



ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748-5089
<http://www.nteinc.com>

1N957B thru 1N973B Zener Diode, 1/2 Watt ±5% Tolerance

Features:

- Zener Voltage 6.8 to 33V
- DO35 Package

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Operating Junction Temperature Range, T_{opr} -65° to $+200^\circ\text{C}$
Storage Temperature Range, T_{stg} -65° to $+200^\circ\text{C}$
DC Power Dissipation ($T_L \leq +50^\circ\text{C}$), P_D 500mW
Derate Above 50°C $3.33\text{mW}/^\circ\text{C}$
Forward Voltage ($I_F = 200\text{mA}$), V_F 1.5V

Electrical Characteristics: ($T_C = +25^\circ\text{C}$, unless otherwise specified)

Device Number	Nominal Zener Voltage V_Z (Note 1) Volts	Test Current I_{ZT} mA	Maximum Zener Impedance (Note 2)			Maximum DC Zener Current I_{ZM} mA		Maximum Reverse Current		
			$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	I_{ZK}			$I_R \text{ Max}$	Test Voltage Vdc	
			Ohms	Ohms	mA			μA	5% V_R	10%
1N957B	6.8	18.5	4.5	700	1.0	47	61	150	5.2	4.9
1N958B	7.5	16.5	5.5	700	0.5	42	55	75	5.7	5.4
1N959B	8.2	15.0	6.5	700	0.5	38	50	50	6.2	5.9
1N960B	9.1	14.0	7.5	700	0.5	35	45	25	6.9	6.6
1N961B	10	12.5	8.5	700	0.25	32	41	10	7.6	7.2
1N962B	11	11.5	9.5	700	0.25	28	37	5	8.4	8.0
1N963B	12	10.5	11.5	700	0.25	26	34	5	9.1	8.6

Note 1. Nominal zener voltage is measured with the device junction in thermal equilibrium at the lead temperature of $+30^\circ\text{C} \pm 1^\circ\text{C}$ and 3/8" lead length.

Note 2. 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 the AC frequency = 60Hz.

Electrical Characteristics (Cont'd): ($T_C = +25^\circ\text{C}$, unless otherwise specified)

Device Number	Nominal Zener Voltage V_Z (Note 1)	Test Current I_{ZT}	Maximum Zener Impedance (Note 2)			Maximum DC Zener Current I_{ZM}		Maximum Reverse Current		
			$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	I_{ZK}			$I_R \text{ Max}$	Test Voltage V_{dc}	
	Volts	mA	Ohms	Ohms	mA	mA		μA	5% V_R	10%
1N964B	13	9.5	13.0	700	0.25	24	32	5	9.9	9.4
1N965B	15	8.5	16.0	700	0.25	21	27	5	11.4	10.8
1N966B	16	7.8	17.0	700	0.25	19	37	5	12.2	11.5
1N967B	18	7.0	21.0	750	0.25	17	23	5	13.7	13.0
1N968B	20	6.2	25.0	750	0.25	15	20	5	15.2	14.4
1N969B	22	5.6	29.0	750	0.25	14	18	5	16.7	15.8
1N970B	24	5.2	33.0	750	0.25	13	17	5	18.2	17.3
1N971B	27	4.6	41.0	750	0.25	11	15	5	20.6	19.4
1N972B	30	4.2	49.0	1000	0.25	10	13	5	22.8	21.6
1N973B	33	3.8	58.0	1000	0.25	9.2	12.5	5	25.1	23.8

Note 1. Nominal zener voltage is measured with the device junction in thermal equilibrium at the lead temperature of $+30^\circ\text{C} \pm 1^\circ\text{C}$ and 3/8" lead length.

Note 2. 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 the AC frequency = 60Hz.

