

# Zener Diode

## 1N746A-1N759A



### Features:

- High reliability.
- Very sharp reverse characteristic.
- Zener voltage 3.3V to 12V.
- $V_z$ -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	°C
Storage temperature range	-	$T_{\text{stg}}$	-65 to +200	

### 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) $T_L = \text{constant}$	$R_{\text{thJA}}$	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



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### Specification Table

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

#### 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  $\pm 1\%$ .

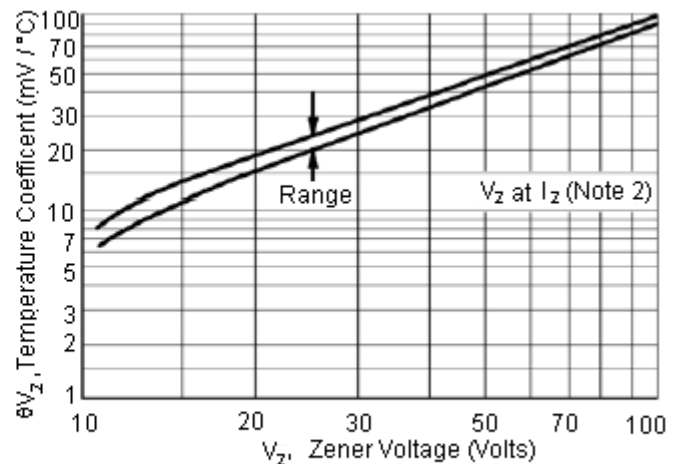
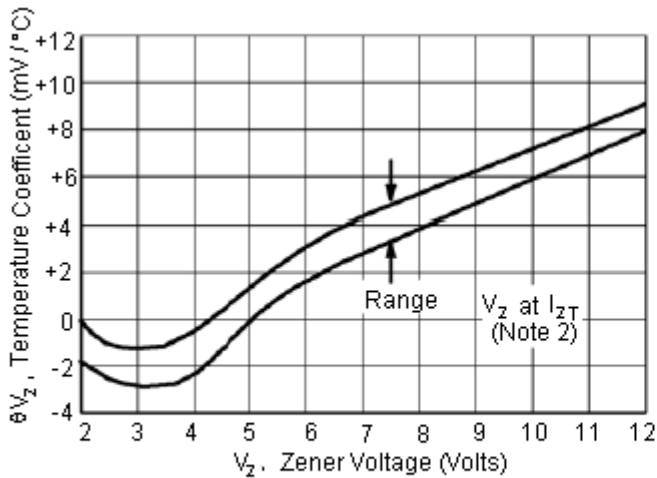
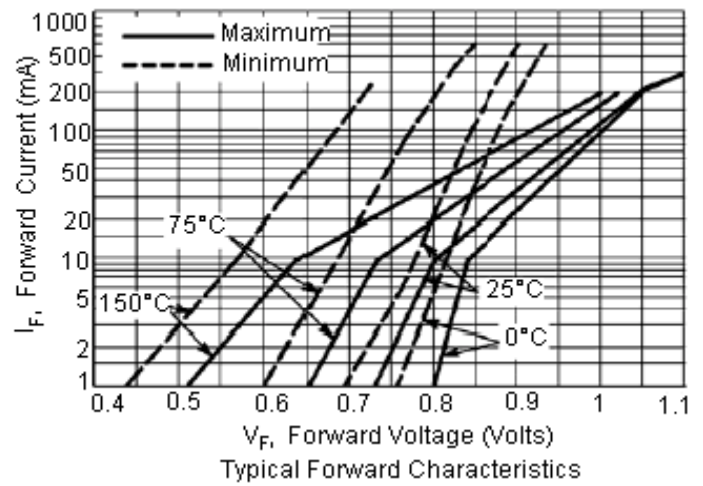
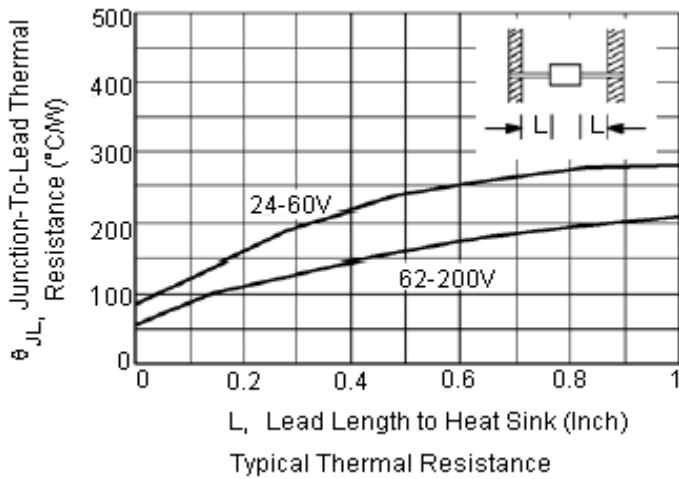
#### 2) Maximum zener current ratings ( $I_{ZM}$ )

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

# Zener Diode

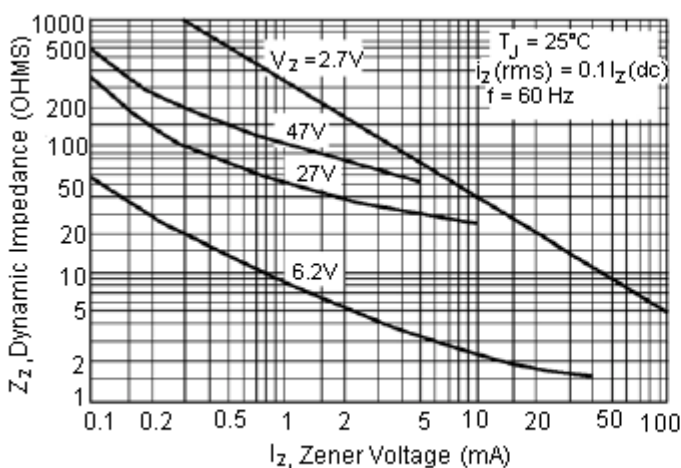
## 1N746A-1N759A

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

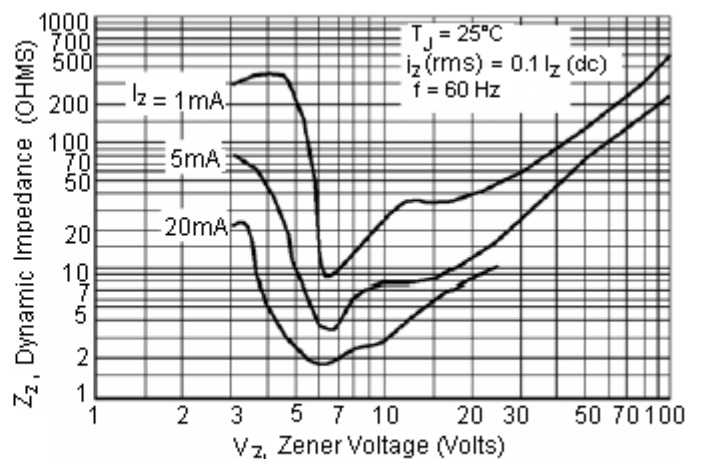


Temperature Coefficients

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



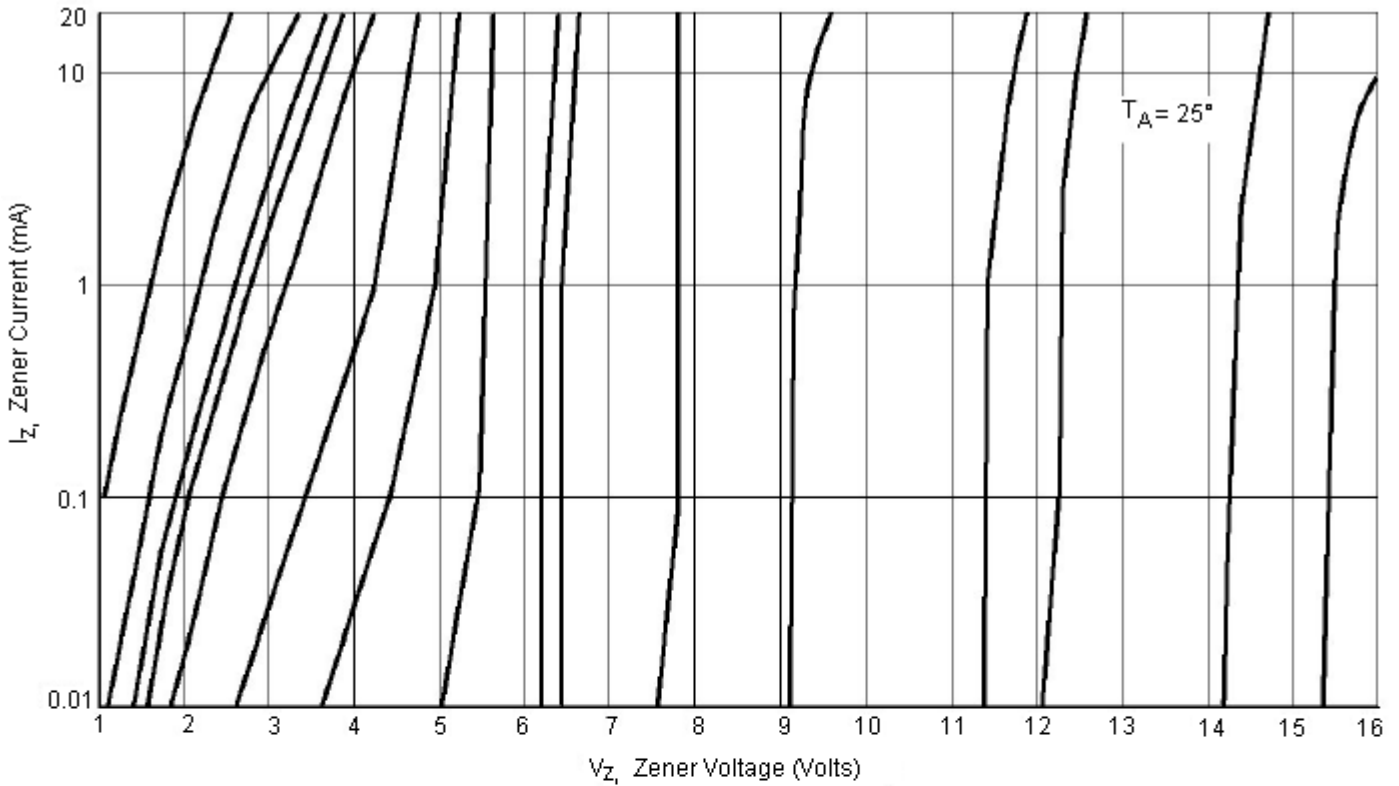
Effect of Zener Current on Zener Impedance



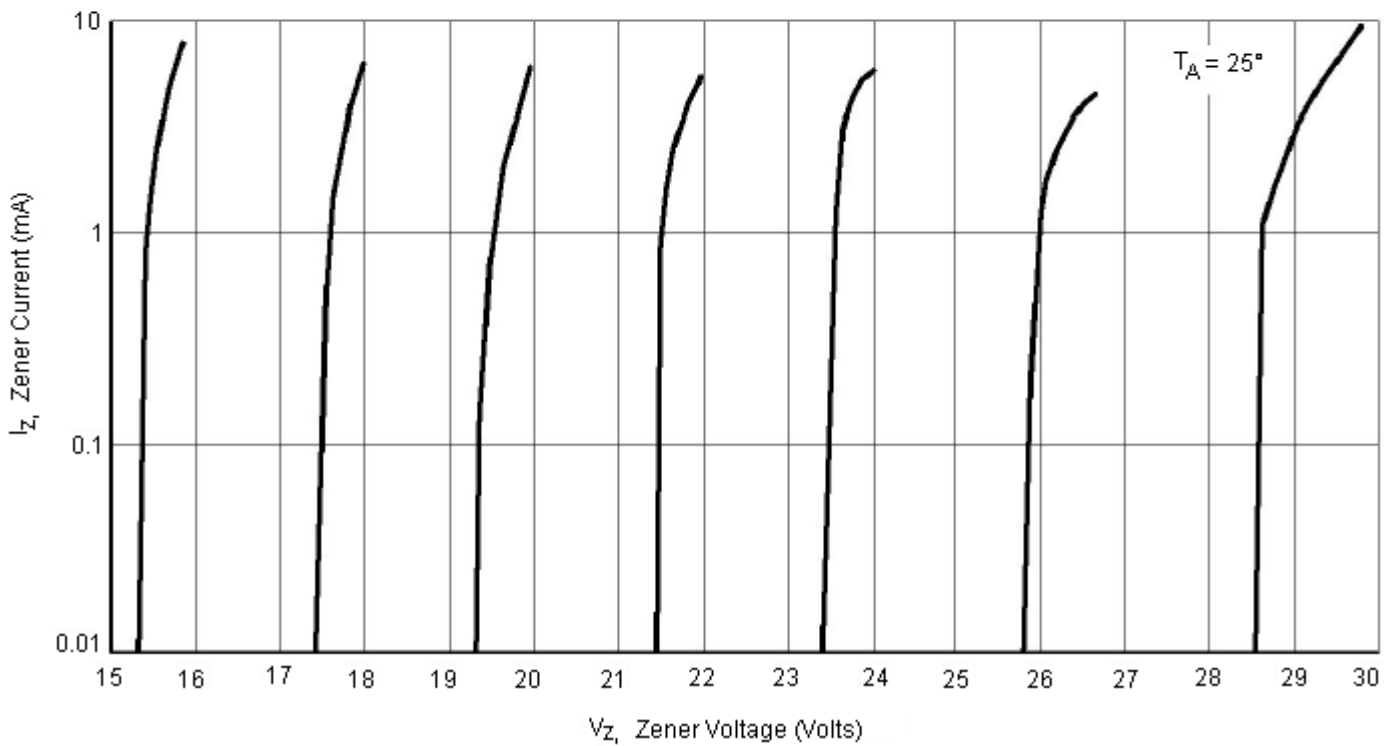
Effect of Zener Voltage on Zener Impedance

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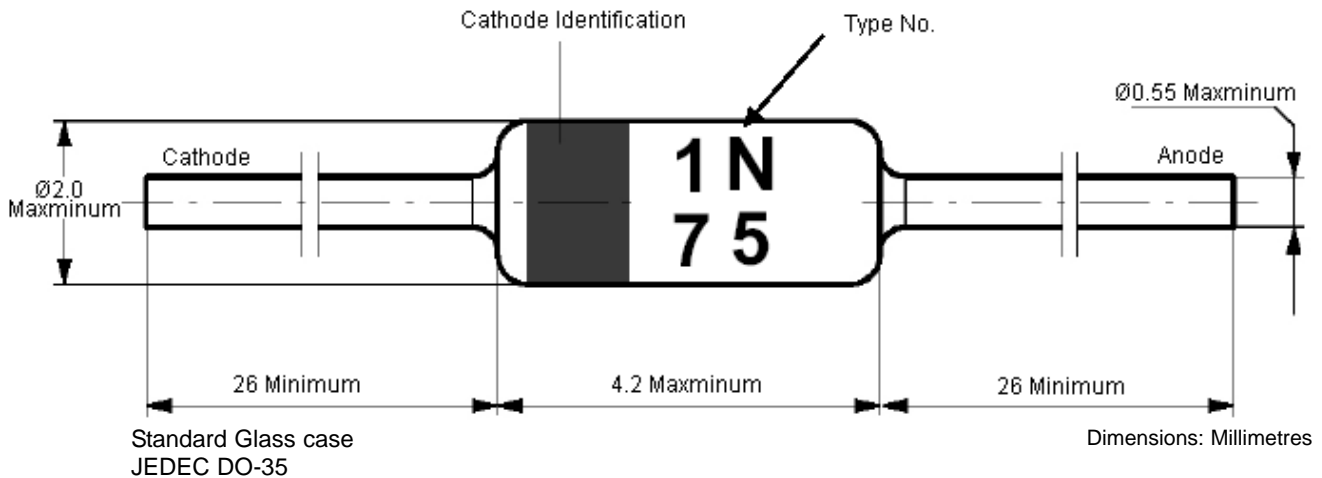
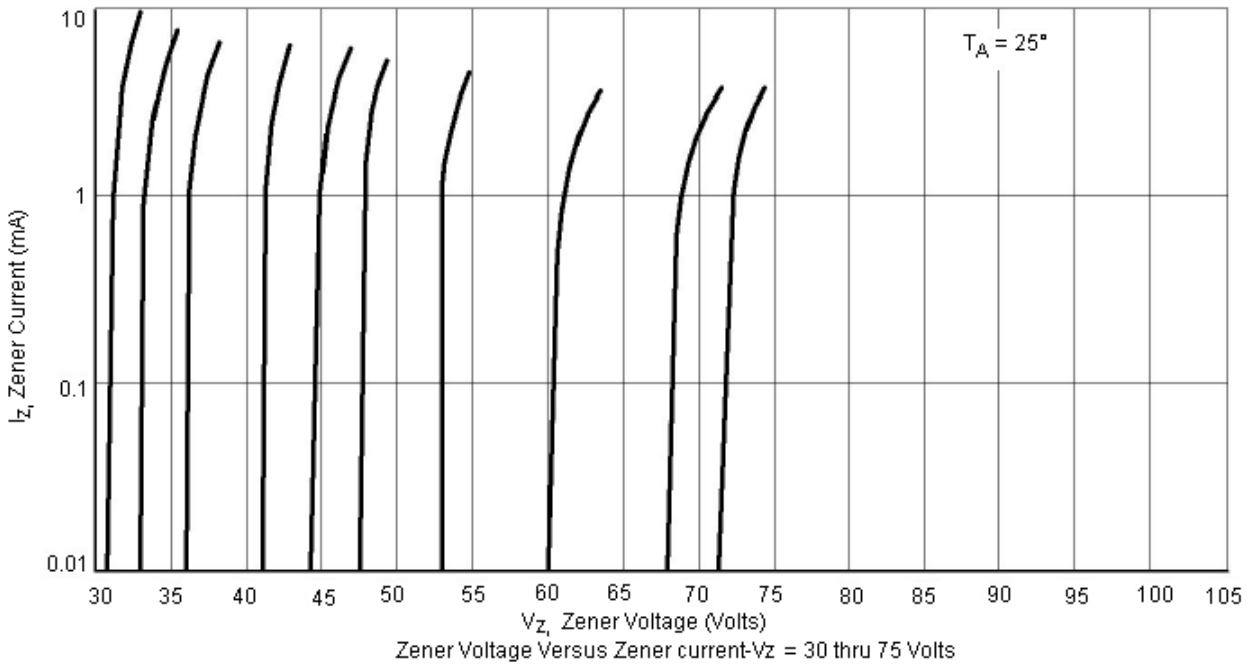
Zener Voltage Versus Zener Current -  $V_Z = 1$  thru 16 Volts



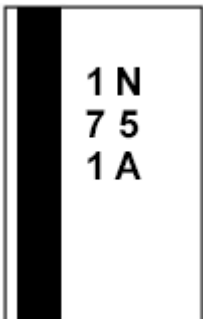
Zener Voltage Versus Zener Current -  $V_Z = 15$  thru 30 Volts

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### Marking



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