

## MMSZ4686

### General Description

Half watt, General purpose, Medium Current Surface Mount Zener in the SOD-123 package. The SOD-123 package has the same footprint as the glass mini-melf (LL-34) package & provides a convenient alternative to the Leadless package.

### Features

- Compact surface mount with same footprint as mini-melf
- 500mW rating on FR-4 or FR-5 board.
- Class 3 ESD rating (>16kV) per Human Body Model

### Ordering

- 7 inch reel (178mm); 8mm Tape; 3,000 units per reel.

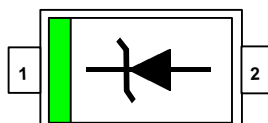
### Absolute Maximum Ratings (note 1) $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ\text{C}$
$T_J$	Maximum Junction Temperature	-55 ~ 150	$^\circ\text{C}$
$P_D$	Total Power Dissipation at $25^\circ\text{C}$ Derate above $25^\circ\text{C}$	500 6.7	mW mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	340	$^\circ\text{C}/\text{W}$
$R_{\theta JL}$	Thermal Resistance Junction to Lead	150	$^\circ\text{C}/\text{W}$
$\Delta V_Z$	Maximum Voltage Change (note 2)	970	mV
Lead Solder Temperature (Max 10 second duration)		260	$^\circ\text{C}$
Nominal Zener Voltage ( $V_Z$ ) at $50\mu\text{A}$		3.9	V

Note 1: These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Note 2: Voltage change is equal to the difference between  $V_Z$  at  $100\mu\text{A}$  and  $V_Z$  at  $10\mu\text{A}$ .

Top Mark: CN  
1: Cathode  
2: Anode

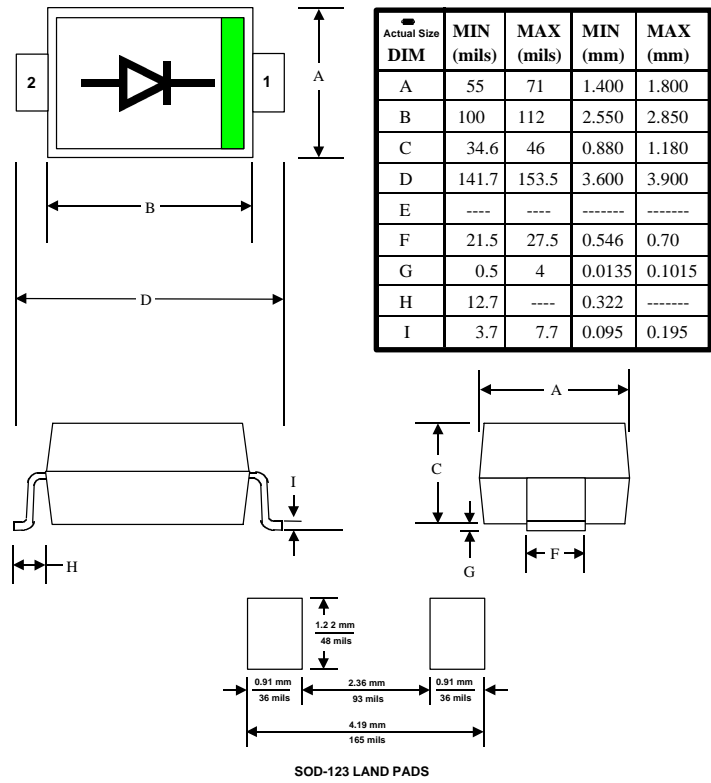


### Electrical Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Characteristics	Test Conditions	Min.	Max.	Units
$V_Z$	Zener Voltage	$I_{ZT} = 50\mu\text{A}$ D.C	3.71	4.10	V
$I_R$	Reverse Leakage	$V_R = 2.0\text{V}$		5.0	$\mu\text{A}$
$V_F$	Forward Voltage	$I_F = 10\text{mA}$		900	mV
$\Delta V_Z$	Delta Zener Voltage (Note 2)	$I_{ZT} = 100\mu\text{A}$ to $10\mu\text{A}$		970	mV

**SOD-123 PACKAGE**  
 PACKAGE CODE = (D6)  
 Fairchild Semiconductor's Criteria

Corrected March 11, 1998



## 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™	FACT™	ImpliedDisconnect™	PACMAN™	SPM™
ActiveArray™	FACT Quiet Series™	ISOPLANAR™	POP™	Stealth™
Bottomless™	FAST®	LittleFET™	Power247™	SuperSOT™-3
CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic®
E <sup>2</sup> CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	ꞆC™	OCX™	RapidConfigure™	UHC™
Across the board. Around the world.™		OCXPro™	RapidConnect™	UltraFET®
The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

## 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.