

# FBR130 Schottky Rectifier

### **Features**

- 1 Ampere, low forward voltage, less than 500mV
- · Compact surface mount package with the same footprint as mini-melf
- Maximum package height of 0.8mm.



SOD-123F Color Band Denotes Cathode Mark: 130

## Absolute Maximum Ratings \* Ta = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
$V_{RRM}$	Maximum Repetitive Reverse Voltage	30	V
I <sub>F(AV)</sub>	Average Rectified Forward Current	1	A
I <sub>FSM</sub>	Non Repetitive Peak Forward Current (Surge applied at rated load conditions half wave, single, phase, 60Hz)	5.5	А
T <sub>STG</sub>	Storage Temperature Range	-65 to +150	°C
T <sub>Jmax</sub>	Operating Junction Temperature	-65 to +125	°C

<sup>\*</sup> These ratings are limiting values above which the serviceability of any semiconductor device may by impaired.

### **Thermal Characteristics**

Symbol	Parameter	Value	Units
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient *	73	°C/W
$R_{\theta JL}$	Thermal Resistance, Junction to Lead *	23	°C/W

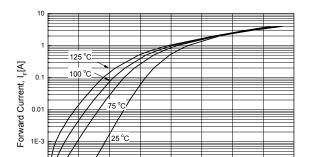
<sup>\*</sup> FR-4 =  $3.0 \times 5.5 \times 0.062$ " using  $1.0 \times 0.5$ " land pads.

## Electrical Characteristics T<sub>C</sub> = 25°C unless otherwise noted

Symbol		Parameter	Value	Units
V <sub>F</sub>	Forward Voltage	@ I <sub>F</sub> = 500mA I <sub>F</sub> = 1000mA	0.45 0.5	V V
I <sub>R</sub>	Reverse Current	@V <sub>R</sub> = 15V V <sub>R</sub> = 30V	100 200	μ <b>Α</b> μ <b>Α</b>

## **Typical Performance Characteristics**

**Figure 1. Forward Voltage Characteristics** 



Forward Voltage Drop,  $V_{F}[V]$ 

Figure 2. Reverse Current vs Reverse Voltage

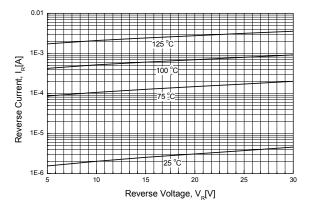
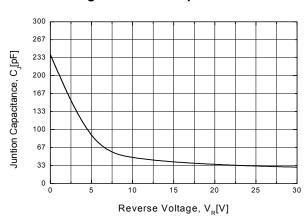
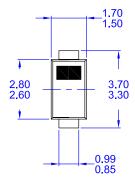


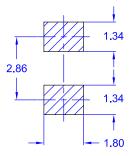
Figure 3. Total Capacitance



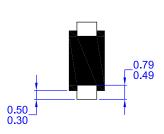
## **Typical Performance Characteristics**

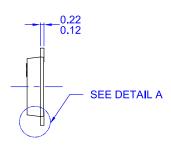
# SOD-123F

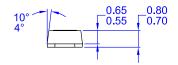


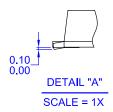


LAND PATTERN RECOMMENDATION









NOTES: UNLESS OTHERWISE SPECIFIED
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.

Dimensions in Millimeters

### **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 <sup>™</sup> ActiveArray <sup>™</sup> Bottomless <sup>™</sup> Build it Now <sup>™</sup> CoolFET <sup>™</sup> CROSSVOLT <sup>™</sup>	FAST <sup>®</sup> FASTr™ FPS™ FRFET™ GlobalOptoisolator™ GTO™ HiSeC™	ISOPLANAR™ LittleFET™ MICROCOUPLER™ MicroFET™ MicroPak™ MICROWIRE™ MSX™	PowerSaver™ PowerTrench® QFET® QS™ QT Optoelectronics™ Quiet Series™ RanidConfigure™	SuperSOT™-8 SyncFET™ TinyLogic® TINYOPTO™ TruTranslation™ UHC™ UHC™
DOME™	HiSeC™	MSX™	RapidConfigure™	UltraFET <sup>®</sup>
EcoSPARK™	I <sup>2</sup> C™	MSXPro™	RapidConnect™	UniFET™
E <sup>2</sup> CMOS™	i-Lo™	OCX™	μSerDes™	VCX™
EnSigna™	ImpliedDisconnect™	OCXPro™	SILENT SWITCHER <sup>®</sup>	Wire™
FACT™	IntelliMAX™	OPTOLOGIC <sup>®</sup>	SMART START™	

FACT Quiet Series™  $\mathsf{OPTOPLANAR}^{\mathsf{TM}}$ Stealth™ PACMAN™ Across the board. Around the world.™ РОР™ SuperFET™ The Power Franchise® Power247™ SuperSOT™-3 Programmable Active Droop™ PowerEdge™ SuperSOT™-6

#### **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.

 $\mathsf{SPM}^{\mathsf{TM}}$ 

### 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.

Rev. I16