

500 mW DO-35 Hermetically Sealed Glass Zener Voltage Regulators



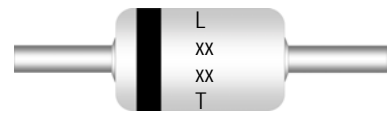
AXIAL LEAD
DO35

Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

Parameter	Value	Units
Power Dissipation	500	mW
Storage Temperature Range	-65 to +200	$^\circ\text{C}$
Operating Junction Temperature	+200	$^\circ\text{C}$

These ratings are limiting values above which the serviceability of the diode may be impaired.

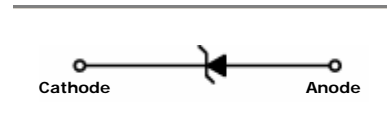
DEVICE MARKING DIAGRAM



L : Logo
 Device Code : TC1NxxxxT
 Tolerance (T) : A = 10%
 B = 5%
 C = 2%
 D = 1%

Specification Features:

- Zener Voltage Range 2.4 to 75 Volts
- DO-35 Package (JEDEC)
- Through-Hole Device Type Mounting
- Hermetically Sealed Glass
- Compression Bonded Construction
- All external surfaces are corrosion resistant and leads are readily solderable
- RoHS Compliant
- Solder Hot Dip Tin (Sn) Lead Finish
- Cathode Indicated By Polarity Band



ELECTRICAL SYMBOL

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Device	Zener Voltage			Zener Impedance			Leakage Current		
	V_Z (Volts)			Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}		I_R @ V_R		
	Min	Nom	Max	(mA)	(Ω)	(mA)	(μA)	(Volts)	
TC1N5985B	2.280	2.4	2.520	5	100	1800	0.25	100	1
TC1N5986B	2.565	2.7	2.835	5	100	1900	0.25	75	1
TC1N5987B	2.850	3	3.150	5	95	2000	0.25	50	1
TC1N5988B	3.135	3.3	3.465	5	95	2200	0.25	25	1
TC1N5989B	3.420	3.6	3.780	5	90	2300	0.25	15	1
TC1N5990B	3.705	3.9	4.095	5	90	2400	0.25	10	1
TC1N5991B	4.085	4.3	4.515	5	88	2500	0.25	5	1
TC1N5992B	4.465	4.7	4.935	5	70	2200	0.25	3	1.5
TC1N5993B	4.845	5.1	5.355	5	50	2050	0.25	2	2
TC1N5994B	5.320	5.6	5.880	5	25	1800	0.25	2	3
TC1N5995B	5.890	6.2	6.510	5	10	1300	0.25	1	4
TC1N5996B	6.460	6.8	7.140	5	8	750	0.25	1	5.2
TC1N5997B	7.125	7.5	7.875	5	7	600	0.25	0.5	6
TC1N5998B	7.790	8.2	8.610	5	7	600	0.25	0.5	6.5
TC1N5999B	8.645	9.1	9.555	5	10	600	0.25	0.1	7
TC1N6000B	9.50	10	10.50	5	15	600	0.25	0.1	8
TC1N6001B	10.45	11	11.55	5	18	600	0.25	0.1	8.4

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Device	Zener Voltage			Zener Impedance			Leakage Current		
	V_Z (Volts)			$@ I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$	
	Min	Nom	Max	(mA)	(Ω)	(Ω)	(mA)	(μA)	(Volts)
TC1N6002B	11.40	12	12.60	5	22	600	0.25	0.1	9.1
TC1N6003B	12.35	13	13.65	5	25	600	0.25	0.1	9.9
TC1N6004B	14.25	15	15.75	5	32	600	0.25	0.1	11
TC1N6005B	15.20	16	16.80	5	36	600	0.25	0.1	12
TC1N6006B	17.10	18	18.90	5	42	600	0.25	0.1	14
TC1N6007B	19.00	20	21.00	5	48	600	0.25	0.1	15
TC1N6008B	20.90	22	23.10	5	55	600	0.25	0.1	17
TC1N6009B	22.80	24	25.20	5	62	600	0.25	0.1	18
TC1N6010B	25.65	27	28.35	5	70	600	0.25	0.1	21
TC1N6011B	28.50	30	31.50	5	78	600	0.25	0.1	23
TC1N6012B	31.35	33	34.65	5	88	700	0.25	0.1	25
TC1N6013B	34.20	36	37.80	5	95	700	0.25	0.1	27
TC1N6014B	37.05	39	40.95	2	130	800	0.25	0.1	30
TC1N6015B	40.85	43	45.15	2	150	900	0.25	0.1	33
TC1N6016B	44.65	47	49.35	2	170	1000	0.25	0.1	36
TC1N6017B	48.45	51	53.55	2	180	1300	0.25	0.1	39
TC1N6018B	53.20	56	58.80	2	200	1400	0.25	0.1	43
TC1N6019B	58.90	62	65.10	2	225	1400	0.25	0.1	47
TC1N6020B	64.60	68	71.40	2	240	1600	0.25	0.1	52
TC1N6021B	71.25	75	78.75	2	265	1700	0.25	0.1	56

Notes:

1. TOLERANCE AND VOLTAGE DESIGNATION

The type numbers listed have zener voltage as shown and have a standard tolerance on the nominal zener voltage of $\pm 5\%$. Suffix A = $\pm 10\%$, C = $\pm 2\%$ and D = $\pm 1\%$.

2. SPECIALS AVAILABLE INCLUDE

Nominal zener voltages between the voltages shown and tighter voltage, for detailed information on price, availability and delivery, contact you nearest Tak Cheong representative.

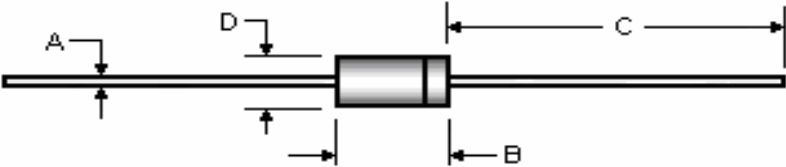
3. ZENER VOLTAGE (V_Z) MEASUREMENT

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

Zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an RMS value equal to 10% of the dc zener current (I_{ZT}) is superimposed to I_{ZT} .

Package Outline

Package	Case Outline				
DO-35					
	DO-35				
	DIM	Millimeters		Inches	
		Min	Max	Min	Max
	A	0.46	0.55	0.018	0.022
	B	3.05	5.08	0.120	0.200
C	25.40	38.10	1.000	1.500	
D	1.53	2.28	0.060	0.090	


Notes:

1. All dimensions are within JEDEC standard.
2. DO35 polarity denoted by cathode band.

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>.

Although information in this datasheet has been carefully checked, no responsibility for the inaccuracies can be assumed by Tak Cheong. Please consult your nearest Tak Cheong's sales office for further assistance.

Tak Cheong reserves the right to make changes without further notice to any products herein to further improve reliability, function or design, cost and productivity.

TAK CHEONG® and  are registered trademarks of Tak Cheong Electronics (Holdings) Co., Ltd.