Zener Diode

Features:

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

Applications:

Voltage stabilization.

Absolute Maximum Ratings

T_j = 25°C

Parameter	Test Conditions	Symbol	Value	Units
Power dissipation	Tamb ≤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	

Maximum Thermal Resistance

T_j = 25°C

Parameter	Test Conditions	Symbol	Value	Units
Junction ambient	I = 9.5mm (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	Units
Forward Voltage	I_F = 200mA	V_F	1.5	V

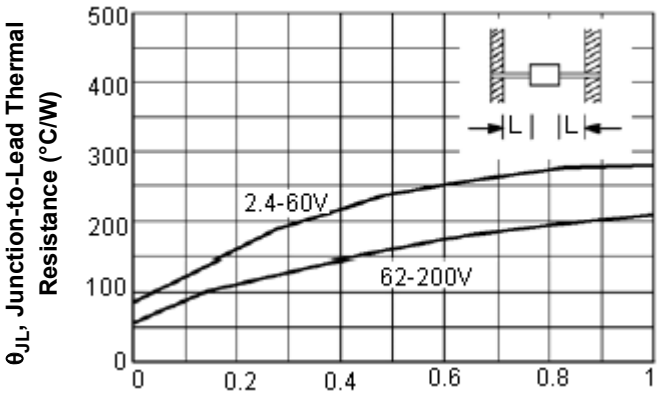
Zener Diode

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

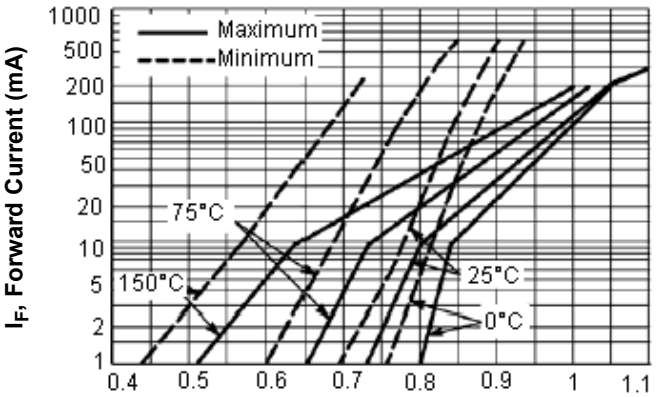
1) Tolerance and voltage designation (V_Z):
The type numbers shown have a standard tolerance of ±5% on the nominal zener voltage, C for ±2%, D for ±1%.

2) Maximum zener current ratings (I_{ZM}):
Maximum zener current ratings are based on maximum zener voltage of the individual units and JEDEC 250mW rating.

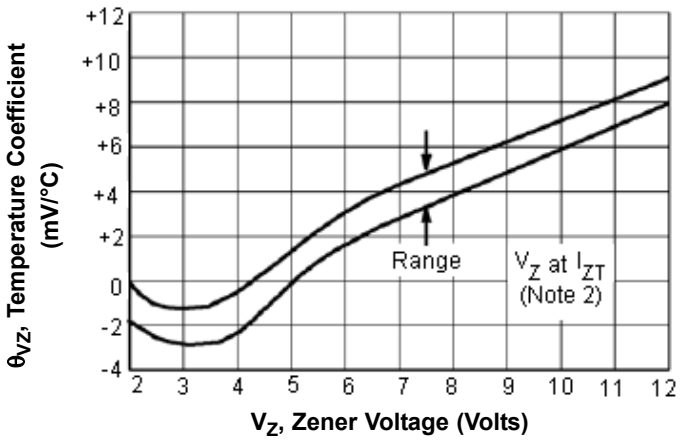
Characteristics (T_j = 25°C unless otherwise specified)

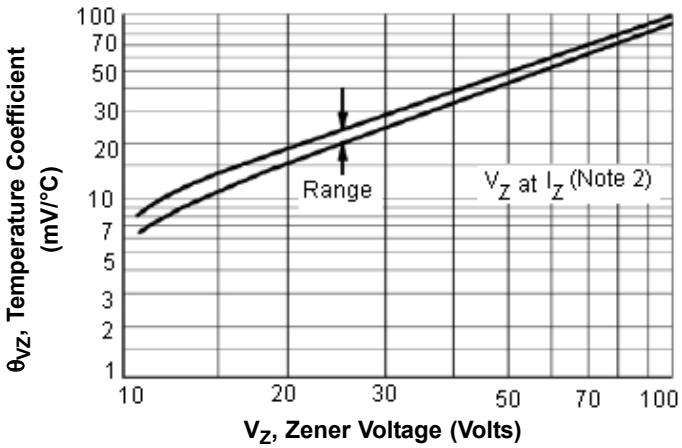


Typical Thermal Resistance



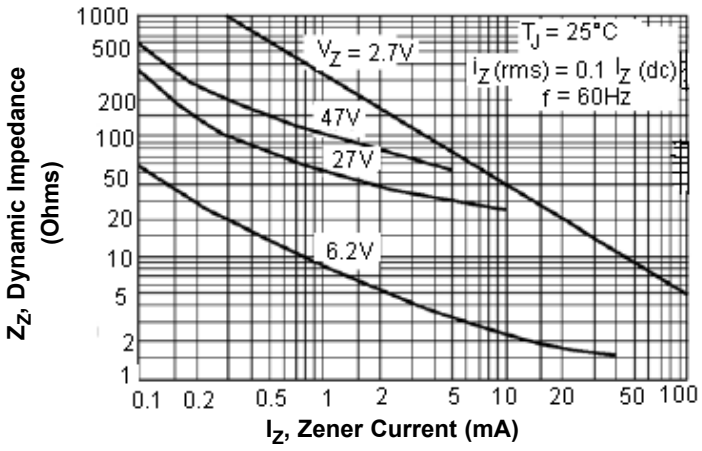
Typical Forward Characteristics



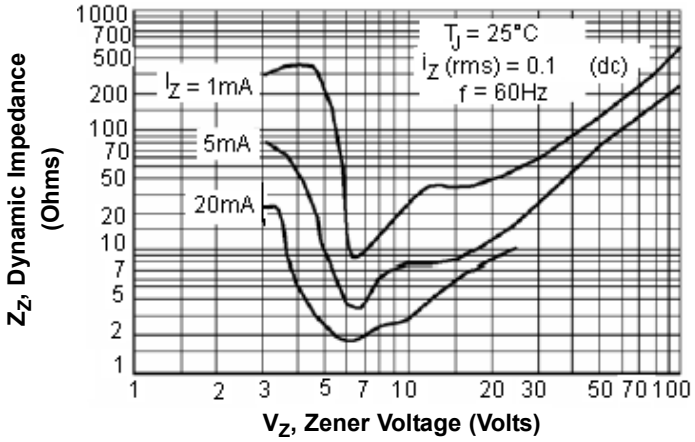


Temperature Coefficients

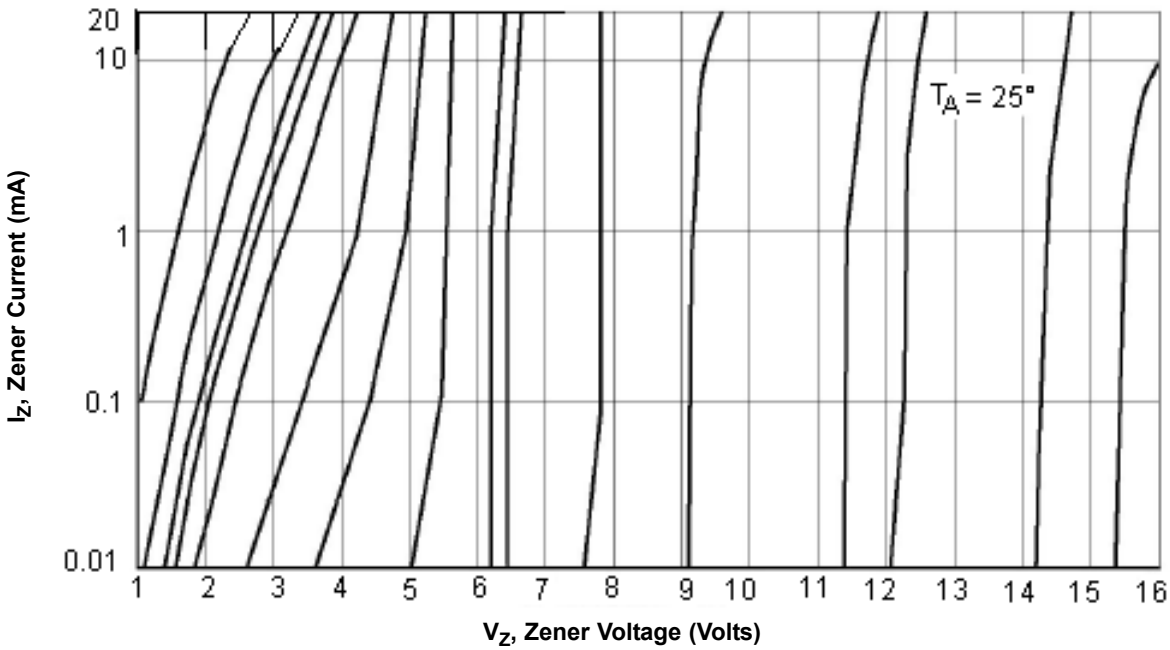
(-55°C to +150°C temperature range; 90% of the units are in the ranges indicated)



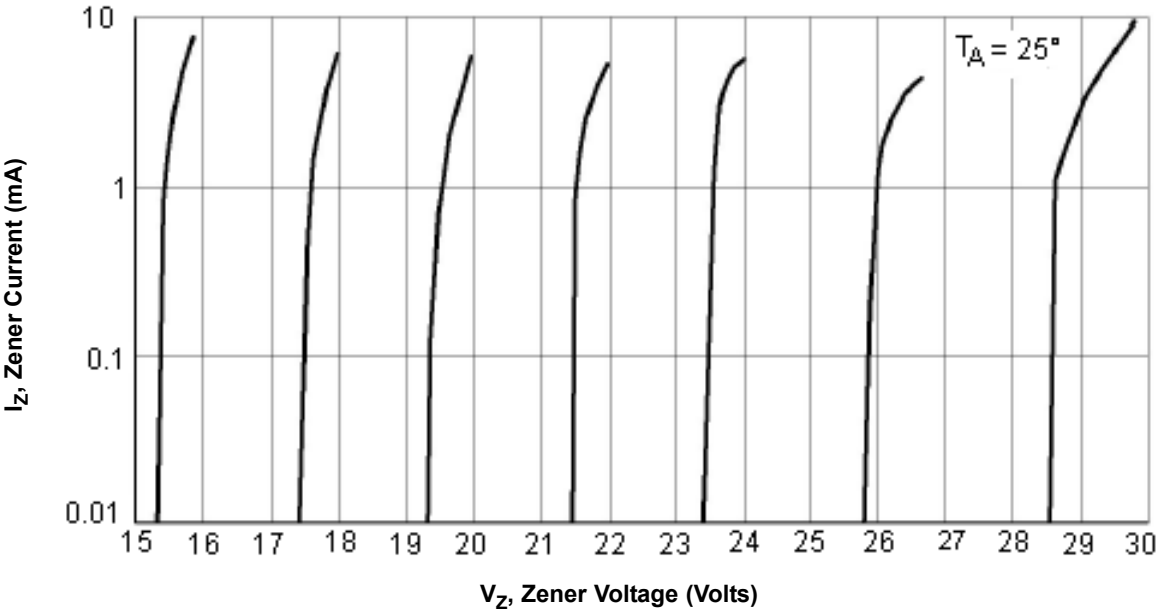
Effect of Zener Current on Zener Impedance



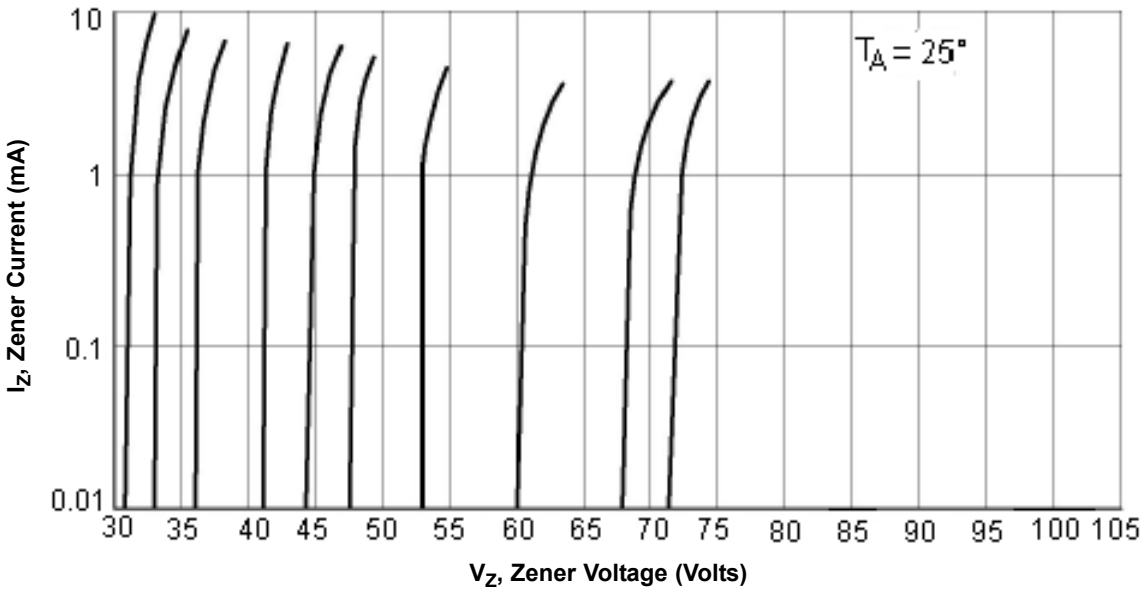
Effect of Zener Voltage on Zener Impedance



Zener Voltage Versus Zener Current - V_Z = 1 thru 16 Volts

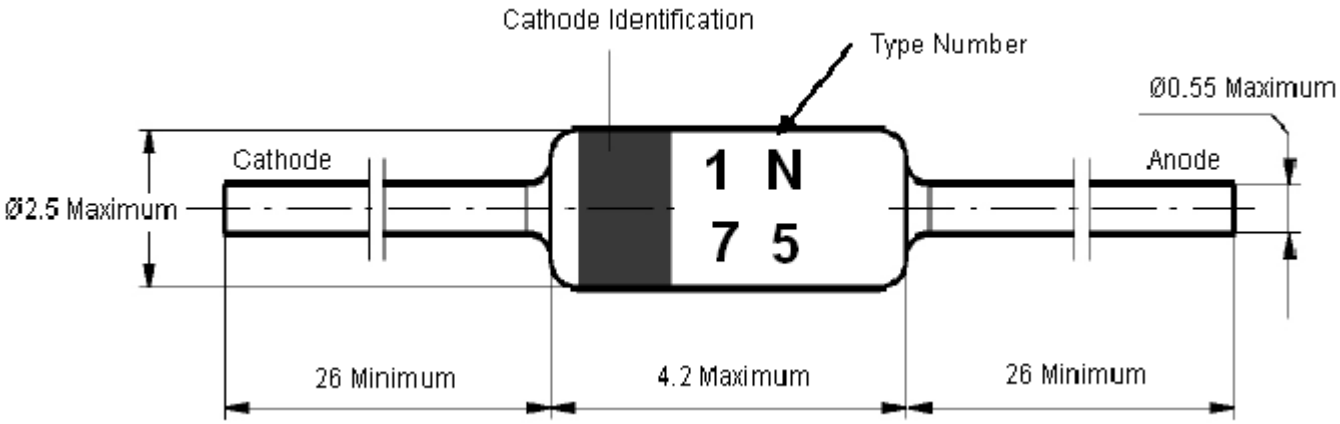


Zener Voltage Versus Zener Current - V_Z = 15 thru 30 Volts



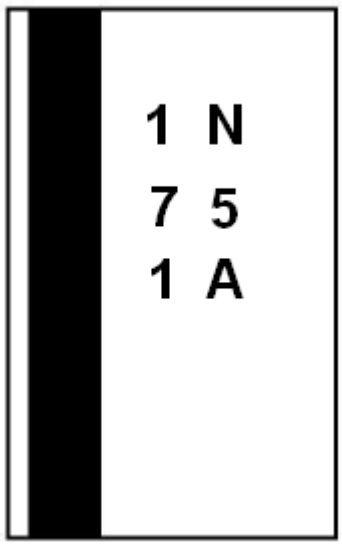
Zener Voltage Versus Zener Current - V_Z = 30 thru 75 Volts

Dimensions in mm



Standard Glass Case
JEDEC DO-35

Marking



Part Number Table

Description	Part Number
Zener Diode	1N746A