



Zeners

1N957B - 1N973B

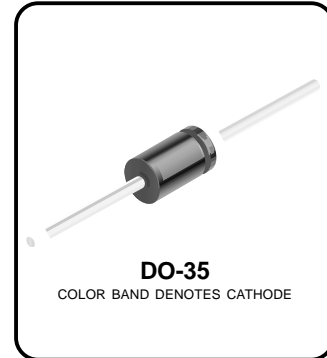
Zeners (1N957B - 1N973B)

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: B = 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.

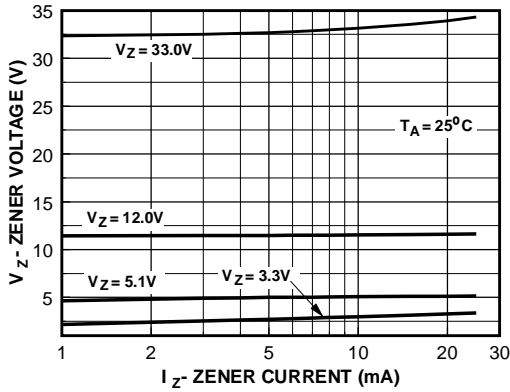
Electrical Characteristics

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

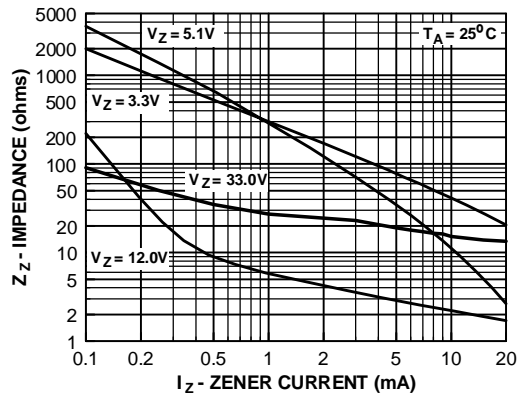
Device	$V_Z(V)$	$Z_Z(\Omega)$ @ $I_Z(mA)$	$Z_{ZK}(\Omega)$ @ $I_{ZK}(mA)$	$I_R(\mu A)$ @ $V_R(V)$	T_C (%/ $^\circ\text{C}$)	$I_{ZRM}^*(mA)$
1N957B	6.8	4.5 18.5	700 1.0	150 5.2	0.05	47
1N958B	7.5	5.5 16.5	700 0.5	75 5.7	0.058	42
1N959B	8.2	6.5 15	700 0.5	50 6.2	0.062	38
1N960B	9.1	7.5 14	700 0.5	25 6.9	0.068	35
1N961B	10	8.5 12.5	700 0.25	10 7.6	0.072	32
1N962B	11	9.5 11.5	700 0.25	5 8.4	0.073	28
1N963B	12	11.5 10.5	700 0.25	5 9.1	0.076	26
1N964B	13	13 9.5	700 0.25	5 9.9	0.079	24
1N965B	15	16 8.5	700 0.25	5 11.4	0.082	21
1N966B	16	17 7.8	700 0.25	5 12.2	0.083	19
1N967B	18	21 7.0	750 0.25	5 13.7	0.085	17
1N968B	20	25 6.2	750 0.25	5 15.2	0.086	15
1N969B	22	29 5.6	750 0.25	5 16.7	0.087	14
1N970B	24	33 5.2	750 0.25	5 18.2	0.088	13
1N971B	27	41 4.6	750 0.25	5 20.6	0.090	11
1N972B	30	49 4.2	1,000 0.25	5 22.8	0.091	10
1N973B	33	58 3.8	1,000 0.25	5 25.1	0.092	9.2

* 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.

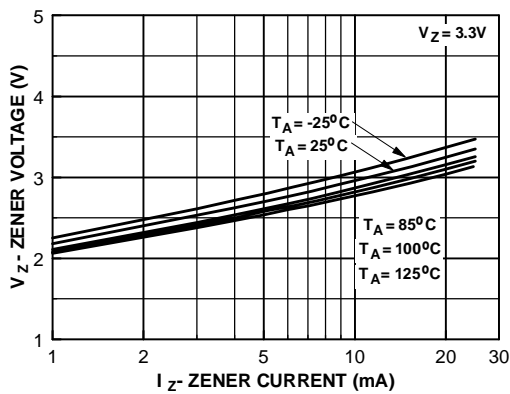
Typical Characteristics



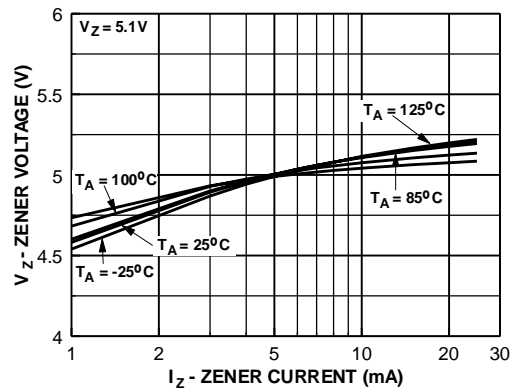
Zener Current vs. Zener Voltage



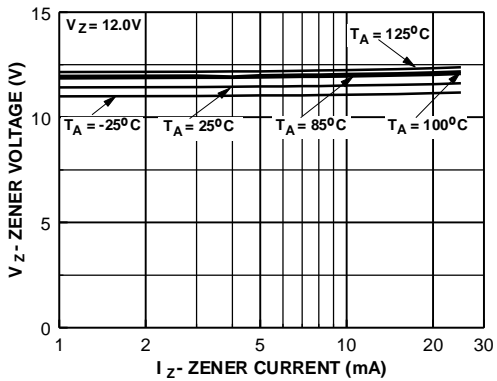
Zener Current vs. Zener Impedance



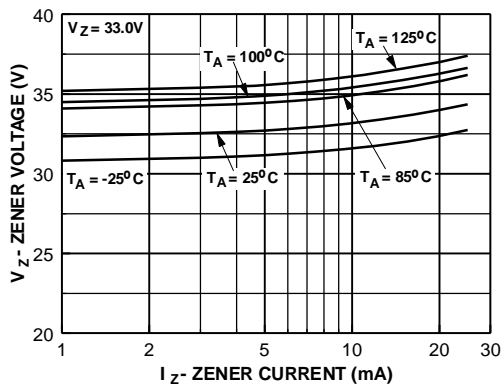
3.3 Zener Voltage vs. Temperature



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.

ACE _x TM	FAST [®]	OPTOLOGIC TM	SMART START TM	VCX TM
Bottomless TM	FAST _r TM	OPTOPLANAR TM	STAR*POWER TM	
CoolFET TM	FRFET TM	PACMAN TM	Stealth TM	
CROSSVOLT TM	GlobalOptoisolator TM	POP TM	SuperSOT TM -3	
DenseTrench TM	GTO TM	Power247 TM	SuperSOT TM -6	
DOMET TM	HiSeC TM	PowerTrench [®]	SuperSOT TM -8	
EcoSPARK TM	ISOPLANAR TM	QFET TM	SyncFET TM	
E ² CMOS TM	LittleFET TM	QST TM	TinyLogic TM	
EnSigna TM	MicroFET TM	QT Optoelectronics TM	TruTranslation TM	
FACT TM	MicroPak TM	Quiet Series TM	UHC TM	
FACT Quiet Series TM	MICROWIRE TM	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.