



February 2015

# BAS40SL

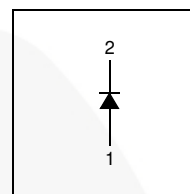
## Schottky Barrier Diode

### Features

- Low Forward Voltage Drop
- Fast Switching
- Very Small and Thin SMD package
- Profile Height, 0.43 mm Maximum
- Footprint, 1.0 mm x 0.6 mm



### Connection Diagram



### Ordering Information

Part Number	Top Mark	Package	Packing Method
BAS40SL	AA	SOD-923F 2L	Tape and Reel

### Absolute Maximum Ratings<sup>(1), (2)</sup>

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  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 (8.3 ms Single Half-Sine-Wave)	600	mA
$T_J, T_{STG}$	Operating Junction and Storage Temperature Range	-55 to +150	$^\circ\text{C}$

#### Notes:

1. These ratings are based on a maximum junction temperature of  $150^\circ\text{C}$ .
2. These are steady-state limits. Fairchild Semiconductor should be consulted on applications involving pulsed or low-duty-cycle operations.

## Thermal Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value	Unit
$P_D$	Power Dissipation	227	mW
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient <sup>(3)</sup>	550	$^\circ\text{C/W}$

### Note:

3. Minimum land pad.

## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Max.	Unit
$V_R$	Breakdown Voltage	$I_R = 10\ \mu\text{A}$	40		V
$V_F$	Forward Voltage	$I_F = 1\ \text{mA}$		380	mV
		$I_F = 40\ \text{mA}$		1000	mV
$I_R$	Reverse Leakage	$V_R = 30\ \text{V}$		0.2	$\mu\text{A}$
$t_{rr}$	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

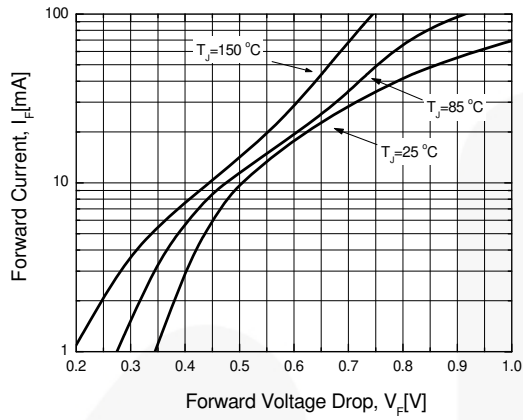


Figure 1. Forward Current Characteristics

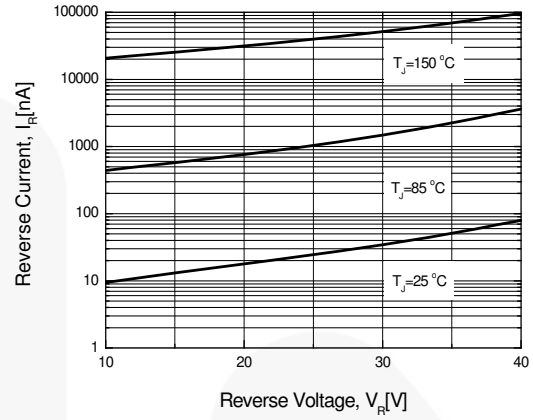


Figure 2. Reverse Leakage Current

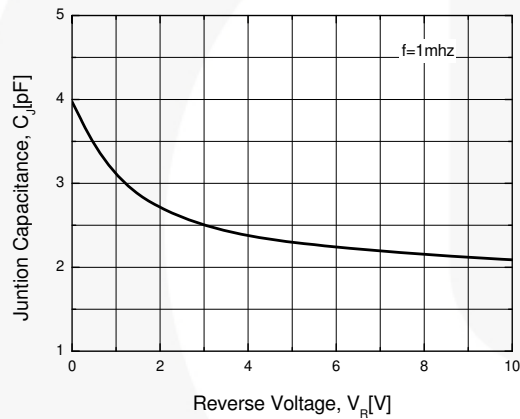


Figure 3. Junction Capacitance

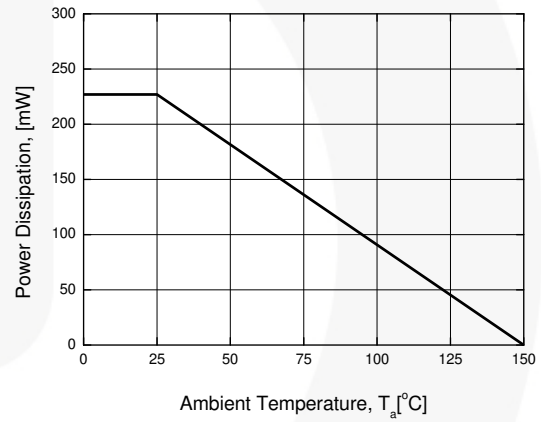
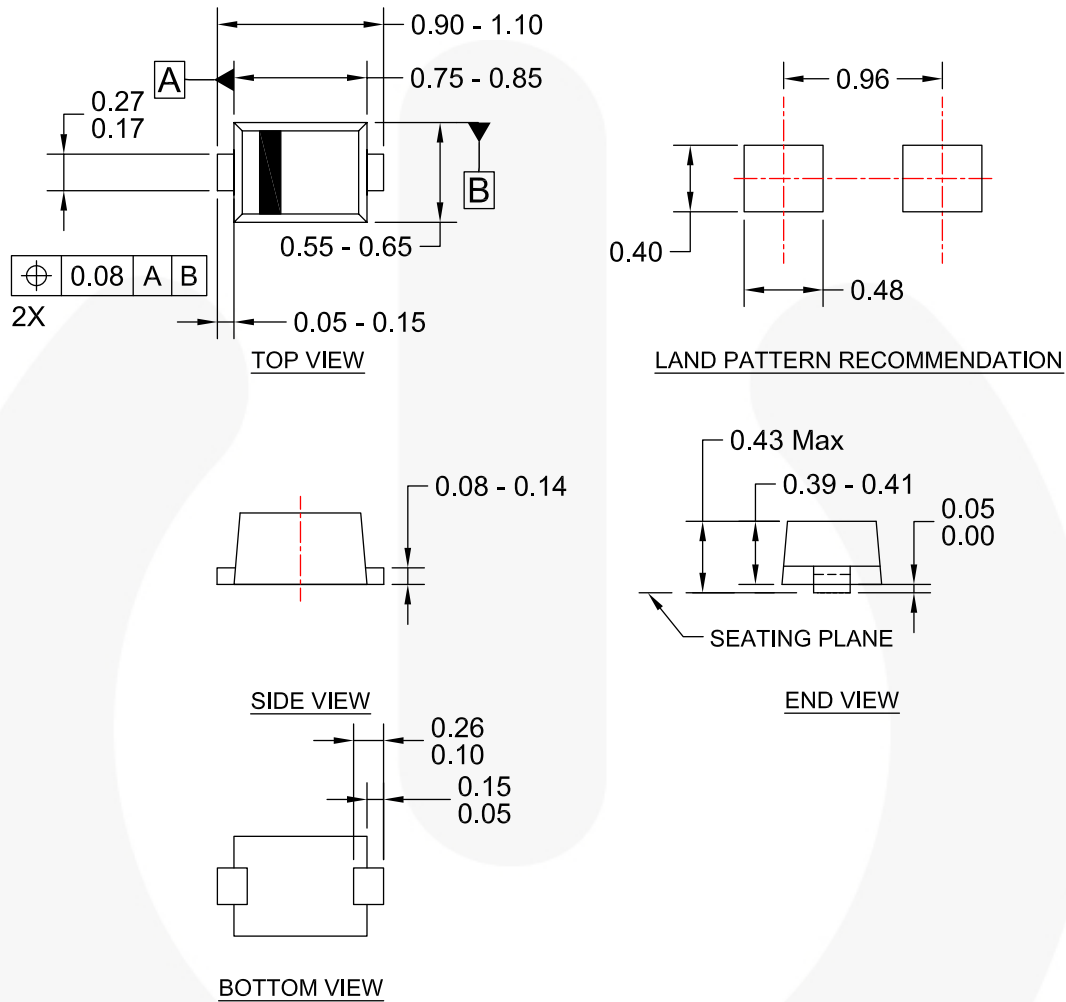


Figure 4. Power Derating

## Physical Dimensions



### NOTES:

- A) THIS PACKAGE DOES NOT COMPLY TO ANY CURRENT PACKAGING STANDARD.
- B) ALL DIMENSIONS ARE IN MILLIMETERS.
- C) BODY DIMENSIONS ARE INCLUSIVE OF BURRS, AND MOLD FLASH.
- D) DIMENSIONS AND TOLERANCES PER ASME Y14.5M, 2009
- E) LANDPATTERN BASED ON ADJUSTED IPC GUIDELINES
- F) DRAWING FILE NAME : SOD923F1REV3

**Figure 5. 2-LEAD, SOD923F, 0.4 mm TALL, FLAT TERMINAL**





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