

Zeners 1N957B - 1N991B

Absolute Maximum Ratings * T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
P _D	Power Dissipation @ TL ≤ 75°C, Lead Length = 3/8"	500	mW
	Derate above 75°C	4.0	mW/°C
T _J , T _{STG}	Operating and Storage Temperature Range	-65 to +200	°C

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

Tolerance = 5%



Electrical Characteristics T_A = 25°C unless otherwise noted

Device	V _Z (Volts) (Note 1)				Z _Z (Ω) (Note 2)			I _R @ V _R		I _{ZM} (mA) (Note 3)
	Min.	Typ.	Max.	@ I _Z (mA)	Z _Z @ I _Z	Z _{ZK} @ I _{ZK}		μA	Volts	
						Ω	mA			
1N957BT	6.46	6.8	7.14	18.5	4.5	700	1.0	150	5.2	47
1N958BT	7.125	7.5	7.875	16.5	5.5	700	0.5	75	5.7	42
1N959BT	7.79	8.2	8.61	15	6.5	700	0.5	50	6.2	38
1N960BT	8.645	9.1	9.555	14	7.5	700	0.5	25	6.9	35
1N961BT	9.5	10	10.5	12.5	8.5	700	0.25	10	7.6	32
1N962BT	10.45	11	11.55	11.5	9.5	700	0.25	5	8.4	28
1N963BT	11.4	12	12.6	10.5	11.5	700	0.25	5	9.1	26
1N964BT	12.35	13	13.65	9.5	13	700	0.25	5	9.9	24
1N965BT	14.25	15	15.75	8.5	16	700	0.25	5	11.4	21
1N966BT	15.2	16	16.8	7.8	17	700	0.25	5	12.2	19
1N967BT	17.1	18	18.9	7.0	21	750	0.25	5	13.7	17
1N968BT	19	20	21	6.2	25	750	0.25	5	15.2	15
1N969B	20.9	22	23.1	5.6	29	750	0.25	5	16.7	14
1N970B	22.8	24	25.2	5.2	33	750	0.25	5	18.2	13
1N971B	25.65	27	28.35	4.6	41	750	0.25	5	20.6	11
1N972B	28.5	30	31.5	4.2	49	1000	0.25	5	22.8	10
1N973B	31.35	33	34.65	3.8	58	1000	0.25	5	25.1	9.2
1N974B	34.2	36	37.8	3.4	70	1000	0.25	5	27.4	8.5
1N975B	37.05	39	40.95	3.2	80	1000	0.25	5	29.7	7.8
1N976B	40.85	43	45.15	3.0	93	1500	0.25	5	32.7	7.0
1N977B	44.65	47	49.35	2.7	105	1500	0.25	5	35.8	6.4
1N978B	48.45	51	53.55	2.5	125	1500	0.25	5	38.8	5.9
1N979B	53.2	56	58.8	2.2	150	2000	0.25	5	42.6	5.4
1N980B	58.9	62	65.1	2.0	185	2000	0.25	5	47.1	4.9
1N981B	64.6	68	71.4	1.8	230	2000	0.25	5	51.7	4.5

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

Device	V_Z (Volts) (Note 1)				Z_Z (Ω) (Note 2)			$I_R @ V_R$		I_{ZM} (mA) (Note 3)
	Min.	Typ.	Max.	@ I_Z	$Z_Z @ I_Z$	$Z_{ZK} @ I_{ZK}$		μA	Volts	
						Ω	mA			
1N982B	71.25	75	78.75	1.7	270	2000	0.25	5	56.0	4.1
1N983B	77.9	82	86.1	1.5	330	3000	0.25	5	62.2	3.7
1N984B	86.45	91	95.55	1.4	400	3000	0.25	5	69.2	3.3
1N985B	95	100	105	1.3	500	3000	0.25	5	76.0	3.0
1N986B	104.5	110	115.5	1.1	750	4000	0.25	5	83.6	2.7
1N987B	114	120	126	1.0	900	4500	0.25	5	91.2	2.5
1N988B	123.5	130	136.5	0.95	1100	5000	0.25	5	98.8	2.3
1N989B	142.5	150	157.5	0.85	1500	6000	0.25	5	114	2.0
1N990B	152	160	168	0.80	1700	6500	0.25	5	121.6	1.9
1N991B	171	180	189	0.68	2200	7100	0.25	5	136.8	1.7

Notes:

- Zener Voltage (V_Z) Measurement
Nominal zener voltage is measured with the device junction in the thermal equilibrium at the lead temperature (T_L) at $30^{\circ}\text{C} \pm 1^{\circ}\text{C}$ and 3/8" lead length.
- 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 the ac frequency = 60Hz.
- Maximum Zener Current Ratings (I_{ZM})
The maximum current handling capability on a worst case basis is limited by the actual zener voltage at the operation point and the power derating curve.

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