

Zener Type No.	Zener Voltage at I_{ZT}		Max. Zener Impedance @ I_{ZT} Ohms	Zener Voltage Tolerance	Power Rating	Device Package	MICROSEMI Recommended Substitute
	Volts	@ mA					
1N717	13.0	25.0	11.0	No Suffix = 10% Suffix A = 5%	250 mw	DO-7/DO-35	
1N718	15.0	"	13.0		"	"	
1N719	16.0	12.0	15.0		"	"	
1N720	18.0	"	17.0	" "	"	"	
1N721	20.0	4.0	20.0	" "	"	"	
1N722	22.0	"	24.0	" "	"	"	
1N723	24.0	"	28.0	" "	"	"	
1N724	27.0	"	35.0	" "	"	"	
1N725	30.0	"	42.0	" "	"	"	
1N726	33.0	"	50.0	" "	"	"	
1N727	36.0	"	60.0	" "	"	"	
1N728	39.0	"	70.0	" "	"	"	
1N729	43.0	"	84.0	" "	"	"	
1N730	47.0	"	98.0	" "	"	"	
1N731	51.0	"	115.0	" "	"	DO-7	
1N732	56.0	"	140.0	" "	"		
1N733	62.0	2.0	170.0	No Suffix = 10% Suffix A = 5%	250mw	DO-7	
1N734	68.0	2.0	200.0		"	"	
1N735	75.0	2.0	240.0		"	"	
1N736	82.0	2.0	280.0	" "	"	"	
1N737	91.0	1.0	340.0	" "	"	"	
1N738	100.0	1.0	400.0	" "	"	"	
1N739	110.0	1.0	490.0	" "	"	"	
1N740	120.0	1.0	570.0	" "	"	"	
1N741	130.0	1.0	650.0	" "	"	"	
1N742	150.0	1.0	860.0	" "	"	"	
1N743	160.0	1.0	970.0	" "	"	"	
1N744	180.0	1.0	1200.0	" "	"	"	
1N745	200.0	1.0	1400.0	" "	"	"	
1N746	3.3	20.0	28.0	No Suffix = 10% Suffix A = 5%	400mw	DO-7/DO-35	
1N747	3.6	20.0	24.0		"	"	
1N748	3.9	20.0	23.0		"	"	
1N749	4.3	20.0	22.0	" "	"	"	
1N750	4.7	20.0	19.0	" "	"	"	
1N751	5.1	20.0	17.0	" "	"	"	
1N752	5.6	20.0	11.0	" "	"	"	
1N753	6.2	20.0	7.0	" "	"	"	
1N754	6.8	20.0	5.0	" "	"	"	
1N755	7.5	20.0	6.0	" "	"	"	
1N756	8.2	20.0	8.0	" "	"	"	
1N757	9.1	20.0	10.0	" "	"	"	
1N758	10.0	20.0	17.0	" "	"	"	
1N759	12.0	20.0	30.0	" "	"	"	
1N761	4.3 - 5.4	10.0	40.0		250mw	"	
1N762	5.2 - 6.4	"	18.0		"	"	
1N763	6.2 - 8.0	"	7.0		"	"	
1N764	7.5 - 10.0	"	12.0		"	"	
1N765	9.0 - 12.0	5.0	45.0		"	"	
1N766	11.0 - 14.5	5.0	55.0		"	"	
1N767	13.5 - 18.0	5.0	70.0		"	"	
1N768	17.0 - 21.0	5.0	100.0		"	"	
1N769	20.0 - 27.0	5.0	150.0		"	"	
1N821 ⁽²⁾	6.2 ± 5%	7.5	15.0	T.C. = .01% / °C ⁽⁴⁾	400mw	DO-7	
1N821A ⁽²⁾	6.2 ± 5%	"	10.0	T.C. = .01% / °C ⁽⁴⁾	"	"	
1N822 ^(1,2)	6.2 ± 5%	"	15.0	T.C. = .01% / °C ⁽⁴⁾	"	"	
1N823 ⁽²⁾	6.2 ± 5%	"	15.0	T.C. = .005% / °C ⁽⁴⁾	"	"	
1N823A ⁽²⁾	6.2 ± 5%	"	10.0	T.C. = .005% / °C ⁽⁴⁾	"	"	
1N824 ^(1,2)	6.2 ± 5%	"	15.0	T.C. = .005% / °C ⁽⁴⁾	"	"	
1N825 ⁽²⁾	6.2 ± 5%	"	15.0	T.C. = .002% / °C ⁽⁴⁾	"	"	
1N825A ⁽²⁾	6.2 ± 5%	"	10.0	T.C. = .002% / °C ⁽⁴⁾	"	"	
1N826 ⁽²⁾	6.2 - 6.9	"	15.0	T.C. = .002% / °C ⁽⁴⁾	"	"	
1N827 ⁽²⁾	6.2 ± 5%	"	15.0	T.C. = .001% / °C ⁽⁴⁾	"	"	
1N827A ⁽²⁾	6.2 ± 5%	"	10.0	T.C. = .001% / °C ⁽⁴⁾	"	"	
1N828 ⁽²⁾	6.2 - 6.9	"	15.0	T.C. = .001% / °C ⁽⁴⁾	"	"	
1N829A	6.2 ± 5%	"	15.0	T.C. = .0005% / °C ⁽⁴⁾	"	"	
1N935 ⁽²⁾	9.0 ± 5%	7.5	20.0	T.C. = .01% / °C ⁽⁷⁾	500mw	DO-7	
1N936 ⁽²⁾	9.0 ± 5%	"	20.0	T.C. = .005% / °C ⁽⁷⁾	"	"	
1N937 ⁽²⁾	9.0 ± 5%	"	20.0	T.C. = .002% / °C ⁽⁷⁾	"	"	

NOTE — Diode types presently available from Microsemi Corporation are shown in bold type.

(1) Double anode type

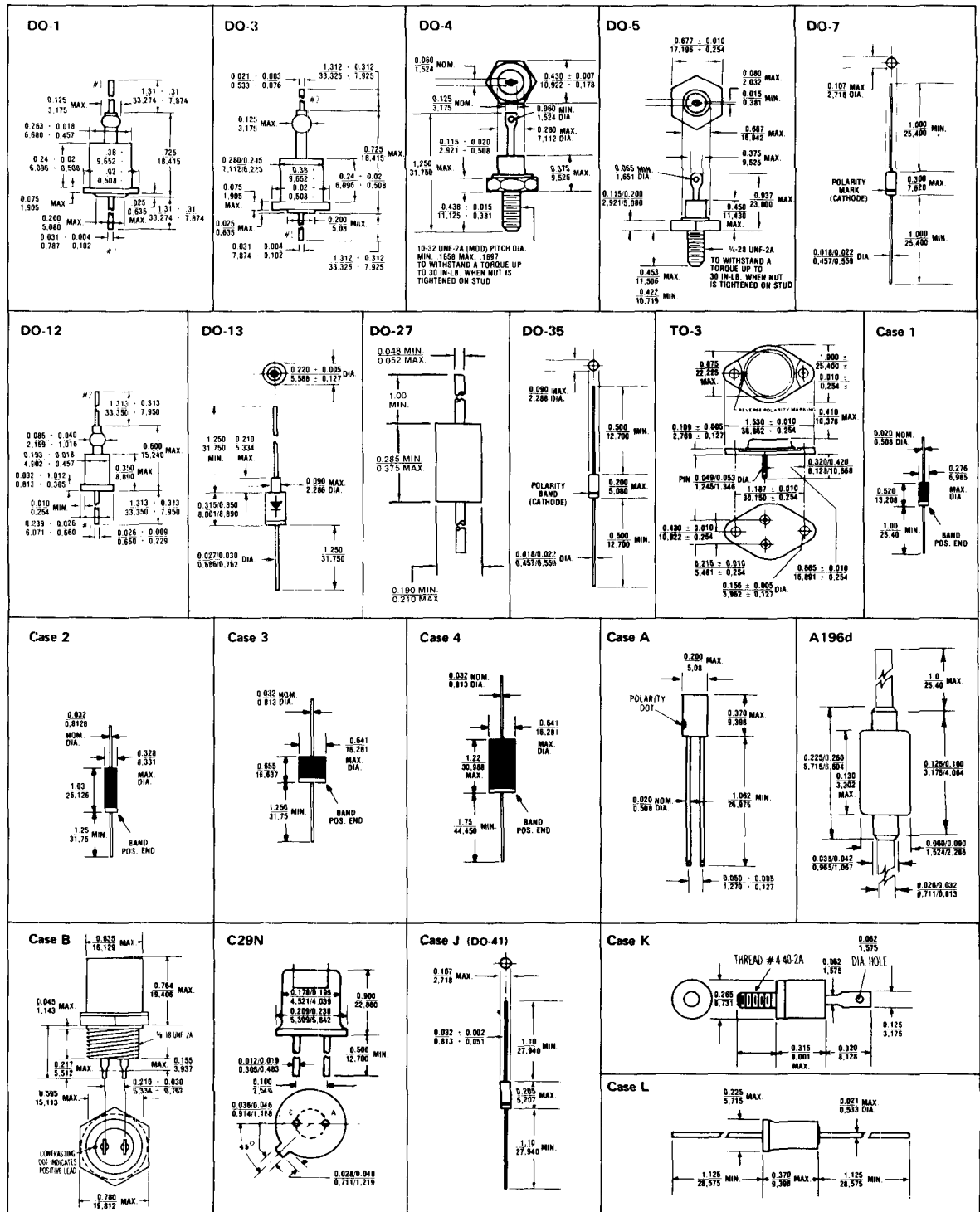
(2) Temperature compensated zener diode

(4) Temperature range —55°C to +100°C (7) No suffix denotes temp. range 0°C to +75°C

Suffix A denotes temp. range —55°C to +100°C

Suffix B denotes temp. range —55°C to +150°C

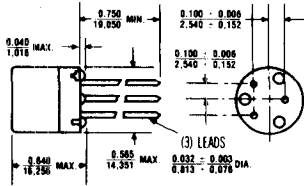
CASE CONFIGURATION CHART



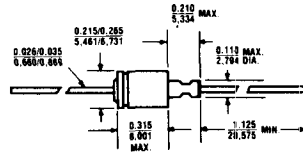
All dimensions in INCH
m.m.

CASE CONFIGURATION CHART

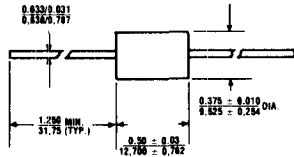
Case Q



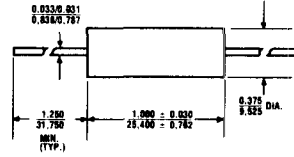
Case R



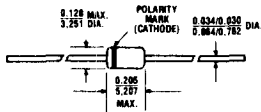
Case S



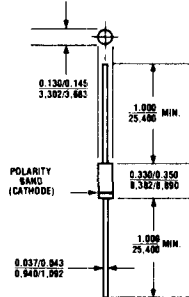
Case T



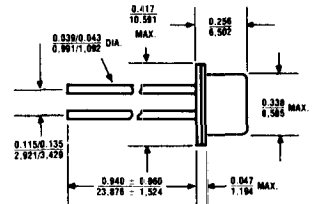
Case X



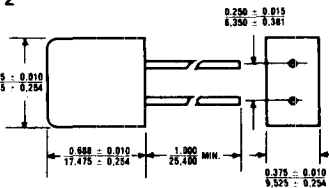
T-18



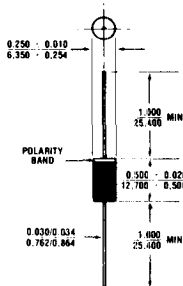
Case AA



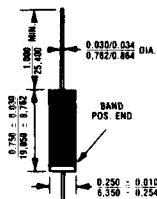
Case Z



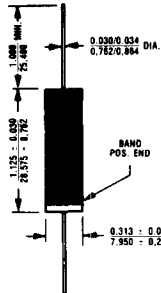
Case CC



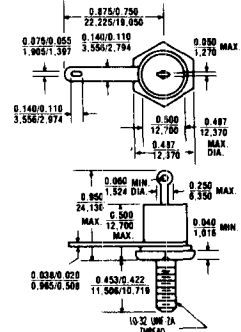
Case DD



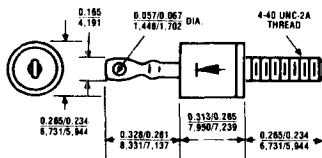
Case EE



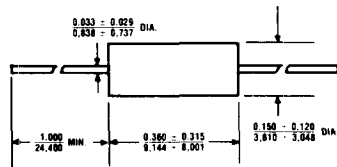
Case HH



Case FF



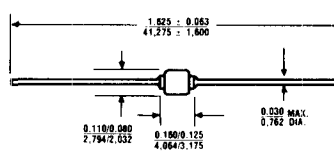
Case GG



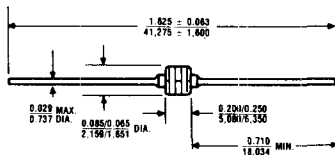
All dimensions in $\frac{\text{INCH}}{\text{m.m.}}$

CASE CONFIGURATION CHART

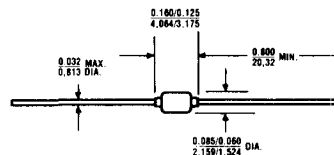
Case JJ



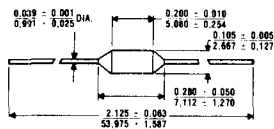
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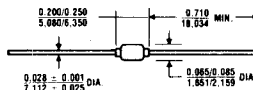
Case MM



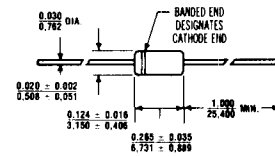
Case NN



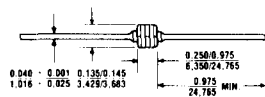
Case OO



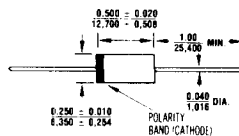
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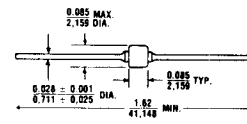
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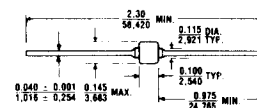
Case SS



Case UU



Case VV



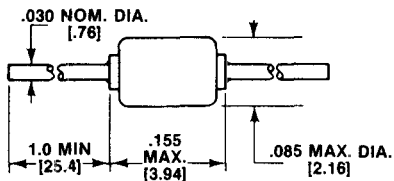
All dimensions in INCH
mm.

CASE CONFIGURATION CHART

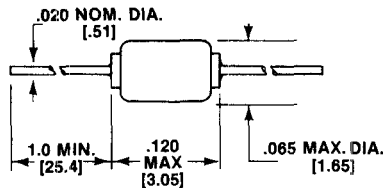
MECHANICAL CONFIGURATIONS PHYSICAL DIMENSIONS

DIMENSIONS IN INCHES (MM)

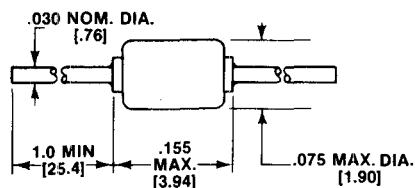
PACKAGE A



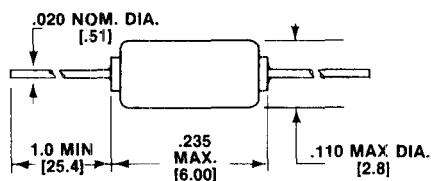
PACKAGE B [D034]



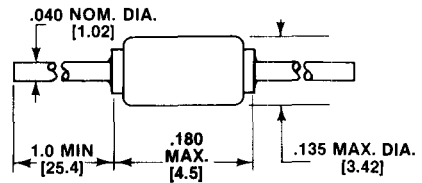
PACKAGE C



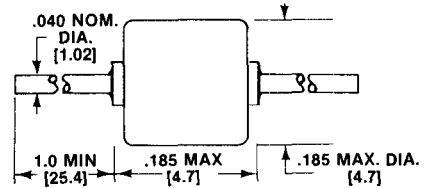
PACKAGE D



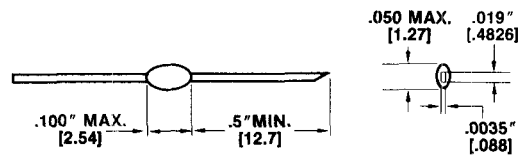
PACKAGE E



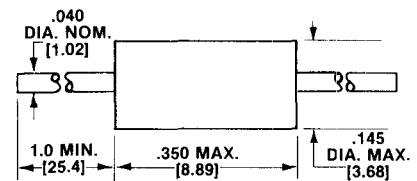
PACKAGE G



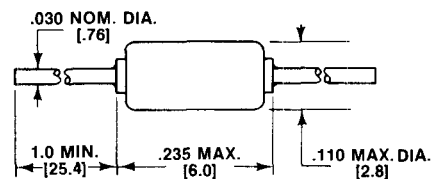
PACKAGE H



PACKAGE R



PACKAGE S





1N746 thru 1N759A and 1N4370 thru 1N4372A DO-7

FEATURES

- ZENER VOLTAGE 2.4V to 12.0V
- AVAILABLE IN JAN, JANTX and JANTXV QUALIFICATIONS TO MIL-S-19500/127
- 1N746A THRU 1N759A HAVE S1N QUALIFICATION

*MAXIMUM RATINGS

Junction and Storage Temperatures: -65°C to $+175^{\circ}\text{C}$

DC Power Dissipation: 400 mW

Power Derating: 3.64mW/ $^{\circ}\text{C}$ above 65°C

Forward Voltage @ 200 mA: 1.5 Volts

*ELECTRICAL CHARACTERISTICS @ 25°C

JEDEC TYPE NO. (NOTE 1)	NOMINAL ZENER VOLTAGE V_Z @ I_{ZT} (NOTE 2)	ZENER TEST CURRENT I_{ZT}	MAXIMUM ZENER IMPEDANCE Z_{ZT} @ I_{ZT} (NOTE 3)	MAXIMUM REVERSE CURRENT @ $V_R = 1$ VOLT		MAXIMUM ZENER CURRENT I_{ZM} (NOTE 4)	TYPICAL TEMP COEFF. OF ZENER VOLTAGE C_{VZ}
				@ 25°C	@ $+150^{\circ}\text{C}$		
				μA	μA		$\% / ^{\circ}\text{C}$
1N4370	2.4	20	30	100	200	150	-.085
1N4371	2.7	20	30	75	150	135	-.080
1N4372	3.0	20	29	50	100	120	-.075
1N746	3.3	20	28	10	30	110	-.066
1N747	3.6	20	24	10	30	100	-.058
1N748	3.9	20	23	10	30	95	-.046
1N749	4.3	20	22	2	30	85	-.033
1N750	4.7	20	19	2	30	75	-.015
1N751	5.1	20	17	1	20	70	$\pm .010$
1N752	5.6	20	11	1	20	65	+ .030
1N753	6.2	20	7	.1	20	60	+ .049
1N754	6.8	20	5	.1	20	55	+ .053
1N755	7.5	20	6	.1	20	50	+ .057
1N756	8.2	20	8	.1	20	45	+ .060
1N757	9.1	20	10	.1	20	40	+ .061
1N758	10.0	20	17	.1	20	35	+ .062
1N759	12.0	20	30	.1	20	30	+ .062

*JEDEC Registered Data

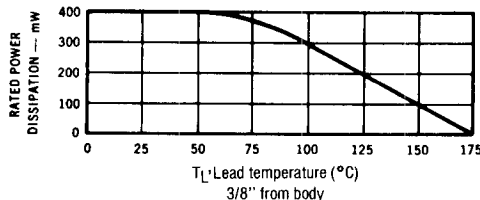


FIGURE 2 POWER DERATING CURVE

For more information call:
(602) 941-6300

SILICON 400 mW ZENER DIODES

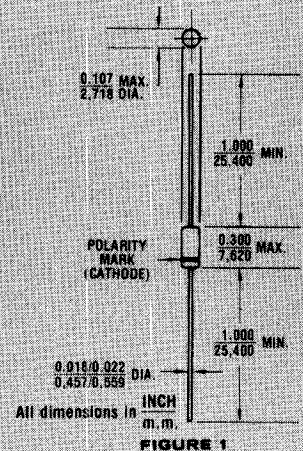


FIGURE 1

MECHANICAL CHARACTERISTICS

CASE: Hermetically sealed glass case. DO-7.

FINISH: All external surfaces are corrosion resistant and leads solderable.

THERMAL RESISTANCE: $300^{\circ}\text{C}/\text{W}$ (Typical) junction to lead at 0.375-inches from body.

POLARITY: Diode to be operated with the banded end positive with respect to the opposite end.

WEIGHT: 0.2 grams.

MOUNTING POSITION: Any.

1N746 thru 1N759A, 1N4370 thru 1N4372A DO-7

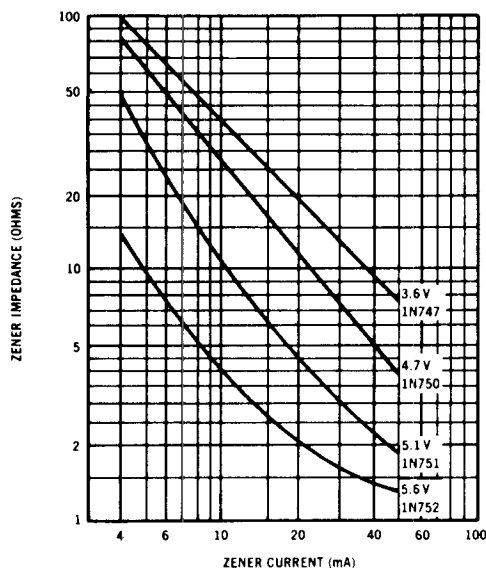


FIGURE 3

ZENER IMPEDANCE VS ZENER CURRENT (TYPICAL)

NOTE 1 Standard tolerance on JEDEC types shown is $\pm 10\%$. Suffix letter A denotes $\pm 5\%$ tolerance. If tighter tolerance is required, consult factory.

NOTE 2 Voltage measurements to be performed 20 sec. after application of D.C. test current.

NOTE 3 Zener impedance derived by superimposing on I_{ZT} , a 60 cps, rms ac current equal to $10\% I_{ZT}$ (2mA ac).

NOTE 4 Allowance has been made for the increase in V_Z due to Z_Z and for the increase in junction temperature as the unit approaches thermal equilibrium at the power dissipation of 400mW.



1N746 thru 1N759A and 1N4370 thru 1N4372A DO-35

FEATURES

- ZENER VOLTAGE 2.4V to 12.0V
- AVAILABLE IN JAN, JANTX AND JANTXV QUALIFICATIONS TO MIL-S-19500/127-1
- METALLURGICALLY BONDED DEVICES TYPES

*MAXIMUM RATINGS

Junction and Storage Temperatures: -65°C to $+175^{\circ}\text{C}$

DC Power Dissipation: 400 mW

Power Derating: 3.64mW/ $^{\circ}\text{C}$ above 65°C

Forward Voltage @ 200 mA: 1.5 Volts

*ELECTRICAL CHARACTERISTICS @ 25°C

JEDEC TYPE NO. (NOTE 1)	NOMINAL ZENER VOLTAGE V_Z @ I_Z (NOTE 2)	ZENER TEST CURRENT I_Z	MAXIMUM ZENER IMPEDANCE Z_Z @ I_Z (NOTE 3)	MAXIMUM REVERSE CURRENT @ $V_R = 1$ VOLT		MAXIMUM ZENER CURRENT I_{ZW} (NOTE 4)	TYPICAL TEMP COEFF. OF ZENER VOLTAGE α_{VZ}
				@ 25°C	@ $+150^{\circ}\text{C}$		
				μA	μA		$\% / ^{\circ}\text{C}$
1N4370	2.4	20	30	100	200	150	-.085
1N4371	2.7	20	30	75	150	135	-.080
1N4372	3.0	20	29	50	100	120	-.075
1N746	3.3	20	28	10	30	110	-.066
1N747	3.6	20	24	10	30	100	-.058
1N748	3.9	20	23	10	30	95	-.046
1N749	4.3	20	22	2	30	85	-.033
1N750	4.7	20	19	2	30	75	-.015
1N751	5.1	20	17	1	20	70	$\pm .010$
1N752	5.6	20	11	1	20	65	+ .030
1N753	6.2	20	7	.1	20	60	+ .049
1N754	6.8	20	5	.1	20	55	+ .053
1N755	7.5	20	6	.1	20	50	+ .057
1N756	8.2	20	8	.1	20	45	+ .060
1N757	9.1	20	10	.1	20	40	+ .061
1N758	10.0	20	17	.1	20	35	+ .062
1N759	12.0	20	30	.1	20	30	+ .062

*JEDEC Registered Data

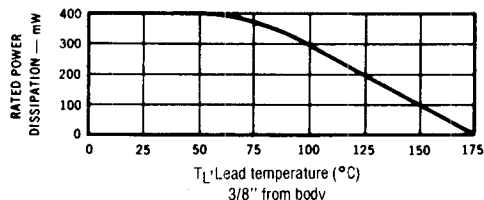
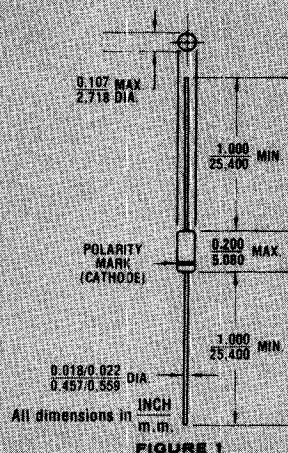


FIGURE 2 POWER DERATING CURVE

For more information call:
(602) 941-6300

SILICON 400 mW ZENER DIODES



MECHANICAL CHARACTERISTICS

CASE: Hermetically sealed glass case, DO-35.

FINISH: All external surfaces are corrosion resistant and leads solderable.

THERMAL RESISTANCE: $150^{\circ}\text{C}/\text{W}$ (Typical) junction to lead at 0.375-inches from body. Metallurgically bonded DO-35's exhibit less than $100^{\circ}\text{C}/\text{W}$ at zero distance from body.

POLARITY: Diode to be operated with the banded end positive with respect to the opposite end.

WEIGHT: 0.2 grams.

MOUNTING POSITIONS: Any.

1N4370 thru 1N4372A
1N746 thru 1N759A
DO-35

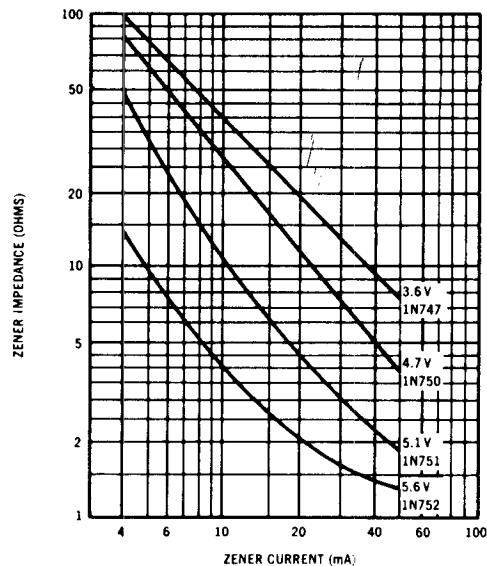


FIGURE 3

ZENER IMPEDANCE VS ZENER CURRENT
(TYPICAL)

NOTE 1 Standard tolerance on JEDEC types shown is $\pm 10\%$. Suffix letter A denotes $\pm 5\%$ tolerance. If tighter tolerance is required, consult factory.

NOTE 2 Voltage measurements to be performed 20 sec. after application of D.C. test current.

NOTE 3 Zener impedance derived by superimposing on I_{ZT} , a 60 cps, rms ac current equal to $10\% I_{ZT}$ (2mA ac).

NOTE 4 Allowance has been made for the increase in V_Z due to Z_Z and for the increase in junction temperature as the unit approaches thermal equilibrium at the power dissipation of 400mW.