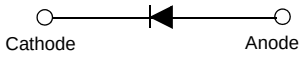
FAIRCHILD SEMICONDUCTOR®

January 2010

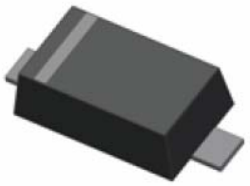
BAT54XV2
Schottky Barrier Diodes

Features

- Low Forward Voltage Drop
- Flat Lead, Surface Mount Device at 0.60mm 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



ELECTRICAL SYMBOL



SOD-523F
Band Indicates Cathode
BAT54XV2 Marking : 5B

Absolute Maximum Ratings * T_A=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{RRM}	Maximum Repetitive Reverse Voltage	30	V
V_R	Maximum DC Blocking Voltage	30	V
$I_{F(AV)}$	Average Rectified Forward Current	200	mA
I_{FSM}	Peak Forward Surge Current	4	A
T_J	Operating Junction Temperature	+125	°C
T_{STG}	Storage Temperature Range	-65 to +125	°C

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

Thermal Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Value	Units
P_D	Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	500	°C/W

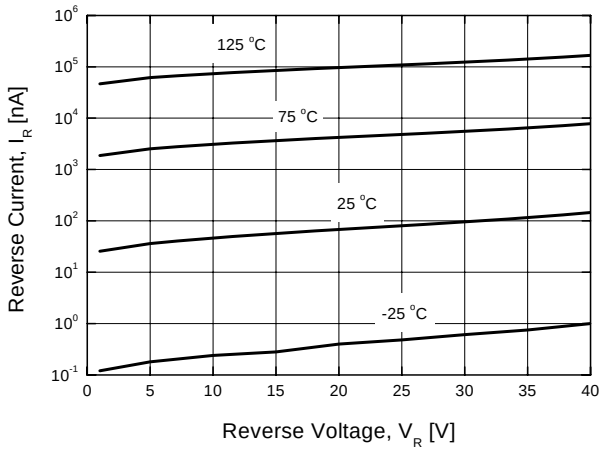
* Device mounted on FR-4 PCB minimum land pad.

Electrical Characteristics T_A=25°C unless otherwise noted

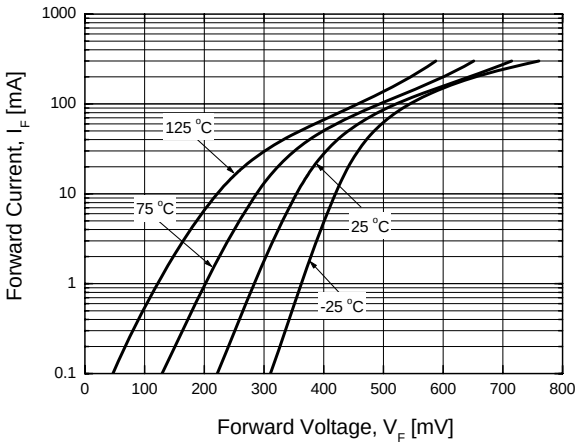
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_R	Breakdown Voltage	I_R=10μA	30			V
I_R	Reverse Leakage Current	V_R=25V			2	μA
V_F	Forward Voltage	I_F=0.1mA I_F=1mA I_F=10mA I_F=30mA I_F=100mA			0.24 0.32 0.40 0.50 0.80	V
T_{RR}	Reverse Recovery Time	I_F=I_R=10mA R_L=100Ω I_{RR}=1mA			5	nS
C	Capacitance	V_R=1V, f=1MHz			10	pF

Typical Performance Characteristics

Reverse Current vs Reverse Voltage

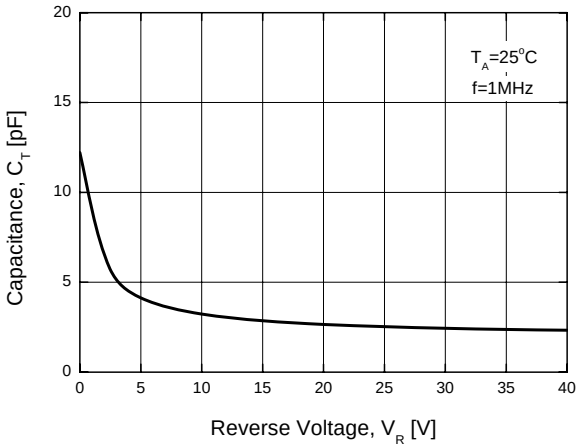


Forward Voltage vs Forward Current

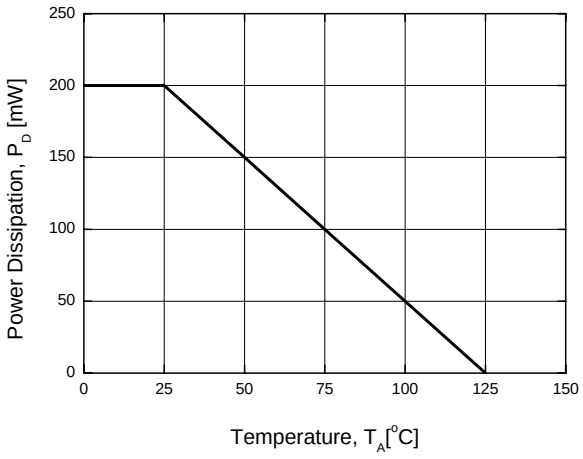


Typical Performance Characteristics (Continued)

Total Capacitance

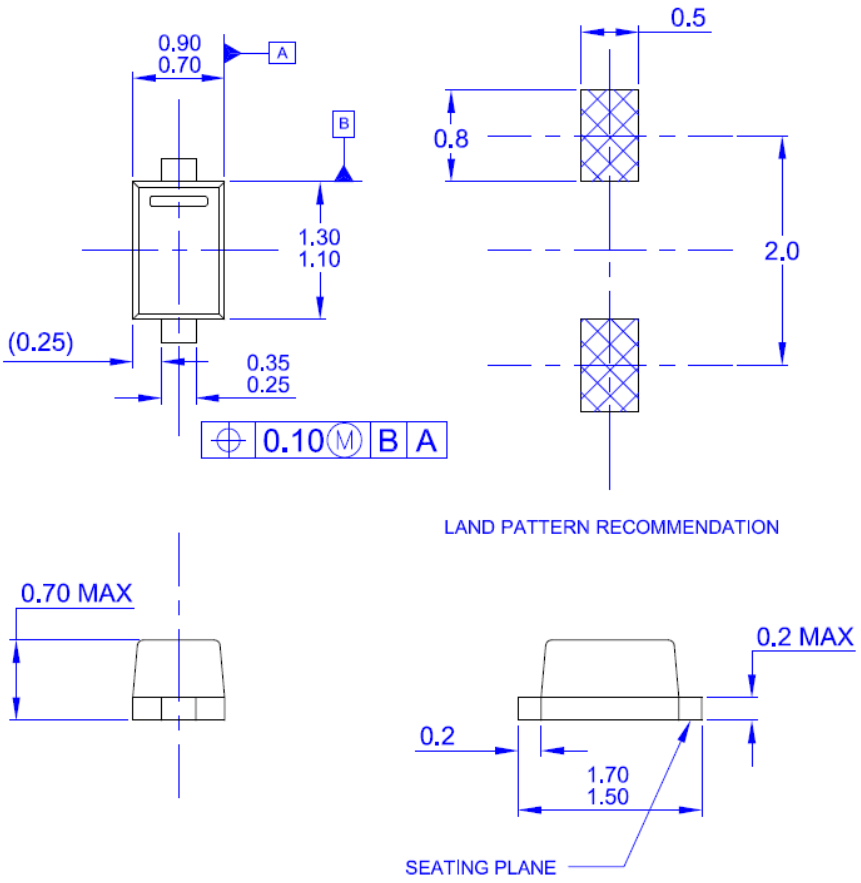


Power Derating Curve



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

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