

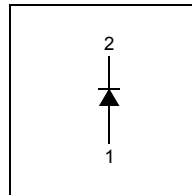
BAS40SL

Schottky Barrier Diodes

Features

- Low Forward Voltage Drop
- Fast switching
- Very Small and Thin SMD package
- Profile height, 0.43mm max
- Footprint, 1.0 x 0.6 mm

Connection Diagram



Absolute Maximum Ratings * $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Unit
V_{RRM}	Maximum Repetitive Reverse Voltage	40	V
$I_{F(AV)}$	Average Rectified Forward Current	100	mA
I_{FSM}	Forward Surge Current (8.3mS Single Half Sine-Wave)	600	mA
P_D	Power Dissipation	227	mW
T_J, T_{STG}	Operating Junction & Storage Temperature Range	-55 to +150	$^\circ\text{C}$

* These ratings are limiting values above which the serviceability of the diode may be impaired.
The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

Symbol	Parameter	Value	Unit
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient *	550	$^\circ\text{C}/\text{W}$

* Minimum land pad.

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

Symbol	Parameter	Test Conditions	Min.	Max.	Unit
V_R	Breakdown Voltage	$I_R = 10\mu\text{A}$	40		V
V_F	Forward Voltage	$I_F = 1\text{mA}$ $I_F = 40\text{mA}$		380 1000	mV mV
I_R	Reverse Leakage	$V_R = 30\text{V}$		0.2	μA
t_{rr}	Reverse Recovery Time	$I_F = I_R = 10\text{mA}$, $i_{rr} = 0.1I_R$		8.0	nS
C_j	Junction Capacitance	$V_R = 0$, $f = 1.0\text{MHz}$		5.0	pF

Typical Performance Characteristics

Figure 1. Forward Current Characteristics

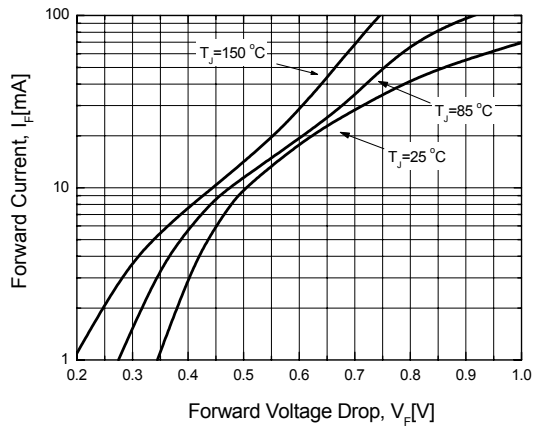


Figure 2. Reverse Leakage Current

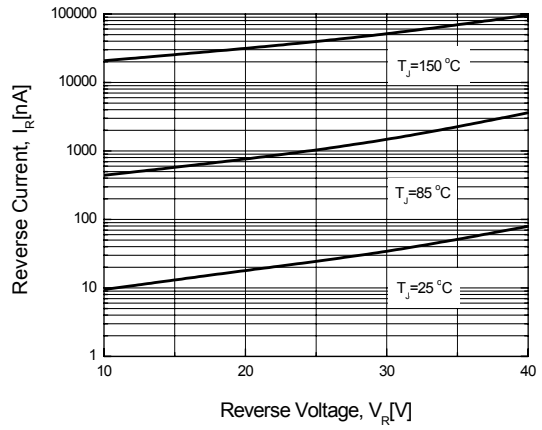


Figure 3. Junction Capacitance

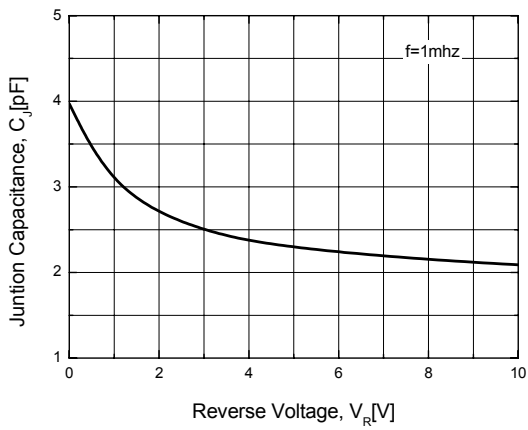
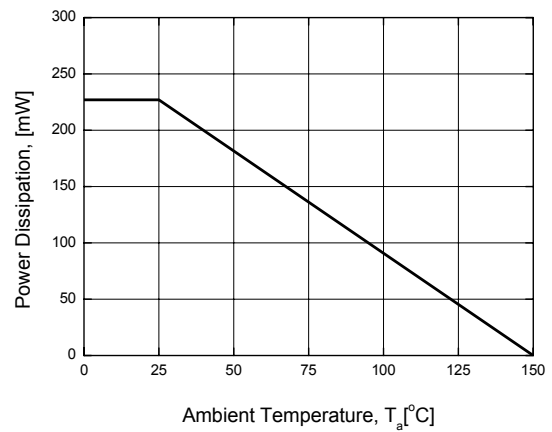
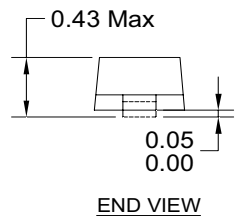
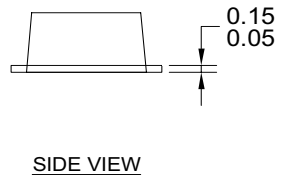
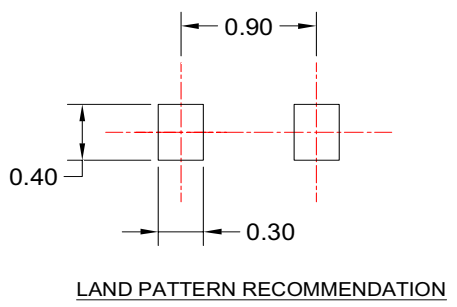
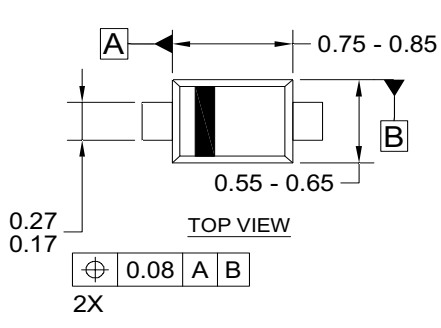


Figure 4. Power Derating






- NOTES:
- A) THIS PACKAGE DOES NOT COMPLY TO ANY CURRENT PACKAGING STANDARD.
 - B) ALL DIMENSIONS ARE IN MILLIMETERS.
 - C) DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR EXTRUSIONS.
 - D) DIMENSIONS AND TOLERANCES PER ASME Y14.5M, 1994
 - E) DRAWING FILE NAME : SOD923F02REV1



TRADEMARKS

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

ACEx®	Green FPS™	Power247®	SuperSOT™-8
Build it Now™	Green FPS™ e-Series™	POWEREDGE®	SyncFET™
CorePLUS™	GTO™	Power-SPM™	The Power Franchise®
CROSSVOLT™	i-Lo™	PowerTrench®	the power franchise
CTL™	IntelliMAX™	Programmable Active Droop™	QFET™
Current Transfer Logic™	ISOPLANAR™	QS™	TinyBoost™
EcoSPARK®	MegaBuck™	QT Optoelectronics™	TinyBuck™
F ®	MICROCOUPLER™	Quiet Series™	TinyLogic®
Fairchild®	MicroFET™	RapidConfigure™	TINYOPTO™
Fairchild Semiconductor®	MicroPak™	SMART START™	TinyPower™
FACT Quiet Series™	MillerDrive™	SPM®	TinyPWM™
FACT®	Motion-SPM™	STEALTH™	TinyWire™
FAST®	OPTOLOGIC®	SuperFET™	µSerDes™
FastvCore™	OPTOPLANAR®	SuperSOT™-3	UHC®
FPS™	 ®	SuperSOT™-6	UniFET™
FRFET®	PDP-SPM™		VCX™
Global Power Resource SM	Power220®		

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 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; 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	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice 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.