Zener Diode

Features:

- High reliability
- Very sharp reverse characteristic
- Zener voltage 3.3 to 12 V
- V_z-tolerance ±5%

Applications:

Voltage stabilization

Absolute Maximum Ratings T_j = 25°C

Parameter	Test Conditions	Symbol	Value	Unit
Power dissipation	$T_{amb} \leq 75°C$	P_v	500	mW
Z-current	-	I_z	P_v / V_z	mA
Junction temperature	-	T_j	200	°C
Storage temperature range	-	T_{stg}	-65 to +200	°C

Maximum Thermal Resistance T_j = 25°C

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	l = 9.5 mm (3/8 inches) T_L = 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°C

Parameter	Test Conditions	Symbol	Maximum	Unit
Forward voltage	I_F = 200 mA	V_F	1.5	V

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
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

Zener Diode

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

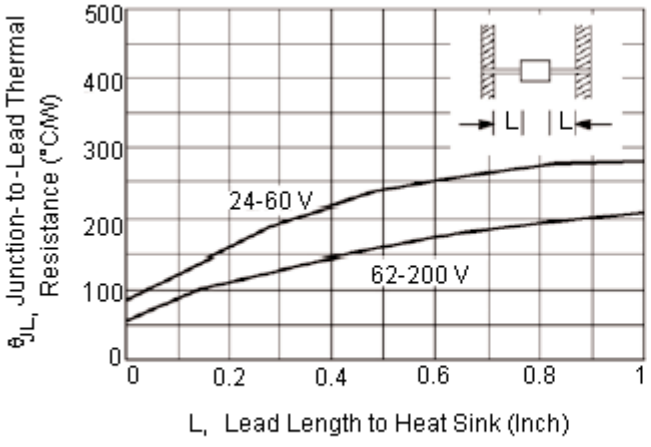
[1] Tolerance and voltage designation (V_Z):

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

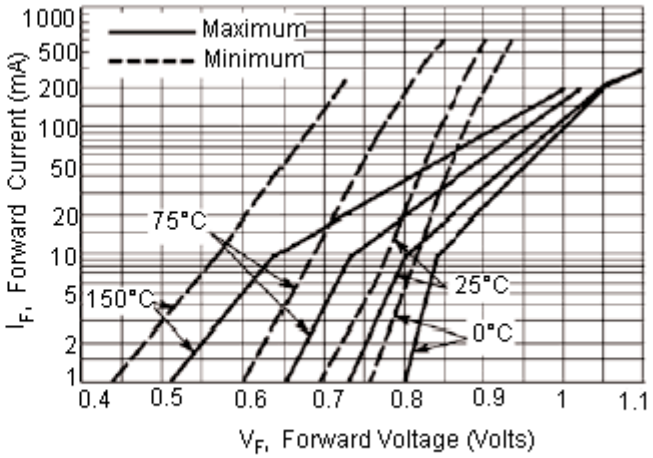
[2] Maximum zener current ratings (I_{ZM}):

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

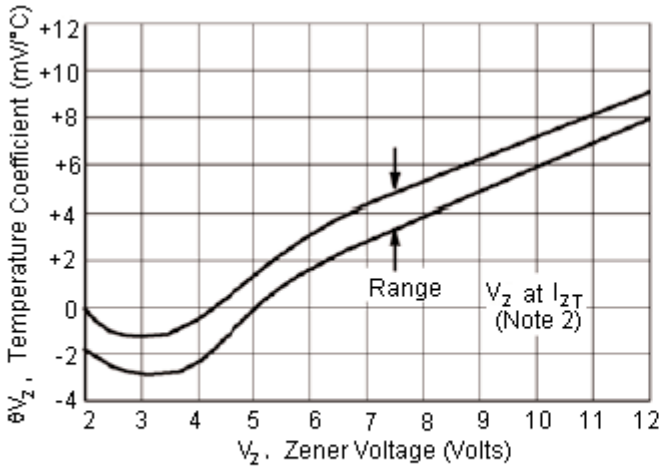
Characteristics (T_j = 25°C unless otherwise specified)

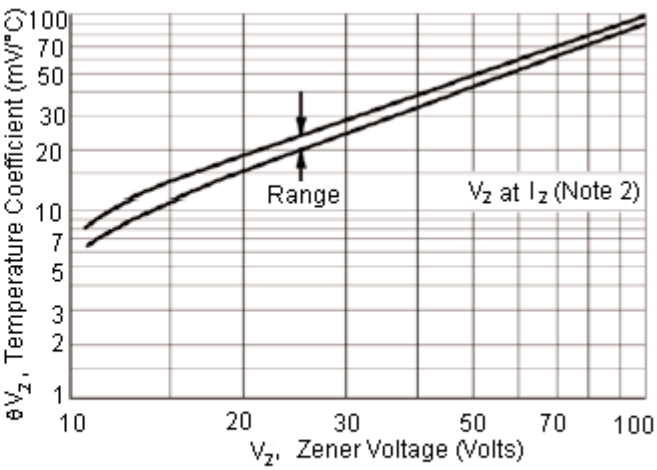


Typical Thermal Resistance



Typical Forward Characteristics

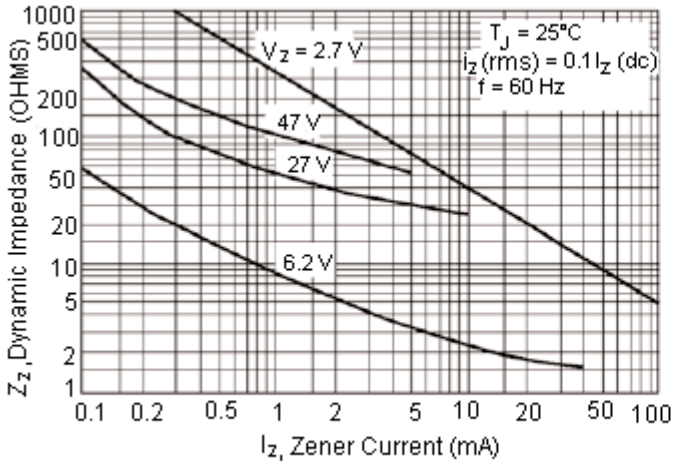




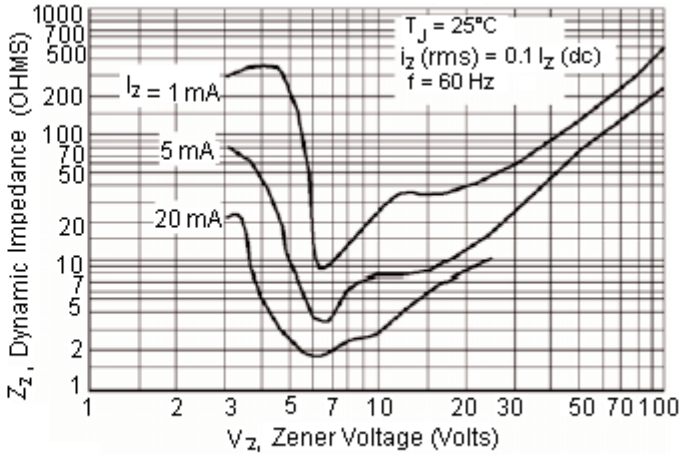
Temperature Coefficients

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

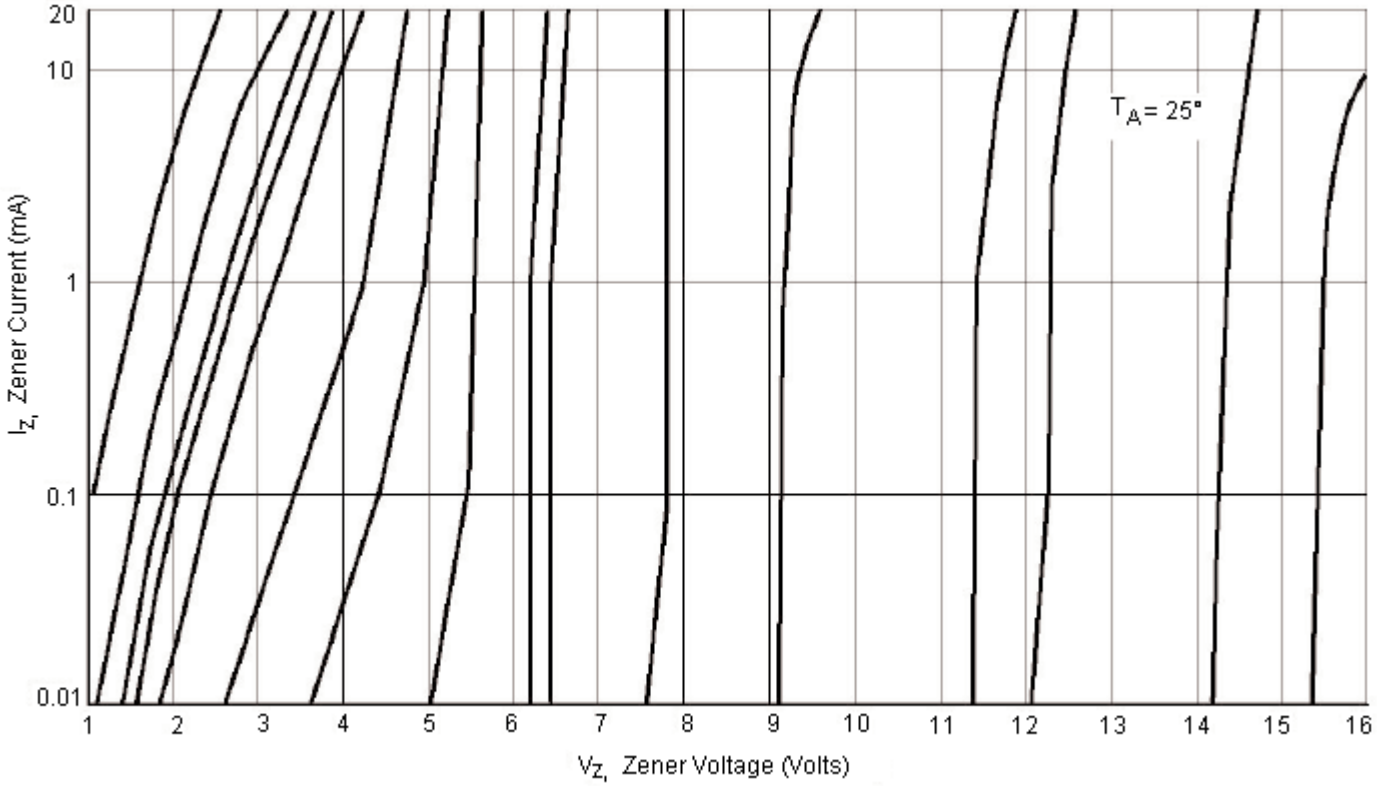
Characteristics (T_j = 25°C unless otherwise specified)



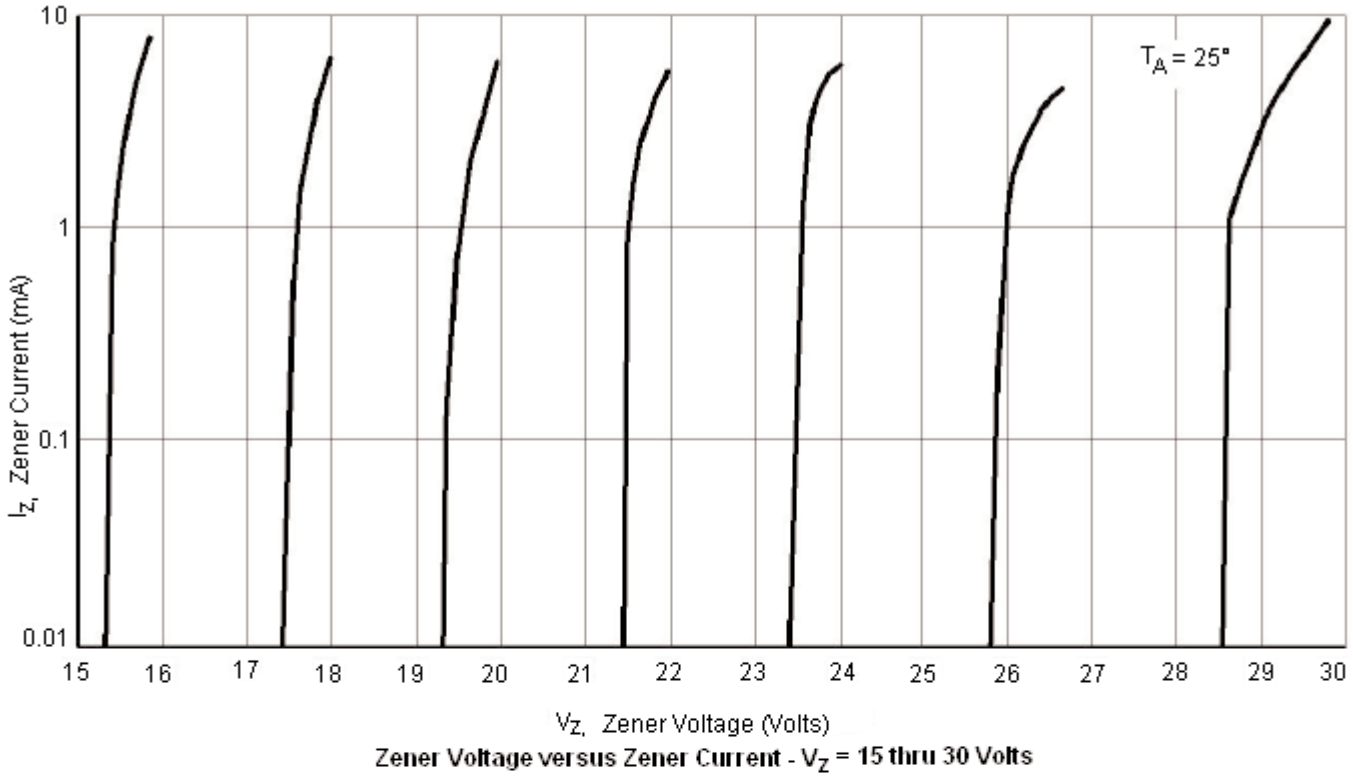
Effect of zener current on zener impedance



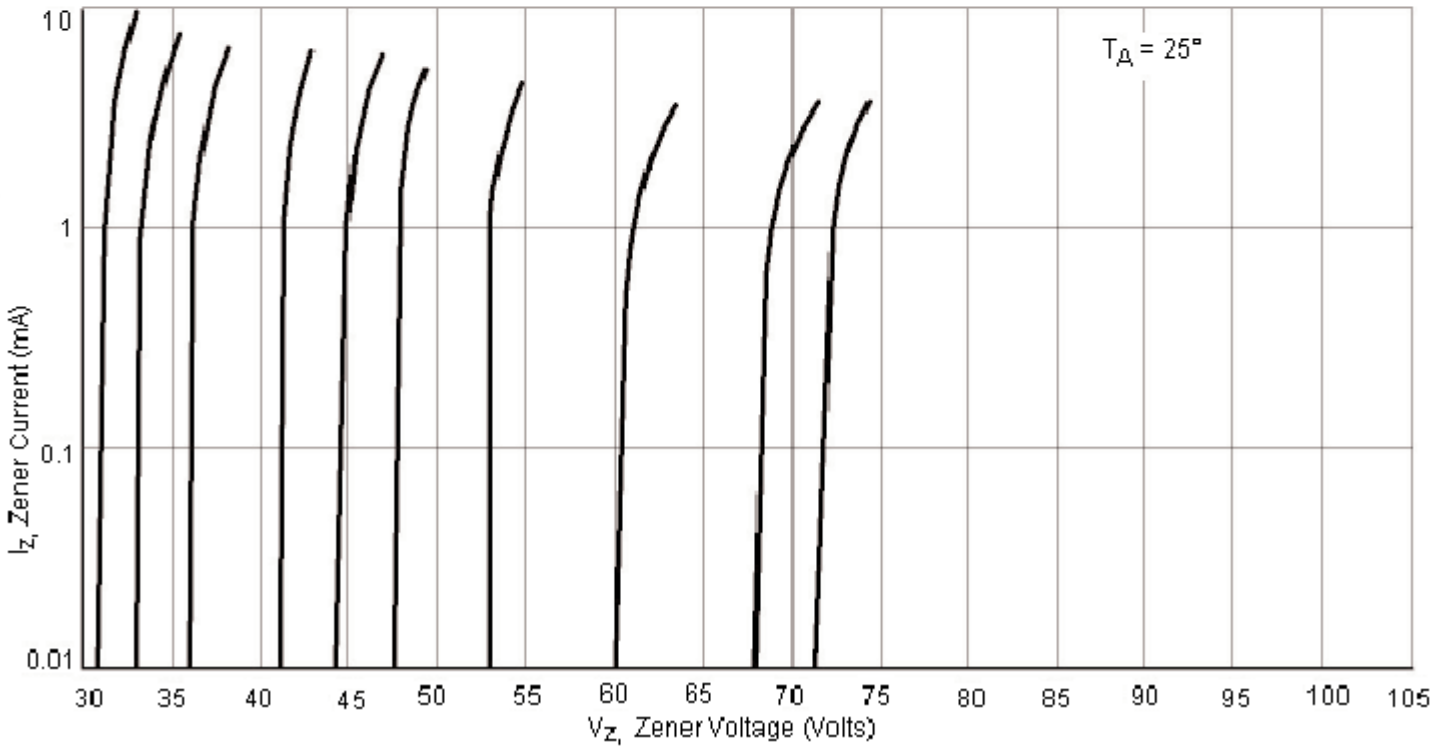
Effect of zener voltage on zener impedance



Zener Voltqge versus Zener Current - V_Z = 1 thru 16 Volts



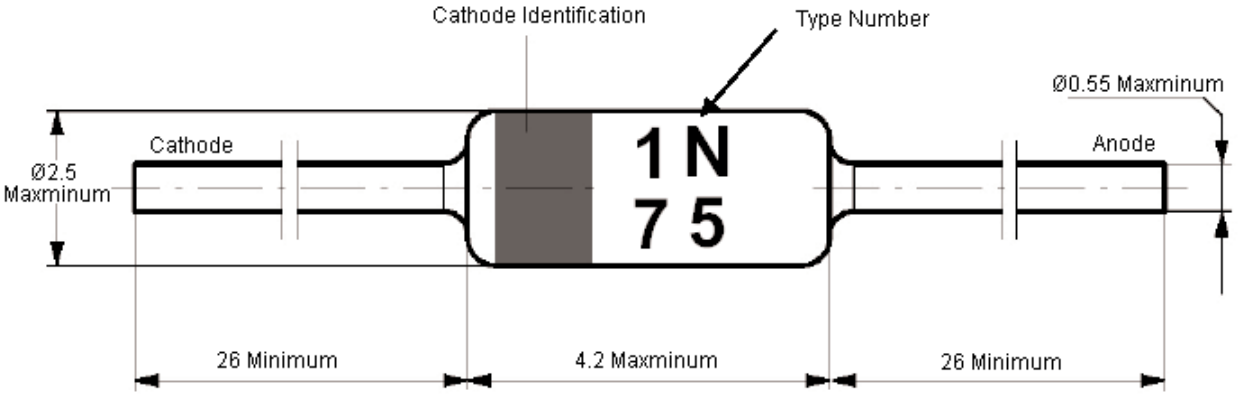
Zener Voltage versus Zener Current - V_Z = 15 thru 30 Volts



Zener Voltage versus Zener Current - V_Z = 30 thru 75 Volts

Zener Diode

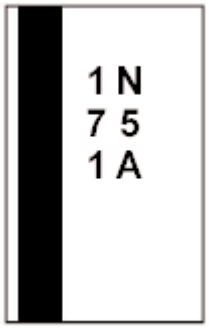
Dimensions in mm



Standard Glass case
JEDEC DO-35

Dimensions: Millimetres

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