



# Zeners

## 1N746A - 1N759A

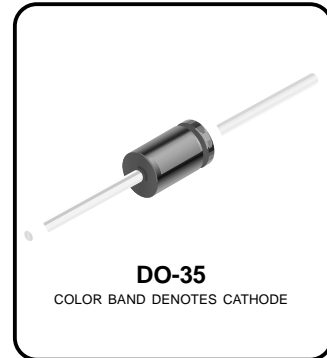
Zeners (1N746A - 1N759A)

### Absolute Maximum Ratings\*

$T_A = 25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Value	Units
$P_D$	Power Dissipation	500	mW
$T_{STG}$	Storage Temperature Range	-65 to +200	$^\circ\text{C}$
$T_J$	Operating Junction Temperature	+ 175	$^\circ\text{C}$
	Lead Temperature (1/16" from case for 10 seconds)	+ 230	$^\circ\text{C}$

Tolerance: A = 5%



\*These ratings are limiting values above which the serviceability of the diode may be impaired.

#### NOTES:

- 1) These ratings are based on a maximum junction temperature of 200 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Electrical Characteristics

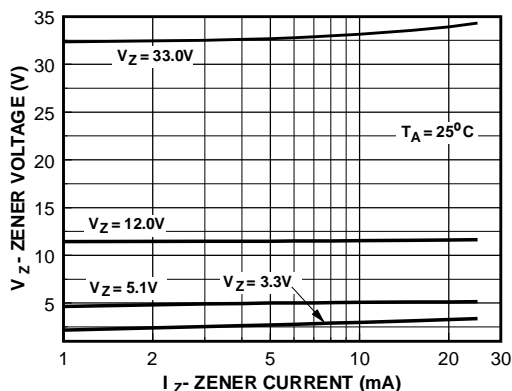
$T_A = 25^\circ\text{C}$  unless otherwise noted

Device	$V_Z$ (V)	$Z_Z(\Omega)$ @ $I_Z(\text{mA})$	$I_{R1}(\mu\text{A})$ @ $V_R(\text{V})$	$I_{R2}(\mu\text{A})$ @ $V_R(\text{V})$ $T_A=150^\circ\text{C}$	$T_C$ (% $^\circ\text{C}$ )	$I_{ZRM}^*(\text{mA})$
1N746A	3.3	28 20	10 1.0	30 1.0	- 0.070	110
1N747A	3.6	24 20	10 1.0	30 1.0	- 0.065	100
1N748A	3.9	23 20	10 1.0	30 1.0	- 0.060	95
1N749A	4.3	22 20	2.0 1.0	30 1.0	+/- 0.055	85
1N750A	4.7	19 20	2.0 1.0	30 1.0	+/- 0.030	75
1N751A	5.1	17 20	1.0 1.0	20 1.0	+/- 0.030	70
1N752A	5.6	11 20	1.0 1.0	20 1.0	+ 0.038	65
1N753A	6.2	7.0 20	0.1 1.0	20 1.0	+ 0.045	60
1N754A	6.8	5.0 20	0.1 1.0	20 1.0	+ 0.050	55
1N755A	7.5	6.0 20	0.1 1.0	20 1.0	+ 0.058	50
1N756A	8.2	8.0 20	0.1 1.0	20 1.0	+ 0.062	45
1N757A	9.1	10 20	0.1 1.0	20 1.0	+ 0.068	40
1N758A	10	17 20	0.1 1.0	20 1.0	+ 0.075	35
1N759A	12	30 20	0.1 1.0	20 1.0	+ 0.077	38

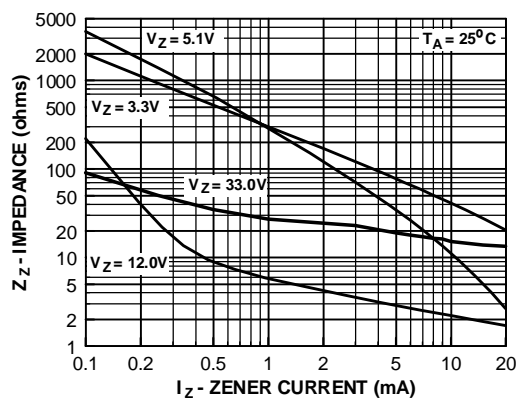
\*  $I_{ZRM}$  (Maximum Zener Current Rating) Values shown are based on the JEDEC rating of 400 milliwatts. Where the actual zener voltage ( $V_Z$ ) is known at the operating point, the maximum zener current may be increased and is limited by the derating curve.

## Zeners (1N746A - 1N759A) (continued)

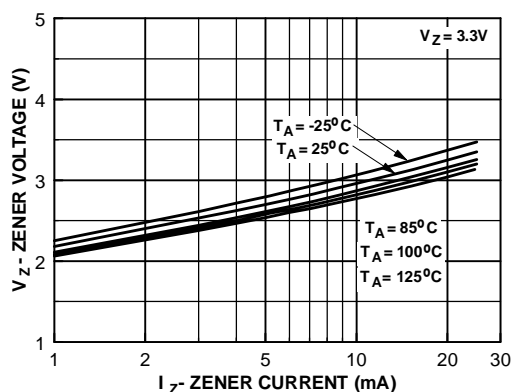
### Typical Characteristics



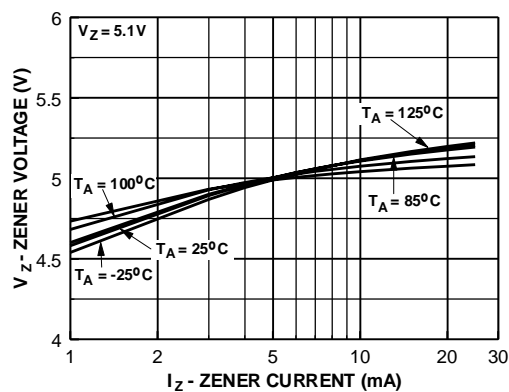
Zener Current vs. Zener Voltage



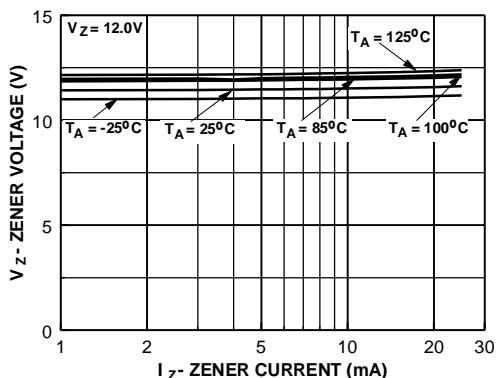
Zener Current vs. Zener Impedance



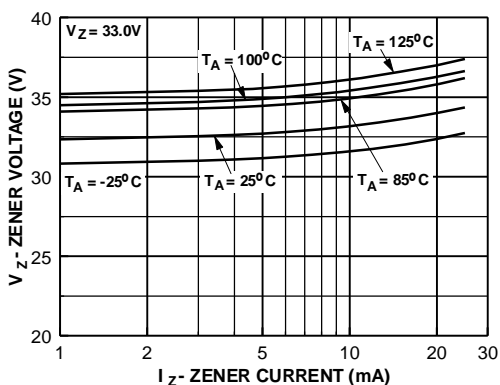
3.3 Zener Voltage vs. Temperature



5.1 Zener Voltage vs. Temperature



12 Zener Voltage vs. Zener Temperature



33 Zener Voltage vs. Zener Temperature

## TRADEMARKS

The following are registered and unregistered trademarks Fairchild Semiconductor owns or is authorized to use and is not intended to be an exhaustive list of all such trademarks.

ACEx™	FAST®	OPTOLOGIC™	SMART START™	VCX™
Bottomless™	FASTr™	OPTOPLANAR™	STAR*POWER™	
CoolFET™	FRFET™	PACMAN™	Stealth™	
CROSSVOLT™	GlobalOptoisolator™	POP™	SuperSOT™-3	
DenseTrench™	GTO™	Power247™	SuperSOT™-6	
DOMETM	HiSeC™	PowerTrench®	SuperSOT™-8	
EcoSPARK™	ISOPLANAR™	QFET™	SyncFET™	
E <sup>2</sup> CMOS™	LittleFET™	QST™	TinyLogic™	
EnSigna™	MicroFET™	QT Optoelectronics™	TruTranslation™	
FACT™	MicroPak™	Quiet Series™	UHC™	
FACT Quiet Series™	MICROWIRE™	SILENT SWITCHER®	UltraFET®	

STAR\*POWER is used under license

## DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

## LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, or (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

## PRODUCT STATUS DEFINITIONS

### Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

This datasheet has been download from:

[www.datasheetcatalog.com](http://www.datasheetcatalog.com)

Datasheets for electronics components.