.120	0.200
C	25.40	38.10	1.000	1.500
D	1.52	2.29	0.060	0.090

Note: all dimensions are within JEDEC standard.

This datasheet presents technical data of Tak Cheong's Zener Diodes. Complete specifications for the individual devices are provided in the form of datasheets. A comprehensive Selector Guide is included to simplify the task of choosing the best set of components required for a specific application. For additional information, please visit our website <http://www.takcheong.com>.

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