

## 500 mW DO-35 Hermetically Sealed Glass Zener Voltage Regulators

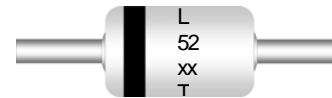

 AXIAL LEAD  
DO35

### 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.

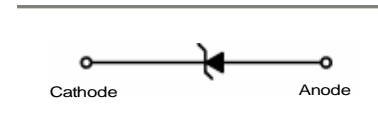
DEVICE MARKING DIAGRAM



L : Logo  
 Device Code : TC1N52xxT  
 VZ Tolerance (T) : B =  $\pm 5\%$   
 C =  $\pm 2\%$

### Specification Features:

- Zener Voltage Range 2.4 to 56 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 Type	$V_Z @ I_{ZT}$ (Volts) Nominal	$I_{ZT}$ (mA)	$Z_{ZT} @ I_{ZT}$ ( $\Omega$ ) Max	$Z_{ZK} @ I_{ZK} = 0.25\text{mA}$ ( $\Omega$ ) Max	$I_R @ V_R$ ( $\mu\text{A}$ ) Max	$V_R$ (Volts)
TC1N5221B	2.4	20	30	1200	100	1
TC1N5222B	2.5	20	30	1250	100	1
TC1N5223B	2.7	20	30	1300	75	1
TC1N5224B	2.8	20	30	1400	75	1
TC1N5225B	3	20	29	1600	50	1
TC1N5226B	3.3	20	28	1600	25	1
TC1N5227B	3.6	20	24	1700	15	1
TC1N5228B	3.9	20	23	1900	10	1
TC1N5229B	4.3	20	22	2000	5	1
TC1N5230B	4.7	20	19	1900	5	2
TC1N5231B	5.1	20	17	1600	5	2
TC1N5232B	5.6	20	11	1600	5	3
TC1N5233B	6	20	7	1600	5	3.5
TC1N5234B	6.2	20	7	1000	5	4
TC1N5235B	6.8	20	5	750	3	5
TC1N5236B	7.5	20	6	500	3	6
TC1N5237B	8.2	20	8	500	3	6.5
TC1N5238B	8.7	20	8	600	3	6.5
TC1N5239B	9.1	20	10	600	3	7
TC1N5240B	10	20	17	600	3	8

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

Device Type	$V_Z @ I_{ZT}$ (Volts) Nominal	$I_{ZT}$ (mA)	$Z_{ZT} @ I_{ZT}$ ( $\Omega$ ) Max	$Z_{ZK} @ I_{ZK} = 0.25\text{mA}$ ( $\Omega$ ) Max	$I_R @ V_R$ ( $\mu\text{A}$ ) Max	$V_R$ (Volts)
TC1N5241B	11	20	22	600	2	8.4
TC1N5242B	12	20	30	600	1	9.1
TC1N5243B	13	9.5	13	600	0.5	9.9
TC1N5244B	14	9	15	600	0.1	10
TC1N5245B	15	8.5	16	600	0.1	11
TC1N5246B	16	7.8	17	600	0.1	12
TC1N5247B	17	7.4	19	600	0.1	13
TC1N5248B	18	7	21	600	0.1	14
TC1N5249B	19	6.6	23	600	0.1	14
TC1N5250B	20	6.2	25	600	0.1	15
TC1N5251B	22	5.6	29	600	0.1	17
TC1N5252B	24	5.2	33	600	0.1	18
TC1N5253B	25	5	35	600	0.1	19
TC1N5254B	27	4.6	41	600	0.1	21
TC1N5255B	28	4.5	44	600	0.1	21
TC1N5256B	30	4.2	49	600	0.1	23
TC1N5257B	33	3.8	58	700	0.1	25
TC1N5258B	36	3.4	70	700	0.1	27
TC1N5259B	39	3.2	80	800	0.1	30
TC1N5258B	36	3.4	70	700	0.1	27
TC1N5259B	39	3.2	80	800	0.1	30
TC1N5260B	43	3	93	900	0.1	33
TC1N5261B	47	2.7	105	1000	0.1	36
TC1N5262B	51	2.5	125	1100	0.1	39
TC1N5263B	56	2.2	150	1300	0.1	43

$V_F$  Forward Voltage = 1.1 V Maximum @  $I_F = 200$  mA for all types

**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  $\pm 5\%$ . Device of  $\pm 2\%$  is indicated by a "C" instead of a "B"

**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.

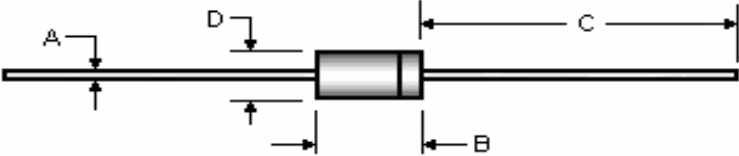
**3. ZENER VOLTAGE ( $V_Z$ ) MEASUREMENT**

The zener voltage ( $V_Z$ ) is tested under pulse condition. The measured  $V_Z$  is guaranteed to be within specification with device junction in thermal equilibrium.

**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					
	DIM	DO-35			
		Millimeters		Inches	
		Min	Max	Min	Max
	<b>A</b>	0.46	0.55	0.018	0.022
	<b>B</b>	3.05	5.08	0.120	0.200
<b>C</b>	25.40	38.10	1.000	1.500	
<b>D</b>	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.