

1N957B-1 thru 1N986B-1

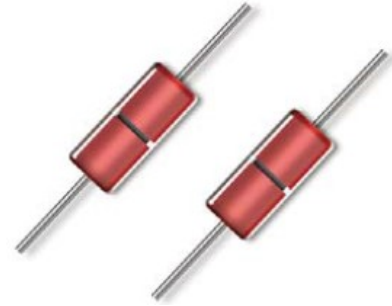


Silicon Zener Diode Series

Rev. V1

Features

- 1N962B-1 thru 1N986B-1 Available in JAN, JANTX and JANTXV per MIL-PRF-19500/117
- Standard voltage tolerances are plus/minus 5% with B suffix, 10% with A suffix identification.
- Tight tolerances available in plus or minus 2% or 1% with C or D suffix respectively.
- 500 mW power handling
- Hermetically sealed axial-leaded glass DO-35 package.



Electrical Specifications: $T_A = +25^\circ\text{C}$ (unless otherwise specified)

Part # ¹	Normal Zener Voltage V_Z	Zener Test Current I_{ZT}	Max. Zener Impedance			Max. DC Zener Current I_{ZM}	Max. Surge Current I_{ZSM}	Max. Reverse Leakage $I_R @ V_R$		Max. Temperature Coefficient a_{V_Z}
	Volts	mA	$Z_{ZT} @ I_{ZT}$ Ohms	Z_{ZK} Ohms	@ I_{ZK} mA	mA	mA	mA	Volts	%/°C
1N957B-1	6.8	18.5	4.5	700	1.0	55	300	150	5.2	0.050
1N958B-1	7.5	16.5	5.5	700	0.5	50	275	75	5.7	0.058
1N959B-1	8.2	15.0	6.5	700	0.5	45	250	50	6.2	0.065
1N960B-1	9.1	14.0	7.5	700	0.5	41	225	25	6.9	0.068
1N961B-1	10	12.5	8.5	700	0.25	38	200	10	7.6	0.075
1N962B-1	11	11.5	9.5	700	0.25	32	175	5	8.4	0.076
1N963B-1	12	10.5	11.5	700	0.25	31	160	5	9.1	0.077
1N964B-1	13	9.5	13	700	0.25	28	150	5	9.9	0.079
1N965B-1	15	8.5	16	700	0.25	25	130	5	11.4	0.082
1N966B-1	16	7.8	17	700	0.25	24	120	5	12.2	0.083
1N967B-1	18	7.0	21	750	0.25	20	110	5	13.7	0.085
1N968B-1	20	6.2	25	750	0.25	18	100	5	15.2	0.086
1N969B-1	22	5.6	29	750	0.25	16	90	5	16.7	0.087
1N970B-1	24	5.2	33	750	0.25	15	80	5	18.2	0.088

1. The JEDEC type numbers shown (B Suffix) have a +5% tolerance on nominal Zener Voltage. The suffix A is used to identify +10% tolerance; suffix C is used to identify +2%; and suffix D is used to identify +1%; no suffix indicates +20%.

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Part # ¹	Normal Zener Voltage V_Z	Zener Test Current I_{ZT}	Max. Zener Impedance			Max. DC Zener Current I_{ZM}	Max. Surge Current I_{ZSM}	Max. Reverse Leakage $I_R @ V_R$		Max. Temperature Coefficient a_{V_Z}
	Volts	mA	$Z_{ZT} @ I_{ZT}$ Ohms	Z_{ZK} Ohms	$@ I_{ZK}$ mA	mA	mA	mA	Volts	%/ $^\circ\text{C}$
1N971B-1	27	4.6	41	750	0.25	13	70	5	20.6	0.090
1N972B-1	30	4.2	49	1000	0.25	12	65	5	22.8	0.091
1N973B-1	33	3.8	58	1000	0.25	11	60	5	25.1	0.092
1N974B-1	36	3.4	70	1000	0.25	10	55	5	27.4	0.093
1N975B-1	39	3.2	80	1000	0.25	9.5	46	5	29.7	0.094
1N976B-1	43	3.0	93	1000	0.25	8.8	44	5	32.7	0.095
1N977B-1	47	2.7	105	1500	0.25	7.9	40	5	35.8	0.095
1N978B-1	51	2.5	125	1500	0.25	7.4	37	5	38.8	0.096
1N979B-1	56	2.2	150	2000	0.25	6.8	35	5	42.6	0.096
1N980B-1	62	2.0	185	2000	0.25	6.0	30	5	47.1	0.097
1N981B-1	68	1.8	230	2000	0.25	5.5	28	5	51.7	0.097
1N982B-1	75	1.7	270	2000	0.25	5.0	26	5	56.0	0.098
1N983B-1	82	1.5	330	3000	0.25	4.6	23	5	62.2	0.098
1N984B-1	91	1.4	400	3000	0.25	4.1	21	5	69.2	0.099
1N985B-1	100	1.3	500	3000	0.25	3.7	18	5	76.0	0.110
1N986B-1	110	1.1	750	4000	0.25	3.3	16	5	83.6	0.110

1. The JEDEC type numbers shown (B Suffix) have a +5% tolerance on nominal Zener Voltage. The suffix A is used to identify +10% tolerance; suffix C is used to identify +2%; and suffix D is used identify +1%; no suffix indicates +20%.

Absolute Maximum Ratings^{2,3}

Parameter	Absolute Maximum
Thermal Resistance	250 $^\circ\text{C}/\text{W}$
Steady-State Power	0.5 W
Forward Voltage	1.1 V @ 200 mA
Operating / Storage Temperature	-65 $^\circ\text{C}$ to +175 $^\circ\text{C}$

2. Exceeding any one or combination of these limits may cause permanent damage to this device.

3. MACOM does not recommend sustained operation near these survivability limits.

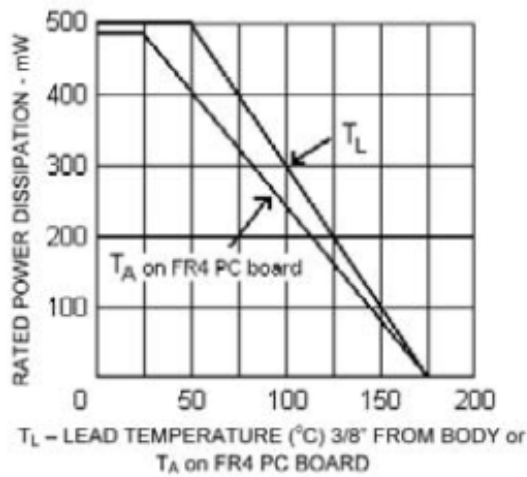


FIGURE 1
POWER DERATING CURVE

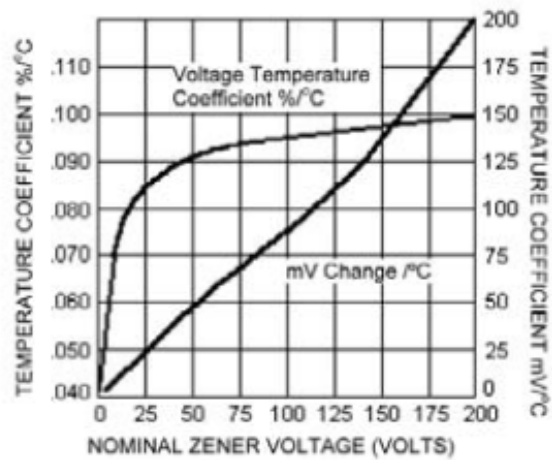


FIGURE 2
ZENER VOLTAGE TEMPERATURE COEFFICIENT vs. ZENER VOLTAGE

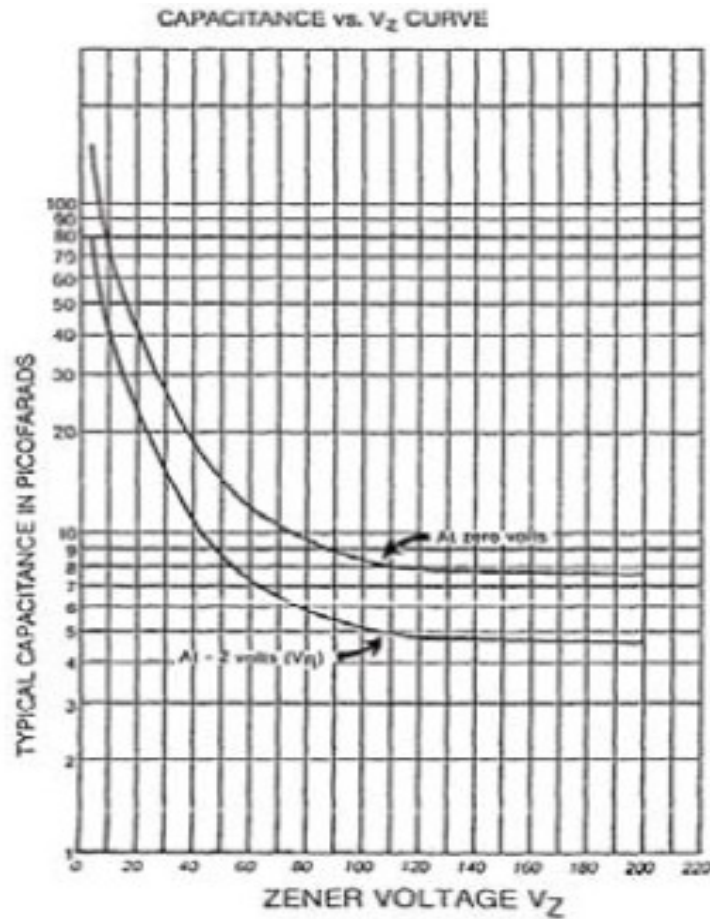


FIGURE 3
CAPACITANCE vs. ZENER VOLTAGE

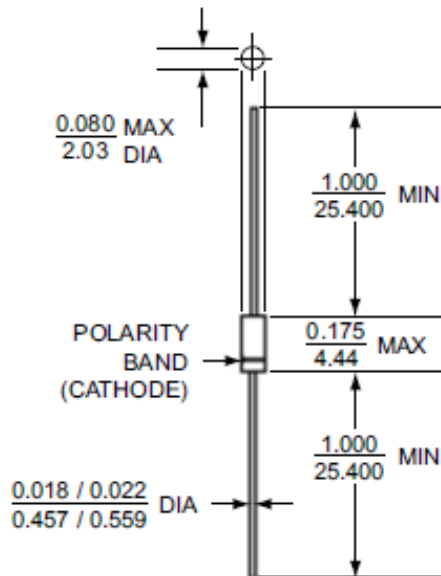
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Outline Drawing



All dimensions in $\frac{\text{INCH}}{\text{mm}}$

LEADED DESIGN DATA

CASE: Hermetically sealed, DO – 35

LEAD MATERIAL: Copper clad steel

LEAD FINISH: Tin / Lead

THERMAL RESISTANCE: ($R_{\theta JEC}$): 70 °C/W maximum at L = 0.375 in

THERMAL IMPEDANCE: ($Z_{\theta JX}$): 12 °C/W maximum

POLARITY: Cathode end is banded.

MOUNTING POSITION: Any

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