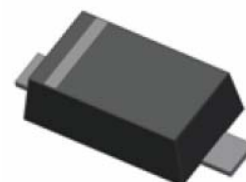
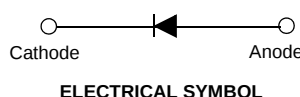


# RB521S30

## Schottky Barrier Diodes

### Features

- Low Forward Voltage Drop
- Flat Lead, Surface Mount Device Under 0.70mm Height
- Extremely Small Outline Plastic Package SOD523F
- Moisture Level Sensitivity 1
- Pb-free Version and RoHS Compliant
- Matte Tin (Sn) Lead Finish
- Green Mold Compound



**SOD-523F**  
Band Indicates Cathode  
RB521S30 Marking : 2B

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

| Symbol      | Parameter                            | Value       | Units            |
|-------------|--------------------------------------|-------------|------------------|
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage   | 30          | V                |
| $I_{F(AV)}$ | Average Rectified Forward Current    | 200         | mA               |
| $T_J$       | Operating Junction Temperature Range | -55 to +125 | $^\circ\text{C}$ |
| $T_{STG}$   | Storage Temperature Range            | -55 to +125 | $^\circ\text{C}$ |

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Thermal Characteristics

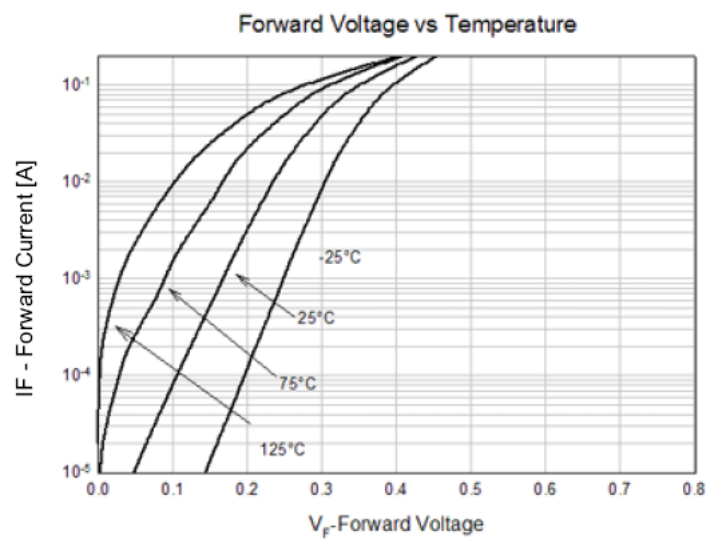
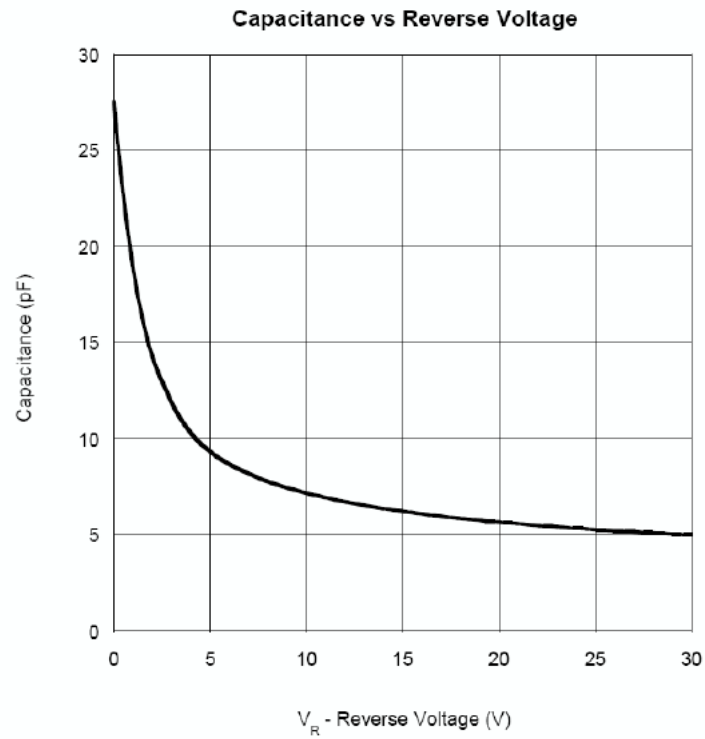
| Symbol          | Parameter                                           | Value | Units              |
|-----------------|-----------------------------------------------------|-------|--------------------|
| $P_D$           | Total Device Dissipation ( $T_C=25^\circ\text{C}$ ) | 200   | mW                 |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient             | 500   | $^\circ\text{C/W}$ |

\* Device mounted on FR-4 PCB minimum land pad.

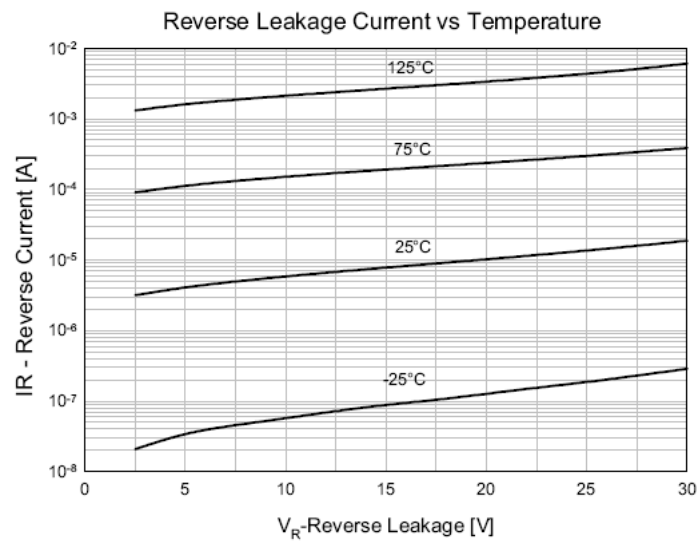
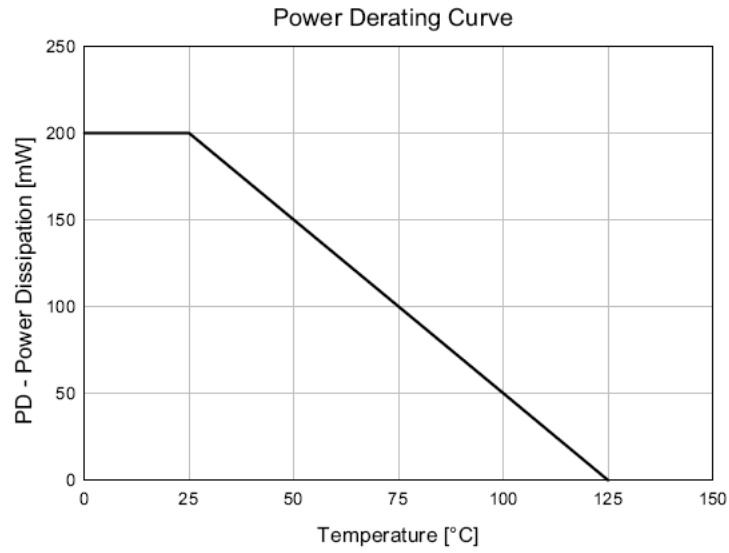
### Electrical Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter               | Test Condition       | Min. | Typ. | Max. | Units         |
|--------|-------------------------|----------------------|------|------|------|---------------|
| $BV_R$ | Breakdown Voltage       | $I_R=500\mu\text{A}$ | 30   |      |      | V             |
| $I_R$  | Reverse Leakage Current | $V_R=10\text{V}$     |      |      | 30   | $\mu\text{A}$ |
| $V_F$  | Forward Voltage         | $I_F=200\text{mA}$   |      |      | 0.5  | V             |

## Typical Performance Characteristics

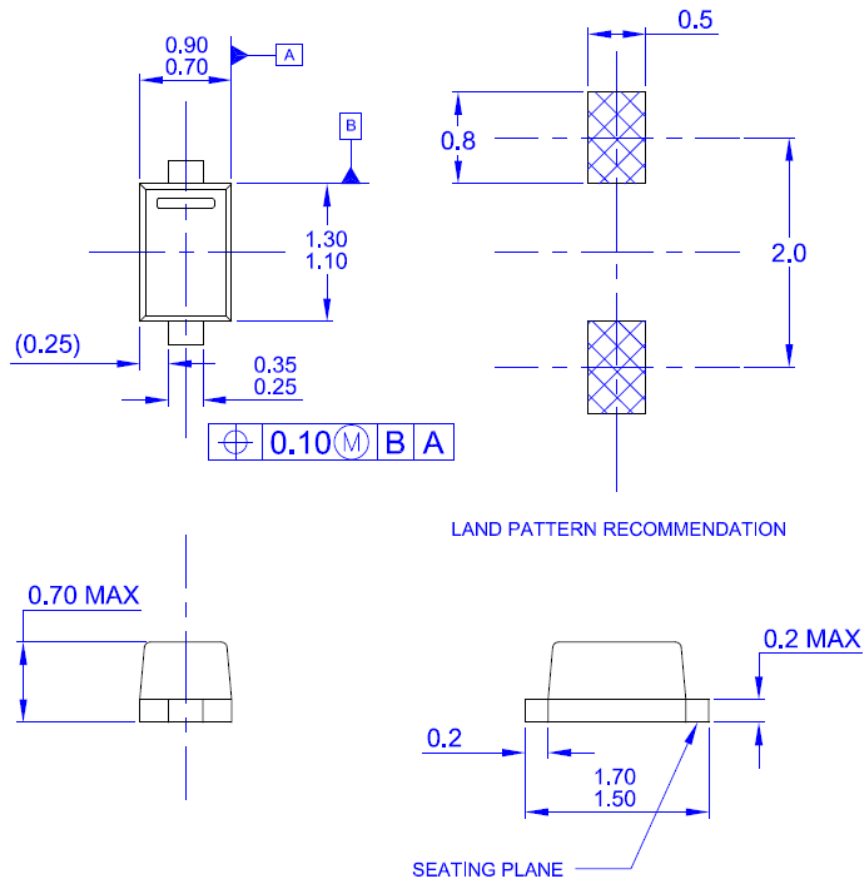


## Typical Performance Characteristics (Continue)



## Physical Dimension

## SOD-523F



## NOTES: UNLESS OTHERWISE SPECIFIED

- A) PACKAGE REFERENCE: THIS PACKAGE OUTLINE CONFORMS TO JEITA SC-79.
- B) ALL DIMENSIONS ARE IN MILLIMETERS.
- C) DRAWING CONFORMS TO ASME Y14.5M - 1994
- D) DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR EXTRUSIONS.
- E) LANDPATTERN RECOMMENDATION IS BASED ON IPC7351A STANDARD SOD1609X65M.
- F) DRAWING NUMBER AND REVISION: MKT-SOD523F1rev1



## 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.

AccuPower™  
Auto-SPM™  
Build it Now™  
CorePLUS™  
CorePOWER™  
CROSSVOLT™  
CTL™  
Current Transfer Logic™  
EcoSPARK®  
EfficientMax™  
EZSWITCH™\*  
™\*  
®  
Fairchild®  
Fairchild Semiconductor®  
FACT Quiet Series™  
FACT®  
FAST®  
FastvCore™  
FETBench™  
FlashWriter®\*

FPS™  
F-PFS™  
FRFET®  
Global Power Resource™  
Green FPS™  
Green FPS™ e-Series™  
Gmax™  
GTO™  
IntelliMAX™  
ISOPLANAR™  
MegaBuck™  
MICROCOUPLER™  
MicroFET™  
MicroPak™  
MillerDrive™  
MotionMax™  
Motion-SPM™  
OPTOLOGIC®  
OPTOPLANAR®  
  
PDP SPM™  
Power-SPM™

PowerTrench®  
PowerXS™  
Programmable Active Droop™  
QFET®  
QS™  
Quiet Series™  
RapidConfigure™  
™  
Saving our world, 1mW/W/kW at a time™  
SmartMax™  
SMART START™  
SPM®  
STEALTH™  
SuperFET™  
SuperSOT™-3  
SuperSOT™-6  
SuperSOT™-8  
SupreMOS™  
SyncFET™  
Sync-Lock™  
®\*

The Power Franchise®  
the  franchise™  
TinyBoost™  
TinyBuck™  
TinyCalc™  
TinyLogic®  
TINYOPTO™  
TinyPower™  
TinyPWM™  
TinyWire™  
TriFault Detect™  
TRUECURRENT™\*  
μSerDes™  
™  
UHC®  
Ultra FRFET™  
UniFET™  
VCX™  
VisualMax™  
XS™

\* 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](http://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. I41