Zener diode

Features

1. High reliability
2. Very sharp reverse characteristic
3. Zener voltage 6.8V to 75V
4. V_Z-tolerance±5%

Applications

Voltage stabilization

Absolute Maximum Ratings

T_j=25℃

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	T_{amb}≤75℃		P_V	500	mW
Z-current			I_Z	P_V/V_Z	mA
Junction temperature			T_j	200	℃
Storage temperature range			T_{stg}	-65~+200	℃

Maximum Thermal Resistance

T_j=25℃

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	I=9.5mm(3/8") T_L=constant	R_{thJA}	300	K/W

Electrical Characteristics

T_j=25℃

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F=200mA		V_F			1.5	V

Type	V_{Znom} [1]	I_{ZT} for V_{ZT} and		Z_{ZT}	Z_{ZK} at I_{ZK}		I_R at V_R		I_{ZM} [2]
	V	mA	V[1]	Ω	Ω	mA	μA	V	mA
1N957B	6.8	18.5	6.46~7.14	4.5	700	1.0	150	5.2	47
1N958B	7.5	16.5	7.125~7.875	5.5	700	0.5	75	5.7	42
1N959B	8.2	15	7.79~8.61	6.5	700	0.5	50	6.2	38
1N960B	9.1	14	8.645~9.555	7.5	700	0.5	25	6.9	35
1N961B	10	12.5	9.5~10.5	8.5	700	0.25	10	7.6	32
1N962B	11	11.5	10.45~11.55	9.5	700	0.25	5	8.4	28
1N963B	12	10.5	11.4~12.6	11.5	700	0.25	5	9.1	26
1N964B	13	9.5	12.35~13.65	13	700	0.25	5	9.9	24
1N965B	15	8.5	14.25~15.75	16	700	0.25	5	11.4	21
1N966B	16	7.8	15.2~16.8	17	700	0.25	5	12.2	19
1N967B	18	7.0	17.1~18.9	21	750	0.25	5	13.7	17
1N968B	20	6.2	19~21	25	750	0.25	5	15.2	15
1N969B	22	5.6	20.9~23.1	29	750	0.25	5	16.7	14
1N970B	24	5.2	22.8~25.2	33	750	0.25	5	18.2	13
1N971B	27	4.6	25.6~28.35	41	750	0.25	5	20.6	11
1N972B	30	4.2	28.5~31.5	49	1000	0.25	5	22.8	10
1N973B	33	3.8	31.35~34.65	58	1000	0.25	5	25.1	9.2
1N974B	36	3.4	34.2~37.8	70	1000	0.25	5	27.4	8.5
1N975B	39	3.2	37.05~40.95	80	1000	0.25	5	29.7	7.8
1N978B	51	2.5	48.45~53.55	125	1500	0.25	5	38.8	5.9
1N979B	56	2.2	53.2~58.8	150	2000	0.25	5	42.6	5.4
1N982B	75	1.7	71.25~78.75	270	2000	0.25	5	56	4.1

[1] **Tolerance and voltage designation(Vz):**

The type numbers shown have a standard tolerance of ±5% on the nominal zener voltage, C for ±2%, D for ±1%.

[2] **Maximum zener current ratings(I_{ZM}):**

Maximum zener current ratings are based on maximum zener voltage of the individual units and JEDEC 250 mW rating.

Characteristics (T_j=25℃ unless otherwise specified)

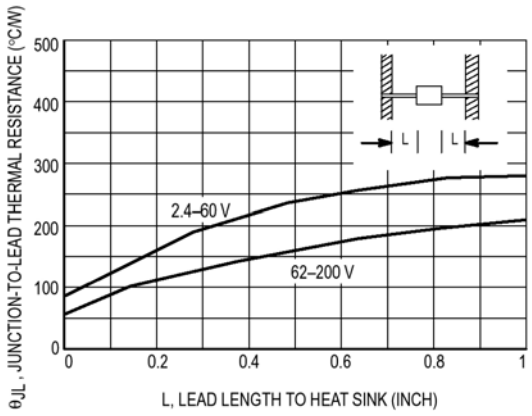


Figure 1. Typical Thermal Resistance

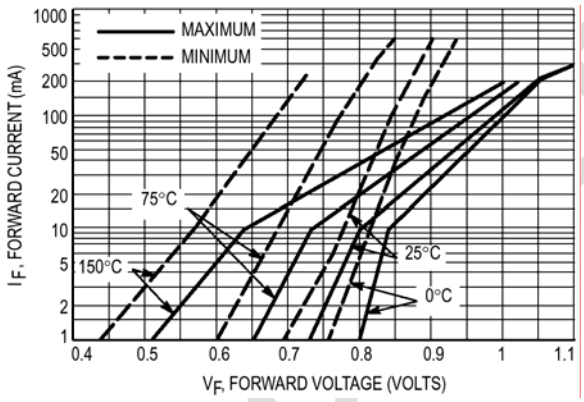
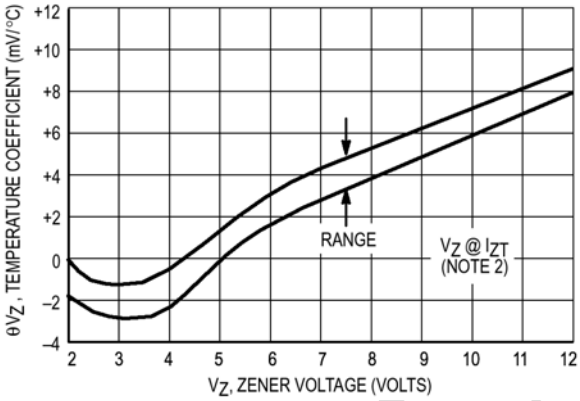


Figure 2. Typical Forward Characteristics



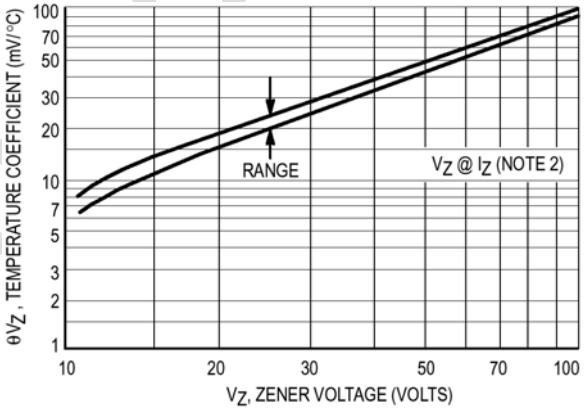


Figure 3. Temperature coefficients

(-55℃ to +150℃ temperature range; 90% of the units are in the ranges indicated.)

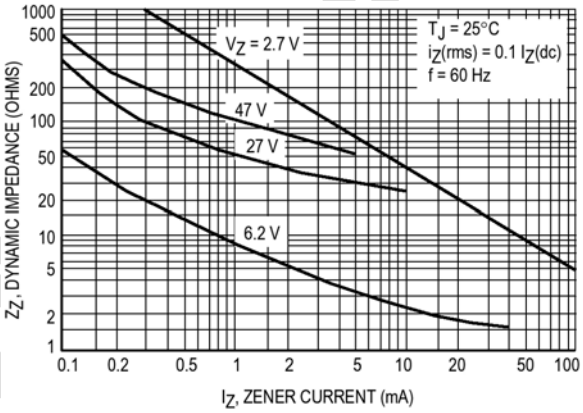


Figure 4. Effect of zener current on zener impedance

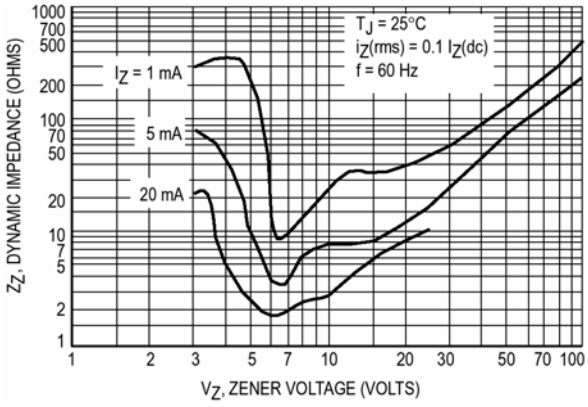


Figure 5. Effect of zener voltage on zener impedance

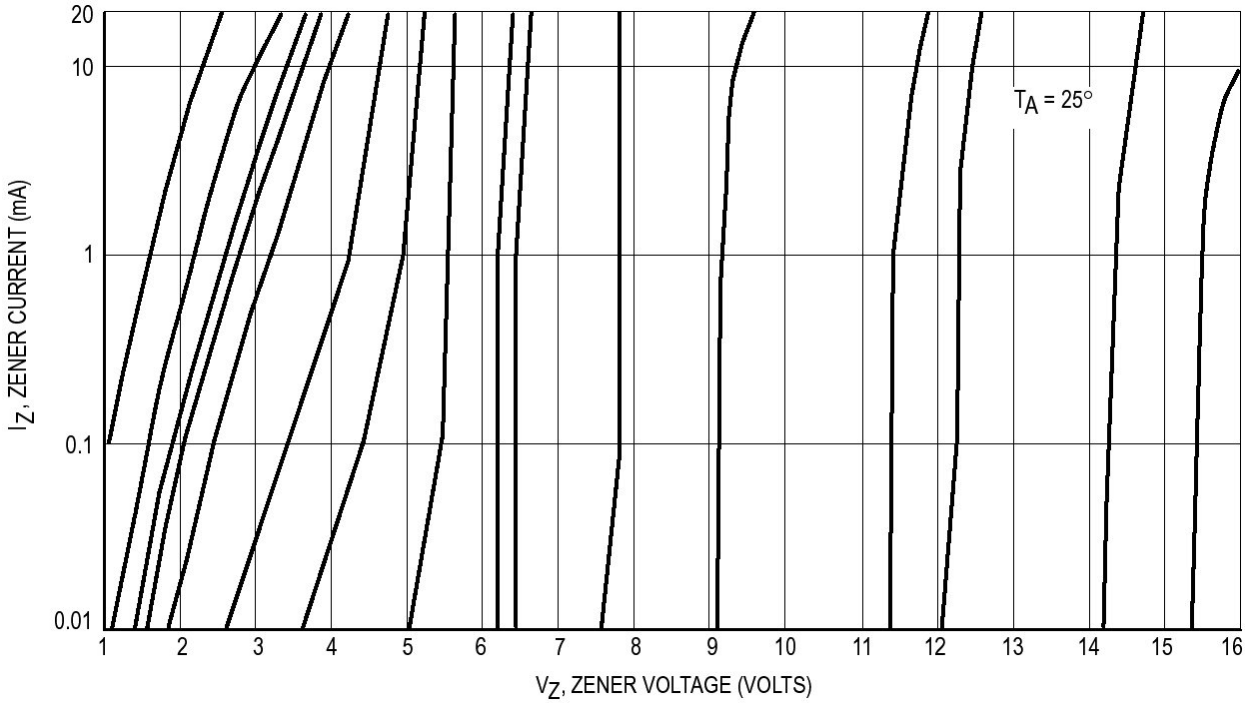


Figure 6. Zener Voltage versus Zener Current – Vz=1 thru 16 Volts

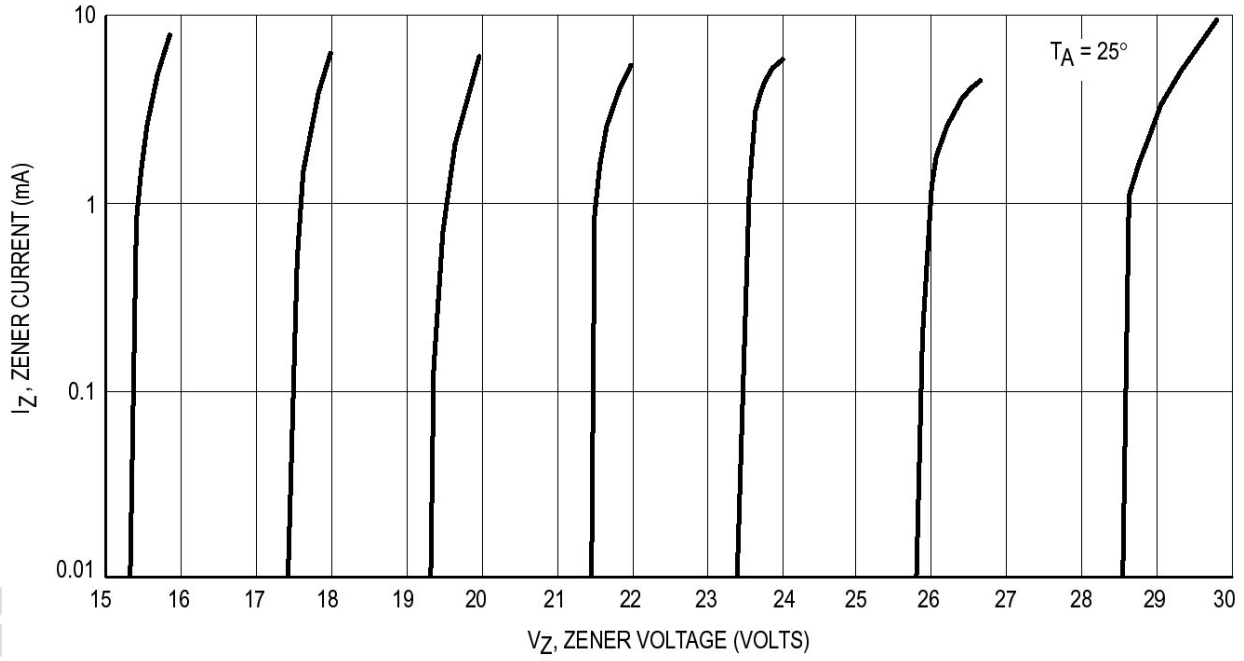


Figure 7. Zener Voltage versus Zener Current – Vz=15 thru 30 Volts

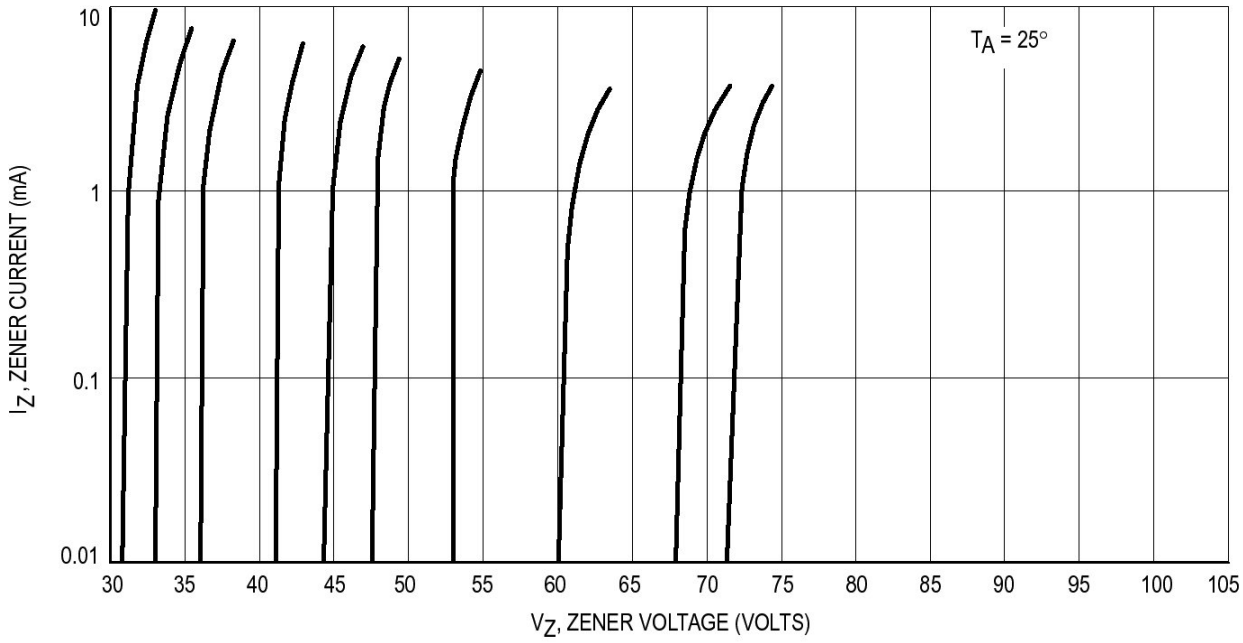
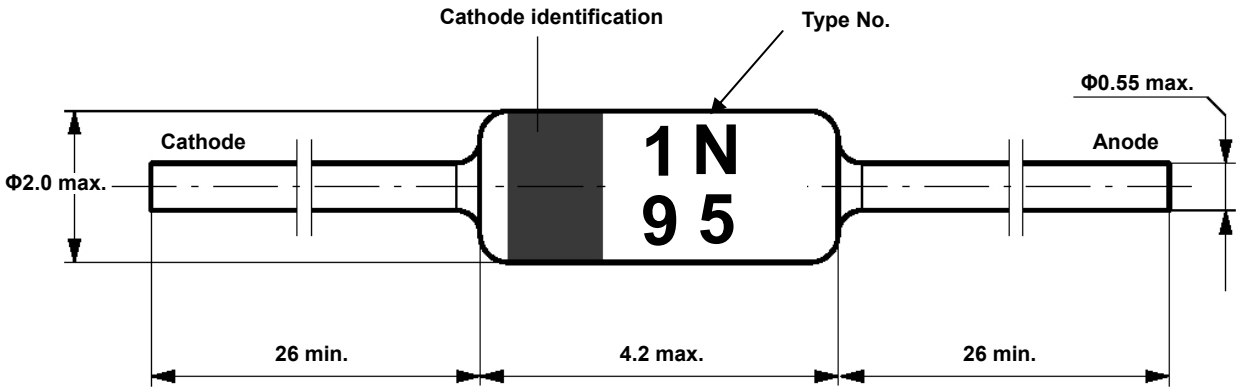


Figure 8. Zener Voltage versus Zener Current – Vz=30 thru 75 Volts

Dimensions in mm



Standard Glass Case
JEDEC DO 35

Marking