

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

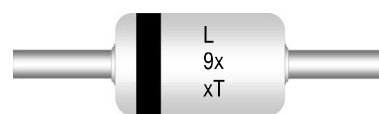


### Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

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.

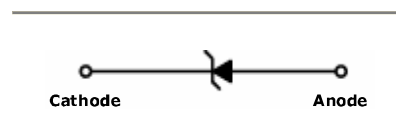
### DEVICE MARKING DIAGRAM



L : Logo  
 Device Code : TC1N9xxT  
 Tolerance (T) : A = 10%  
                   B = 5%  
                   C = 2%  
                   D = 1%

### Specification Features:

- Zener Voltage Range 6.8 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)
TC1N957B	6.8	18.5	4.5	700	150	5.2
TC1N958B	7.5	16.5	5.5	700	75	5.7
TC1N959B	8.2	15	6.5	700	50	6.2
TC1N960B	9.1	14	7.5	700	25	6.9
TC1N961B	10	12.5	8.5	700	10	7.6
TC1N962B	11	11.5	9.5	700	5	8.4
TC1N963B	12	10.5	11.5	700	5	9.1
TC1N964B	13	9.5	13	700	5	9.9
TC1N965B	15	8.5	16	700	5	11.4
TC1N966B	16	7.8	17	700	5	12.2
TC1N967B	18	7	21	750	5	13.7
TC1N968B	20	6.2	25	750	5	15.2
TC1N969B	22	5.6	29	750	5	16.7
TC1N970B	24	5.2	33	750	5	18.2
TC1N971B	27	4.6	41	750	5	20.6
TC1N972B	30	4.2	49	1000	5	22.8
TC1N973B	33	3.8	58	1000	5	25.1
TC1N974B	36	3.4	70	1000	5	27.4
TC1N975B	39	3.2	80	1000	5	29.7
TC1N976B	43	3	93	1500	5	32.7

**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)
TC1N977B	47	2.7	105	1500	5	35.8
TC1N978B	51	2.5	125	1500	5	38.8
TC1N979B	56	2.2	150	2000	5	42.6

$V_F$  Forward Voltage = 1.5 V Maximum @  $I_F = 200\text{ mA}$  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  $\pm 5\%$ . Suffix A =  $\pm 10\%$ , Suffix 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.

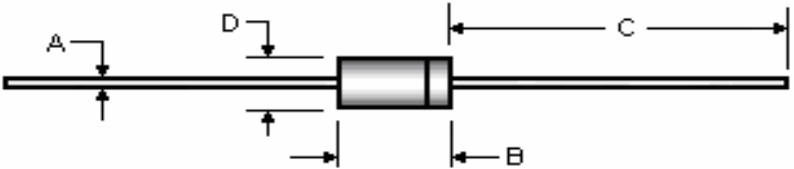
**3. ZENER VOLTAGE ( $V_Z$ ) MEASUREMENT**

The zener voltage ( $V_Z$ ) is tested under pulse condition.

**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
	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.

## **NOTICE**

The information presented in this document is for reference only. Tak Cheong reserves the right to make changes without notice for the specification of the products displayed herein.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Tak Cheong Semiconductor Co., Ltd., or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <http://www.takcheong.com>, or consult your nearest Tak Cheong's sales office for further assistance.