



MMSZ4703

Zener Diode

July 2009



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.

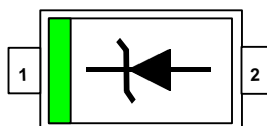
Absolute Maximum Ratings (note 1) $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
T_{STG}	Storage Temperature	-55 to +150	$^\circ\text{C}$
T_J	Maximum Junction Temperature	-55 to +150	$^\circ\text{C}$
P_D	Total Power Dissipation at 25°C Derate above 25°C	500 6.7	mW mW/ $^\circ\text{C}$
R_{QJA}	Thermal Resistance Junction to Ambient	340	$^\circ\text{C}/\text{W}$
R_{QJL}	Thermal Resistance Junction to Lead	150	$^\circ\text{C}/\text{W}$
ΔV_Z	Maximum Voltage Change (Note 2)	160	mV
Lead Solder Temperature (Max 10 second duration)		260	$^\circ\text{C}$
Nominal Zener Voltage (V_Z) at $50\mu\text{A}$		16.0	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: DN
1: Cathode
2: Anode

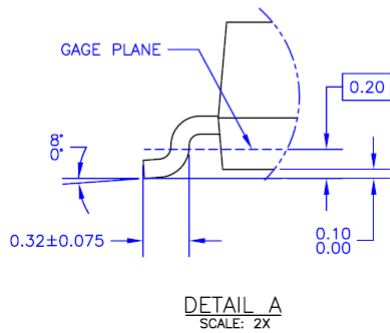
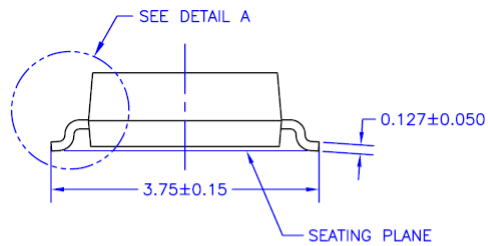
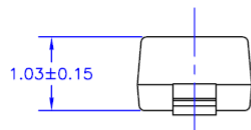
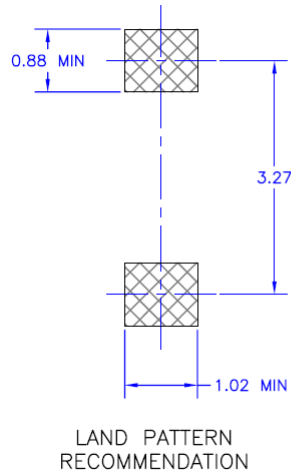
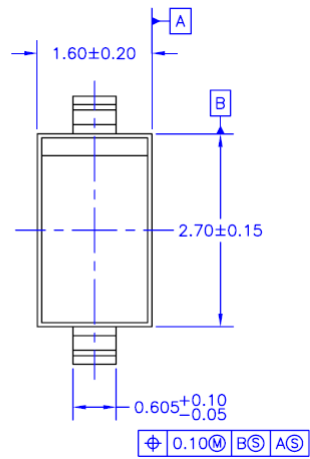


Electrical Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Characteristics	Test Conditions	Min.	Max.	Units
V_Z	Zener Voltage	$I_{ZT} = 50\mu\text{A}$ D.C	15.20	16.80	V
I_R	Reverse Leakage	$V_R = 12.1\text{V}$		50	nA
V_F	Forward Voltage	$I_F = 10\text{mA}$		900	mV
ΔV_Z	Delta Zener Voltage (Note 2)	$I_{ZT} = 100\mu\text{A}$ to $10\mu\text{A}$		160	mV

Physical Dimension

SOD-123









- NOTES: UNLESS OTHERWISE SPECIFIED
- A) PACKAGE REFERENCE: JEDEC, DO-215 ISSUE D, VARIATION AD.
 - B) ALL DIMENSIONS ARE IN MILLIMETERS.
 - C) DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
 - E) DRAWING FILE NAME: MA02AREV3



TRADEMARKS

The following includes registered and unregistered trademarks and service marks, owned by Fairchild Semiconductor and/or its global subsidiaries, and is not intended to be an exhaustive list of all such trademarks.

- | | | | |
|--|---|--|---|
| Auto-SPM™ | F-PFS™ | PowerTrench® | The Power Franchise® |
| Build it Now™ | FRFET® | PowerXS™ | the power franchise™ |
| CorePLUS™ | Global Power Resource SM | Programmable Active Droop™ | TinyBoost™ |
| CorePOWER™ | Green FPS™ | QFET® | TinyBuck™ |
| CROSSVOLT™ | Green FPS™ e-Series™ | QS™ | TinyLogic® |
| CTL™ | Gmax™ | Quiet Series™ | TINYOPTO™ |
| Current Transfer Logic™ | GTO™ | RapidConfigure™ | TinyPower™ |
| EcoSPARK® | IntelliMAX™ |  ™ | TinyPWM™ |
| EfficientMax™ | ISOPLANAR™ | Saving our world, 1mW/W/kW at a time™ | TinyWire™ |
| EZSWITCH™* | MegaBuck™ | SmartMax™ | TriFault Detect™ |
|  ™* | MICROCOUPLER™ | SMART START™ | TRUECURRENT™* |
|  ® | MicroFET™ | SPM® | µSerDes™ |
| Fairchild® | MicroPak™ | STEALTH™ |  ™ |
| Fairchild Semiconductor® | MillerDrive™ | SuperFET™ | UHC® |
| FACT Quiet Series™ | MotionMax™ | SuperSOT™-3 | Ultra FRFET™ |
| FACT® | Motion-SPM™ | SuperSOT™-6 | UniFET™ |
| FAST® | OPTOLOGIC® | SuperSOT™-8 | VCC™ |
| FAST® | OPTOPLANAR® | SupreMOS™ | VisualMax™ |
| FastvCore™ |  ® | SyncFET™ | XST™ |
| FETBench™ | PDP SPM™ | Sync-Lock™ | |
| FlashWriter®* | Power-SPM™ |  ®* | |
| FPS™ | | | |

* Trademarks of System General Corporation, used under license by Fairchild Semiconductor.

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. THESE SPECIFICATIONS DO NOT EXPAND THE TERMS OF FAIRCHILD'S WORLDWIDE TERMS AND CONDITIONS, SPECIFICALLY THE WARRANTY THEREIN, WHICH COVERS THESE PRODUCTS.

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, and (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 a significant injury of the user.
2. A critical component in 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.

ANTI-COUNTERFEITING POLICY

Fairchild Semiconductor Corporation's Anti-Counterfeiting Policy. Fairchild's Anti-Counterfeiting Policy is also stated on our external website, www.fairchildsemi.com, under Sales Support.

Counterfeiting of semiconductor parts is a growing problem in the industry. All manufacturers of semiconductor products are experiencing counterfeiting of their parts. Customers who inadvertently purchase counterfeit parts experience many problems such as loss of brand reputation, substandard performance, failed applications, and increased cost of production and manufacturing delays. Fairchild is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. Fairchild strongly encourages customers to purchase Fairchild parts either directly from Fairchild or from Authorized Fairchild Distributors who are listed by country on our web page cited above. Products customers buy either from Fairchild directly or from Authorized Fairchild Distributors are genuine parts, have full traceability, meet Fairchild's quality standards for handling and storage and provide access to Fairchild's full range of up-to-date technical and product information. Fairchild and our Authorized Distributors will stand behind all warranties and will appropriately address any warranty issues that may arise. Fairchild will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources. Fairchild is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

PRODUCT STATUS DEFINITIONS

Definition of Terms

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

Rev. 140

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Fairchild Semiconductor:](#)

[MMSZ4703](#)