

## 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 <sub>D</sub>	500	mW
Derate Above 75°C		4.0	mW/°C
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-65 to +200	°C

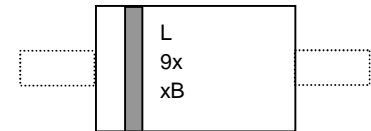
Note 1: Some part number series have lower JEDEC registered ratings.

### Specification Features:

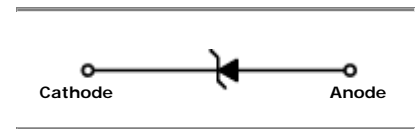
- § Zener Voltage Range = 6.8V to 100V
- § ESD Rating of Class 3 (>6 KV) per Human Body Model
- § DO-35 Package (DO-204AH)
- § Double Slug Type Construction
- § Former Metallurgical Bonded Construction
- § RoHS Compliant
- § Solder Hot Dip Tin (Sn) Lead Finish

### 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  
9xxB = 1N9xxB 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)	( $\Omega$ )	( $\Omega$ )	(mA)	( $\mu\text{A}$ )		(Volts)
1N957B	1N957B	6.460	6.8	7.140	18.5	4.5	700	1	150	5.2	47
1N958B	1N958B	7.125	7.5	8.875	16.5	5.5	700	0.5	75	5.7	42
1N959B	1N959B	7.790	8.2	8.610	15	6.5	700	0.5	50	6.2	38
1N960B	1N960B	8.645	9.1	9.555	14	7.5	700	0.5	25	6.9	35
1N961B	1N961B	9.500	10	10.500	12.5	8.5	700	0.25	10	7.6	32
1N962B	1N962B	10.45	11	11.55	11.5	9.5	700	0.25	5	8.4	28
1N963B	1N963B	11.40	12	12.60	10.5	11.5	700	0.25	5	9.1	26
1N964B	1N964B	12.35	13	13.65	9.5	13	700	0.25	5	9.9	24
1N965B	1N965B	14.25	15	15.75	8.5	16	700	0.25	5	11.4	21
1N966B	1N966B	15.20	16	16.8	7.8	17	700	0.25	5	12.2	19
1N967B	1N967B	17.10	18	18.90	7	21	750	0.25	5	13.7	17
1N968B	1N968B	19.00	20	21.00	6.2	25	750	0.25	5	15.2	15
1N969B	1N969B	20.90	22	23.10	5.6	29	750	0.25	5	16.7	14

VF Forward Voltage = 1.5V max @  $I_F = 200\text{mA}$  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**

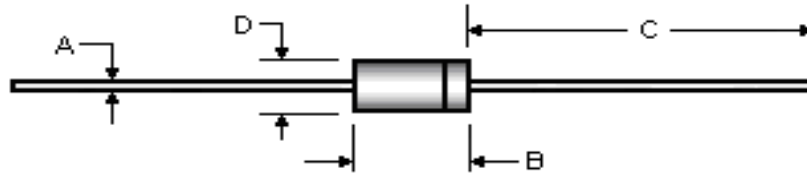
The zener voltage ( $V_Z$ ) is tested under pulse condition. The measured  $V_Z$  is guaranteed to be within specification with device junction in thermal equilibrium.

**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 ( $I_{ZM}$ )**

Values shown are based on the JEDEC rating of 400mW where the actual zener voltage ( $V_Z$ ) is known at the operation point, the zener current may be increased and is limited by the derating curve.

**Package Outline**
**Case Outline**


DIM	DO-35			
	Millimeters		Inches	
	Min	Max	Min	Max
<b>A</b>	0.46	0.56	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>	1.52	2.29	0.060	0.090

**Note:** all dimensions are within JEDEC standard.