



Zener diode

Features

- 1. High reliability
- 2. Very sharp reverse characteristic
- 3. Zener voltage 3.3V to 12V
- 4. V_Z -tolerance $\pm 5\%$

Applications

Voltage stabilization



Absolute Maximum Ratings

$T_j=25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	$T_{amb} \leq 75^\circ\text{C}$		P_V	500	mW
Z-current			I_Z	P_V/V_Z	mA
Junction temperature			T_j	200	$^\circ\text{C}$
Storage temperature range			T_{stg}	-65~+200	$^\circ\text{C}$

Maximum Thermal Resistance

$T_j=25^\circ\text{C}$

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

Stresses exceeding maximum ratings may damage the device. Maximum ratings are stress ratings only. Functional operation above the recommended operating conditions is not implied. Extended exposure to stresses above the recommended operating conditions may affect device reliability.

Electrical Characteristics

$T_j=25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F=200\text{mA}$		V_F			1.5	V



Type	$V_{Znom}^{1)}$	I_{ZT} for	Z_{ZT}	I_R at	V_R	$I_{ZM}^{2)}$
	V					
1N746A	3.3	20	28	10	1	110
1N747A	3.6	20	24	10	1	100
1N748A	3.9	20	23	10	1	95
1N749A	4.3	20	22	2	1	85
1N750A	4.7	20	19	2	1	75
1N751A	5.1	20	17	1	1	70
1N752A	5.6	20	11	1	1	65
1N753A	6.2	20	7	0.1	1	60
1N754A	6.8	20	5	0.1	1	55
1N755A	7.5	20	6	0.1	1	50
1N756A	8.2	20	8	0.1	1	45
1N757A	9.1	20	10	0.1	1	40
1N758A	10	20	17	0.1	1	35
1N759A	12	20	30	0.1	1	30

1) Tolerance and voltage designation(V_z):

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

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 ($T_j=25^\circ\text{C}$ unless otherwise specified)

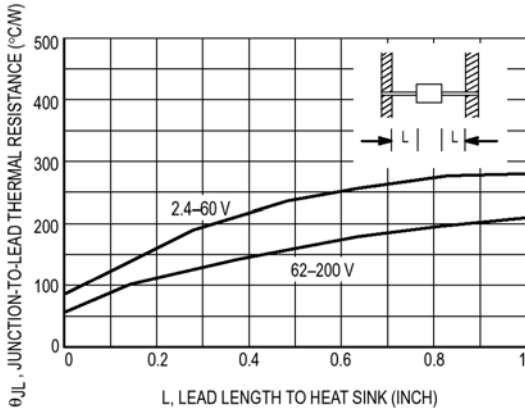


Figure 1. Typical Thermal Resistance

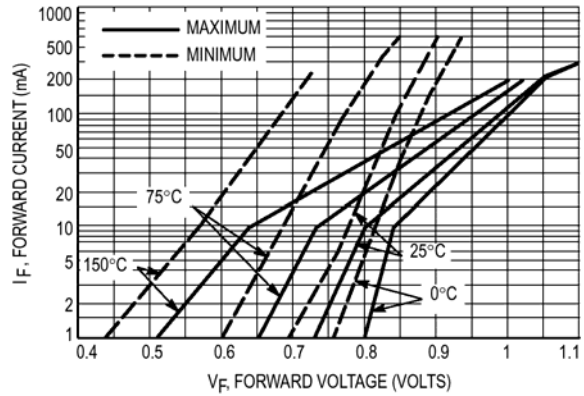


Figure 2. Typical Forward Characteristics

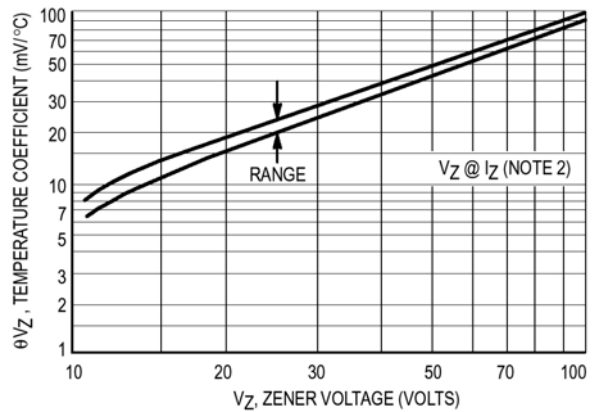
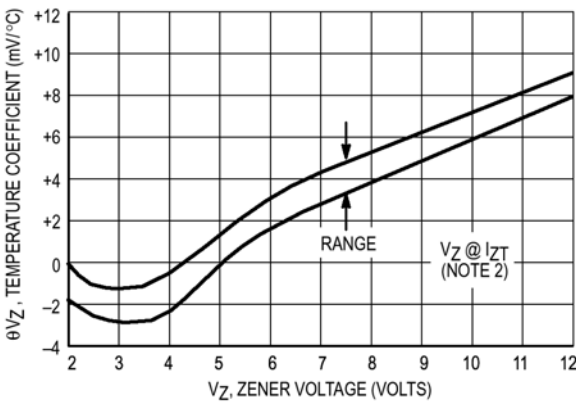


Figure 3. Temperature coefficients

(-55°C to $+150^\circ\text{C}$ temperature range; 90% of the units are in the ranges indicated.)

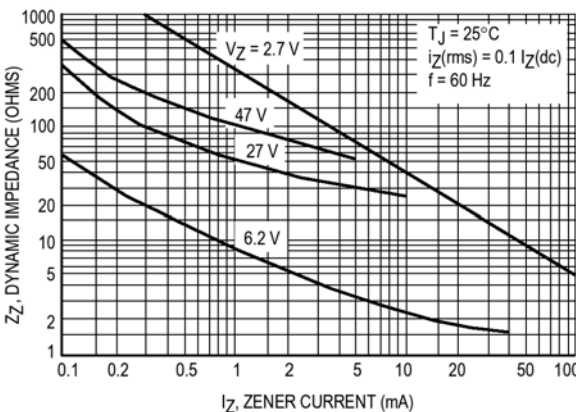


Figure 4. Effect of zener current on zener impedance

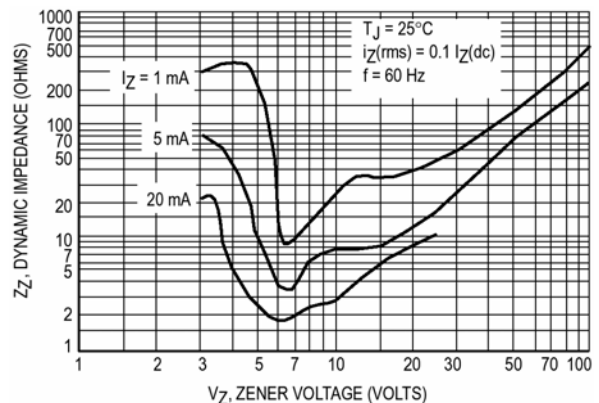


Figure 5. Effect of zener voltage on zener impedance

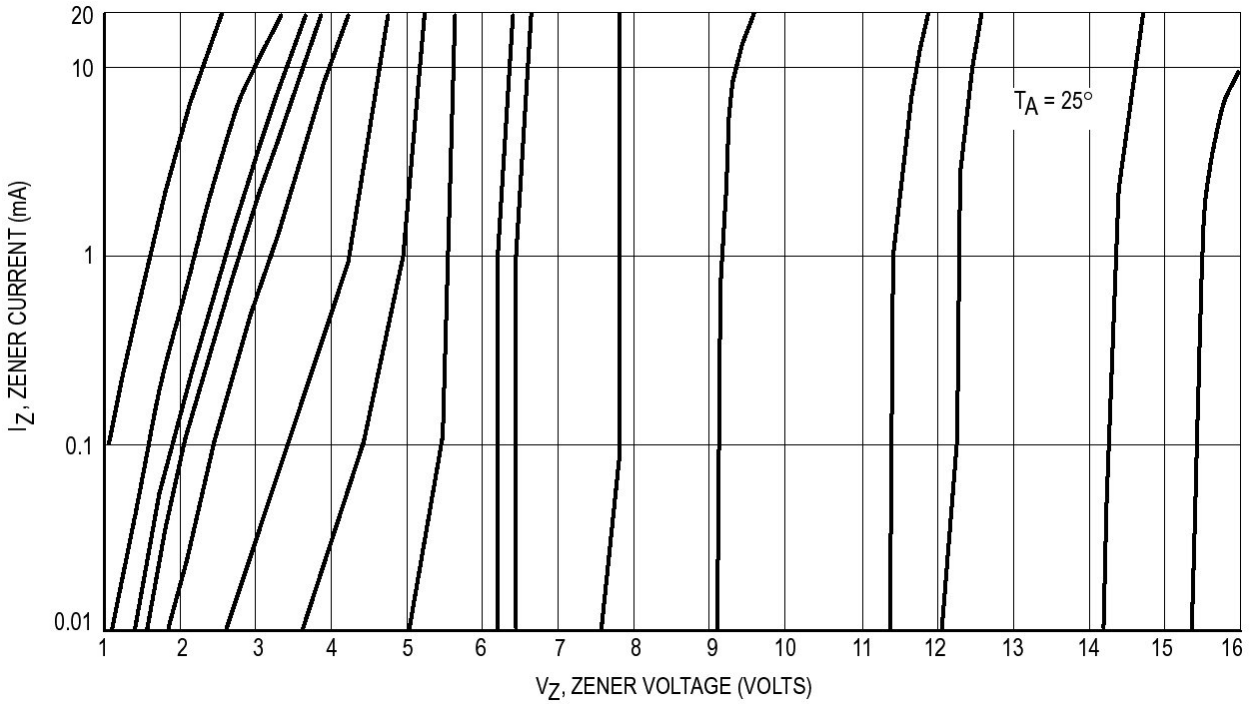


Figure 6. Zener Voltage versus Zener Current – $V_Z=1$ thru 16 Volts

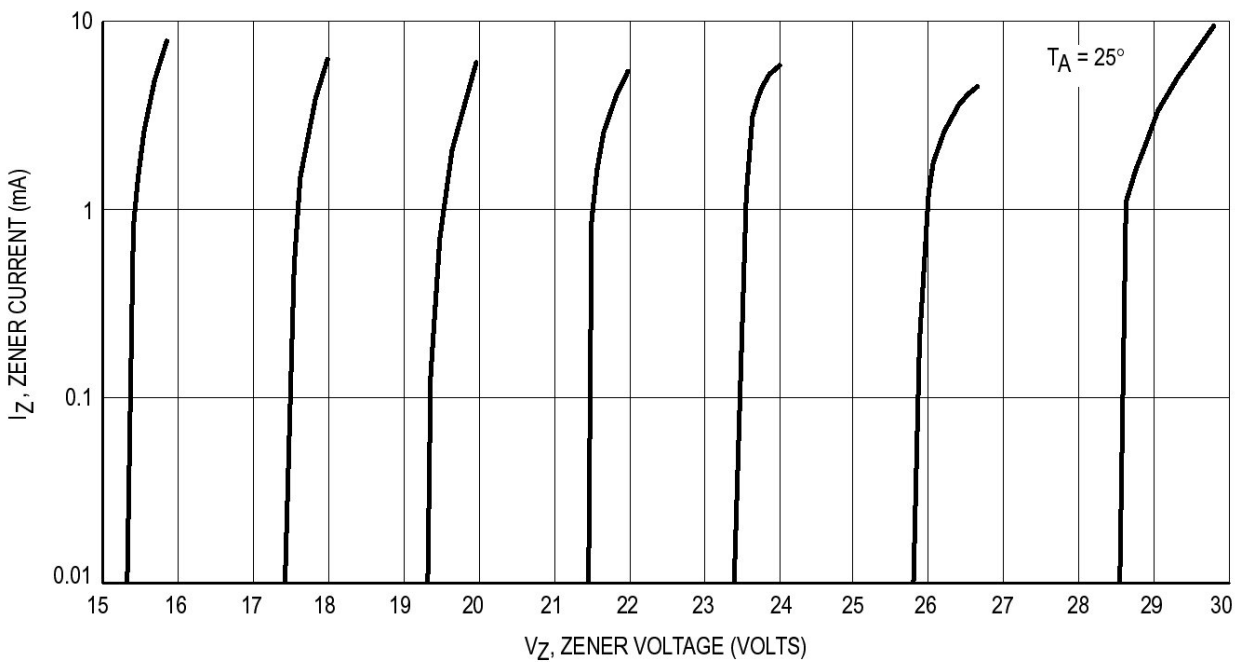


Figure 7. Zener Voltage versus Zener Current – $V_Z=15$ thru 30 Volts

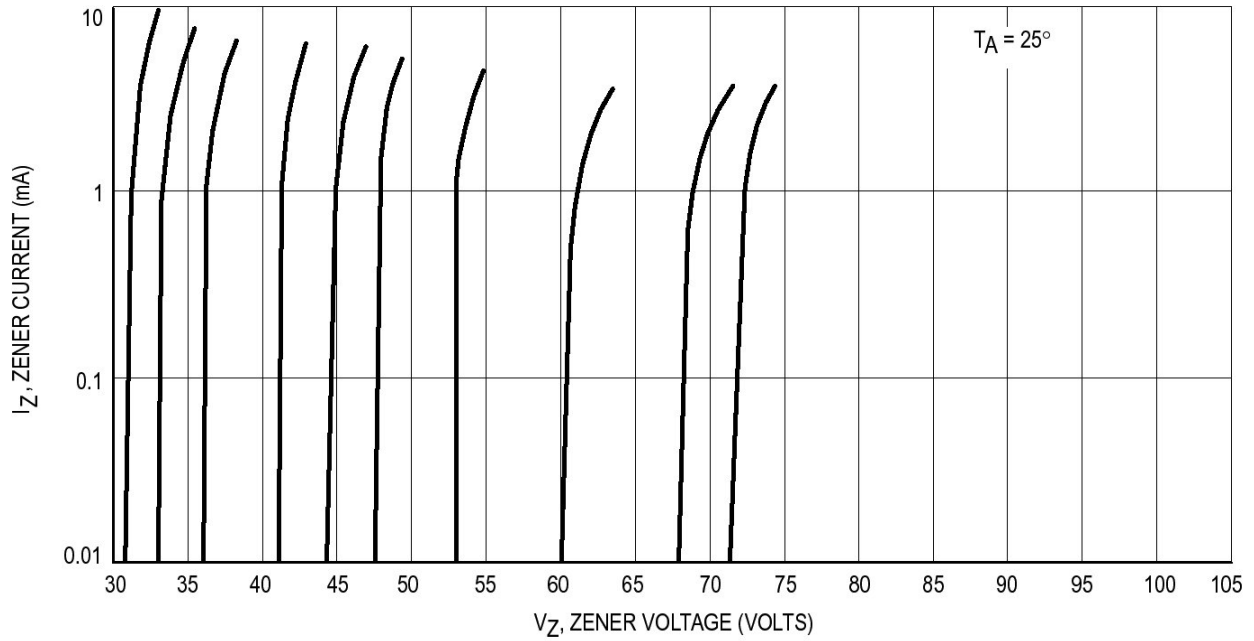
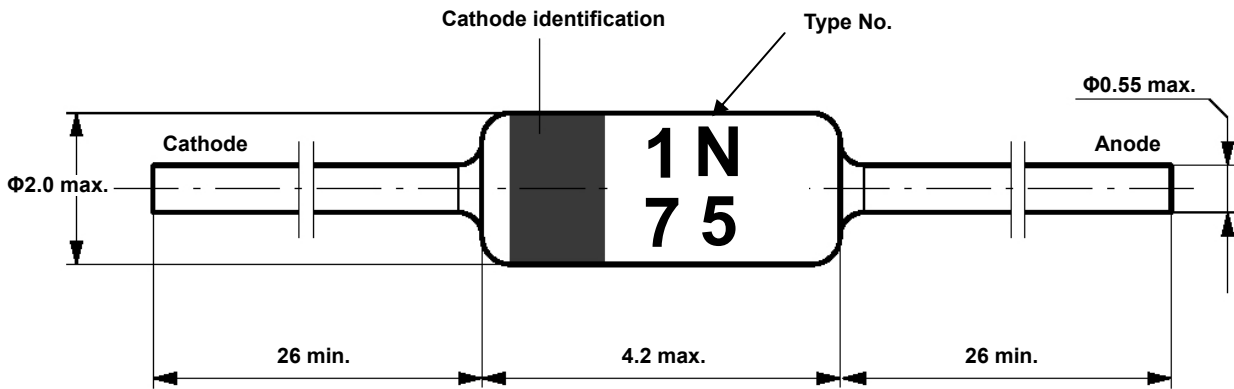


Figure 8. Zener Voltage versus Zener Current – $V_Z=30$ thru 75 Volts



Dimensions in mm



Standard Glass Case
JEDEC DO-35

Marking

