

Zener Diode



Features:

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

Applications:

Voltage stabilization

Absolute Maximum Ratings $T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Symbol	Value	Unit
Power dissipation	$T_{\text{amb}} \leq 75^\circ\text{C}$	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 to +200	$^\circ\text{C}$

Maximum Thermal Resistance $T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	$l = 9.5 \text{ mm (3/8 inches)}$ $T_L = \text{constant}$	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	Symbol	Maximum	Unit
Forward voltage	$I_F = 200 \text{ mA}$	V_F	1.5	V

Specification Table

Type	$V_{Z\text{nom}}^{1)}$	I_{ZT} mA	for Z_{ZT} Ω	I_R μA	at V_R V	$I_{ZM}^{2)}$ mA
	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

Specification Table

Type	$V_{Znom}^{1)}$	I_{ZT} for Z_{ZT}		I_R at V_R		$I_{ZM}^{2)}$
	V	mA	Ω	μA	V	mA
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

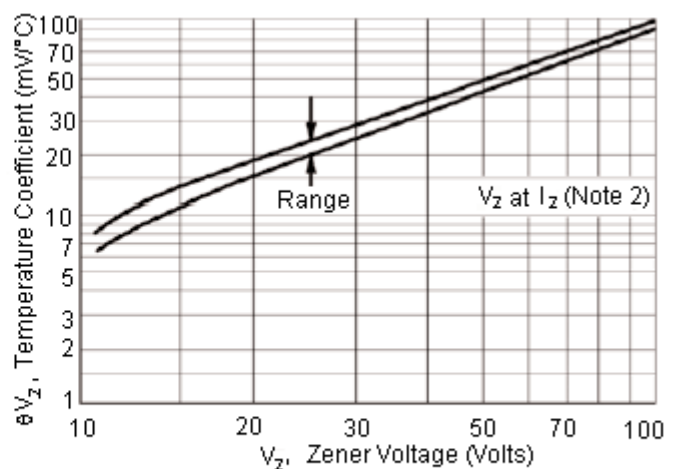
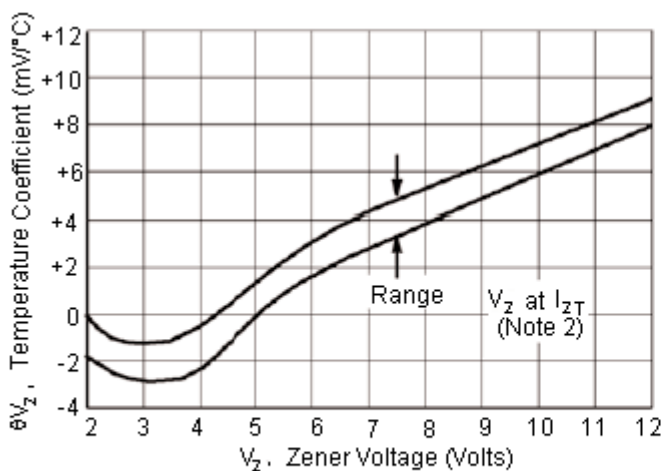
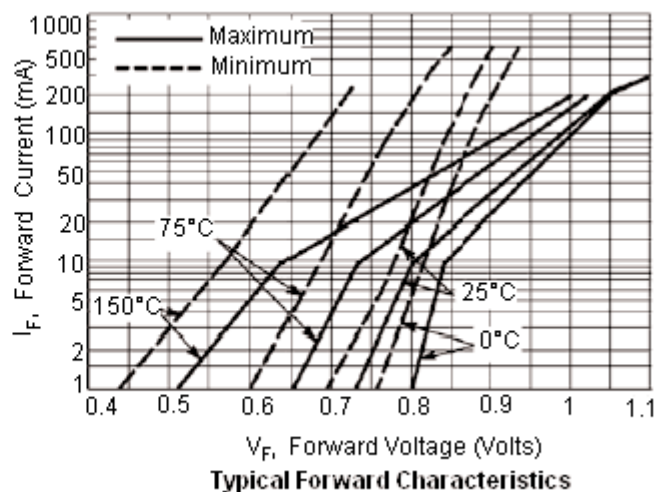
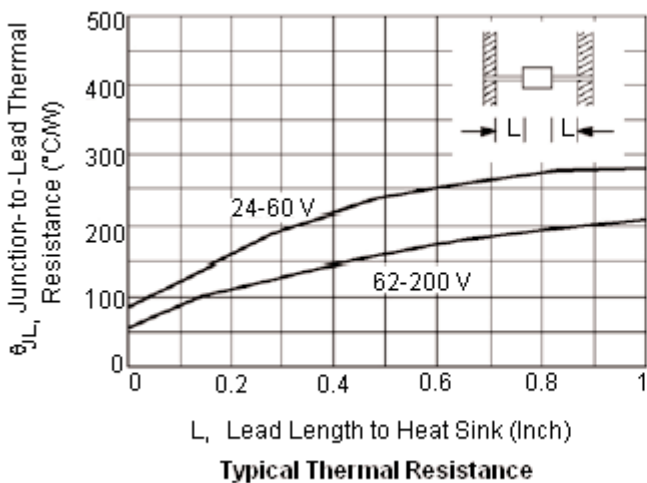
1) Tolerance and voltage designation (V_Z):

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}):

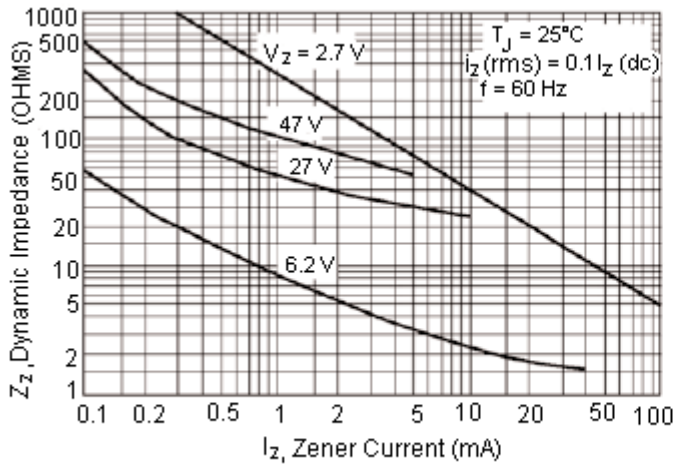
Maximum zener current ratings are based on maximum zener voltage of the individual units and JEDEC 250 mW rating

Characteristics ($T_j = 25^\circ C$ unless otherwise specified)

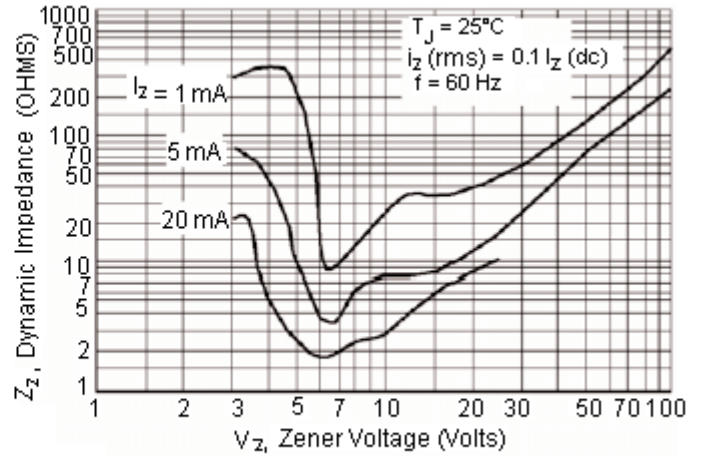


(-55 $^{\circ}C$ to +150 $^{\circ}C$ temperature range; 90% of the units are in the ranges indicated.)

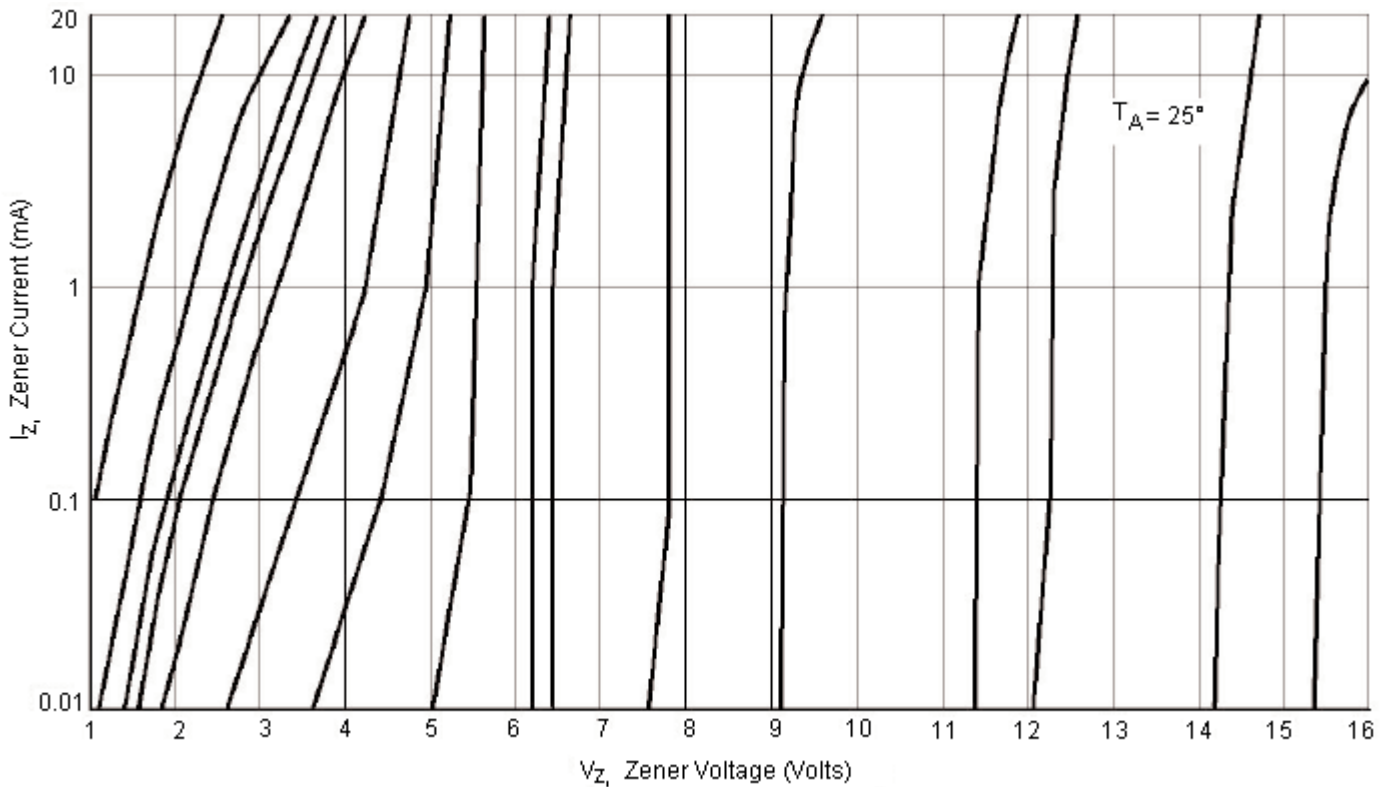
Characteristics ($T_J = 25^\circ\text{C}$ unless otherwise specified)



Effect of zener current on zener impedance

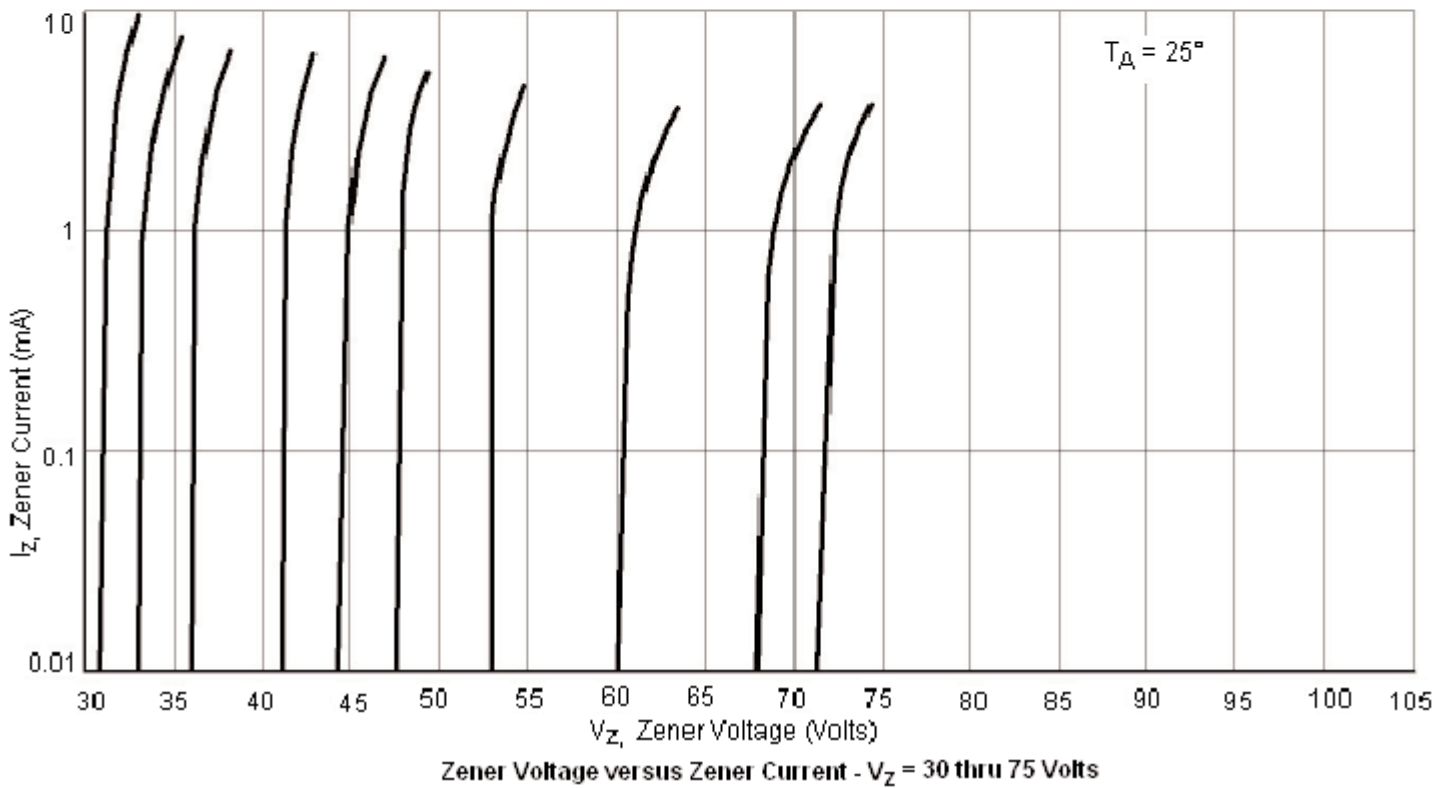
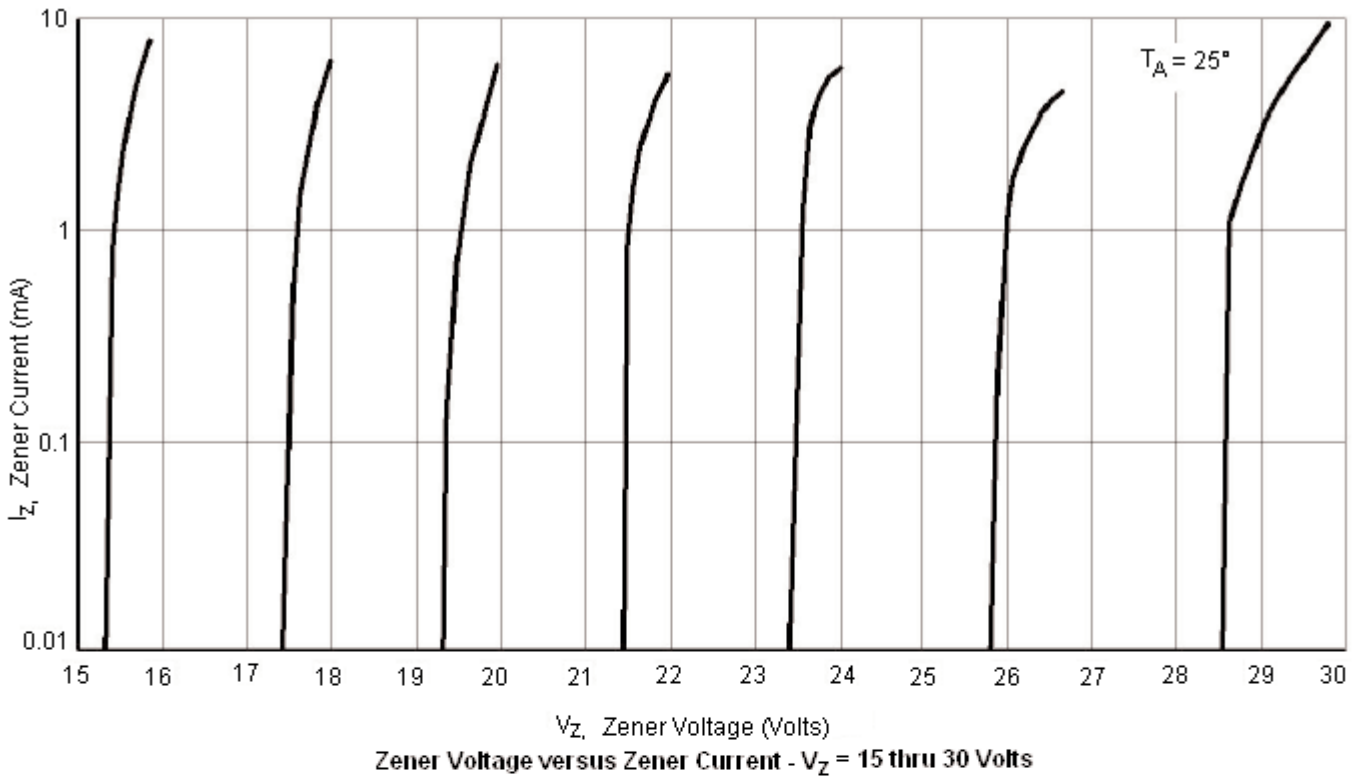


Effect of zener voltage on zener impedance



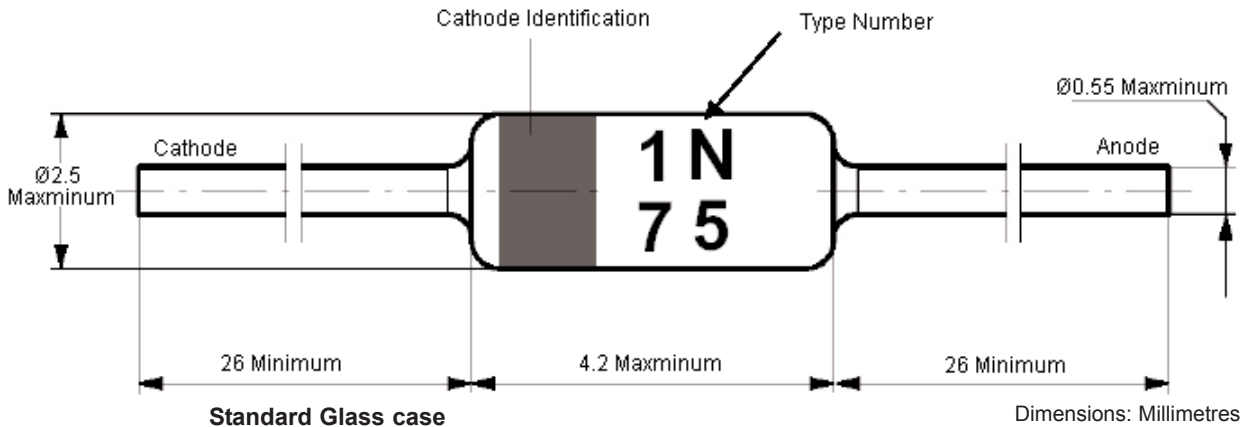
Zener Voltage versus Zener Current - $V_z = 1$ thru 16 Volts

Zener Diode

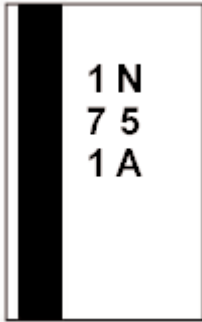


Zener Diode

Dimensions in mm



Marking



Part Number Table

Description	Part Number
Zener Diode	1N746A
Zener Diode	1N747A
Zener Diode	1N748A
Zener Diode	1N757A
Zener Diode	1N758A
Zener Diode	1N759A
Zener Diode	1N754A
Zener Diode	1N755A
Zener Diode	1N756A
Zener Diode	1N751A
Zener Diode	1N752A
Zener Diode	1N753A
Zener Diode	1N749A
Zener Diode	1N750A

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