

# Zener Diode



## Features

- High reliability
- Very sharp reverse characteristic
- Low reverse current level
- $V_Z$ -tolerance  $\pm 5\%$

## Application

Voltage stabilization

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

Parameter	Test Conditions	Symbol	Value	Unit
Power dissipation	$T_{\text{amb}} \leq 50^\circ\text{C}$	$P_V$	1	W
Z-current	-	$I_Z$	$P_V / V_Z$	mA
Junction temperature	-	$T_J$	200	°C
Storage temperature range	-	$T_{\text{STG}}$	-65 to +175	

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

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	$l = 9.5 \text{ mm (3/8") TL} = \text{constant}$	$R_{\text{THJA}}$	100	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	Value	Unit
Forward voltage	$I_F = 200\text{mA}$	$V_F$	1.2 (Max.)	V

## Specification Table

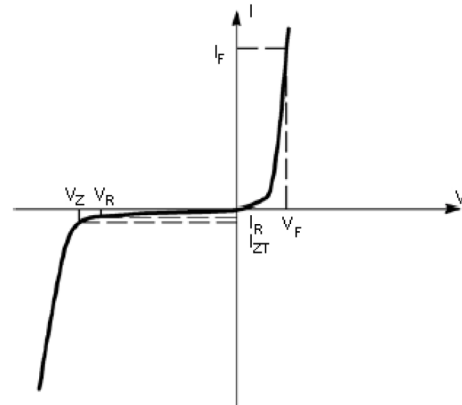
$V_{Z\text{nom}}^*$	$I_{ZT}$ for $r_{ZT}$		$r_{ZIK}$ at $I_{ZK}$		$I_R$ at $V_R$		Part Number
	V	mA	$\Omega$	mA	$\mu\text{A}$	V	
27	9.5	<35	<750	0.25	<5	20.6	1N4750A+
33	7.5	<45	<1000	0.25	<5	25.1	1N4752A+

\*Based on DC-measurement at thermal equilibrium while maintaining the lead temperature (TL) at  $30^\circ\text{C}$  9.5mm (3/8") from the diode body.

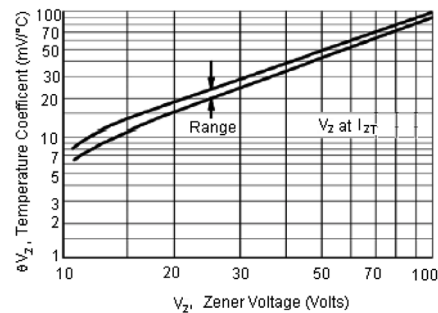
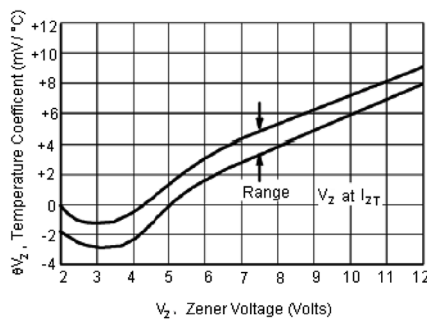
# Zener Diode

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

Symbol	Parameter
$V_Z$	Reverse zener voltage at $I_{ZT}$
$I_{ZT}$	Reverse current
$Z_{ZT}$	Maximum zener impedance at $I_{ZT}$
$I_{ZK}$	Reverse current
$Z_{ZK}$	Maximum zener impedance at $I_{ZK}$
$I_R$	Reverse leakage current at $V_R$
$V_R$	Breakdown voltage
$I_F$	Forward current
$V_F$	Forward voltage at $I_F$

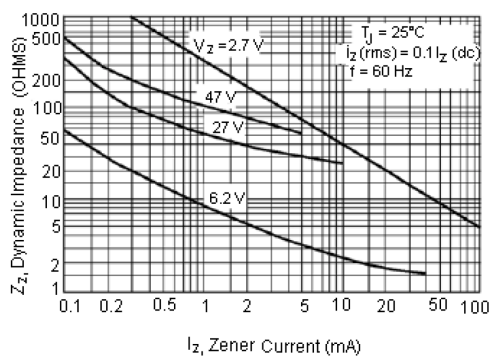


Zener Voltage Regulator

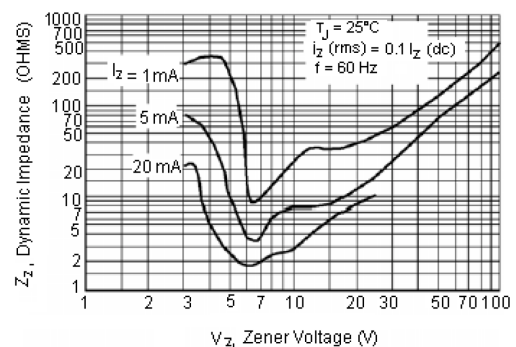


### Temperature Coefficients

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



Effect of Zener Current on Zener Impedance

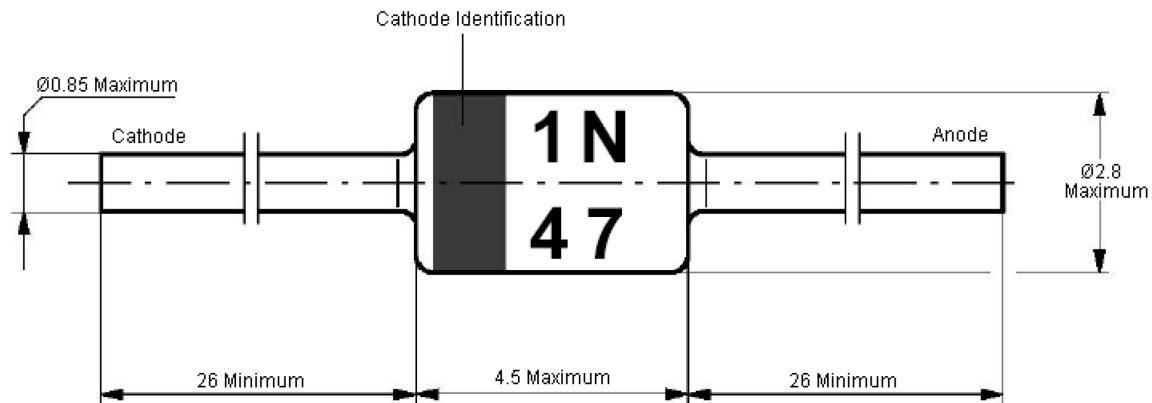


Effect of Zener Voltage on Zener Impedance

# Zener Diode



## Dimensions:



Standard Glass case  
JEDEC DO-41

Dimensions: Millimetres

## Part Number Table

Description	Part Number
Zener Single Diode, 27V	1N4750A+
Zener Single Diode, 33V	1N4752A+

**Important Notice :** This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell Limited 2016.

www.element14.com  
www.farnell.com  
www.newark.com

