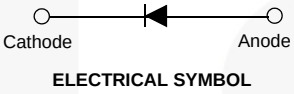
June 2015

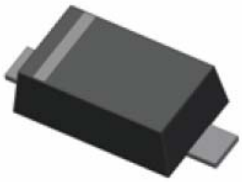
BAT54XV2
Schottky Barrier Diode

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

Ordering Information

Part Number	Top Mark	Package	Packing Method
BAT54XV2	5B	SOD-523F 2L	Tape and Reel

Absolute Maximum Ratings

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°C unless otherwise noted.

Symbol	Parameter	Value	Unit
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 (Square Wave at pw = 300 µsec)	4	A
T_J	Operating Junction Temperature	+125	°C
T_{STG}	Storage Temperature Range	-65 to +125	°C

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Thermal Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Unit
P_D	Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient(1)	500	°C/W

Note:

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

Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted.

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

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Typical Performance Characteristics

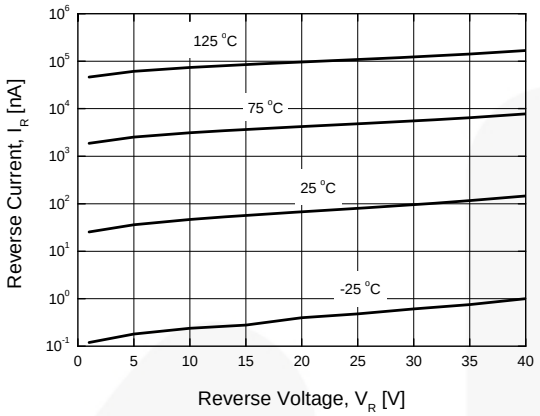

Figure 1. Reverse Current vs. Reverse Voltage

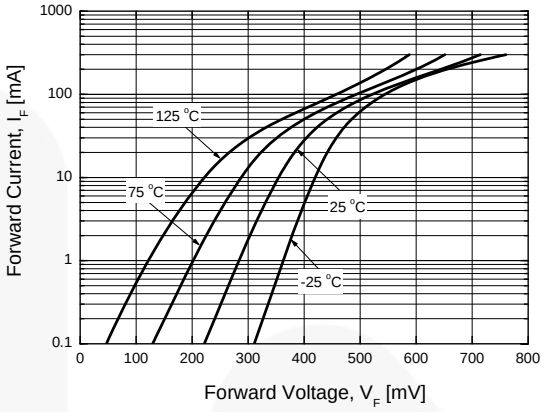

Figure 2. Forward Voltage vs. Forward Current

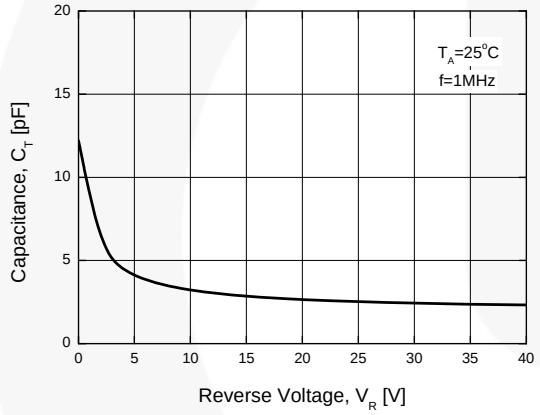

Figure 3. Total Capacitance

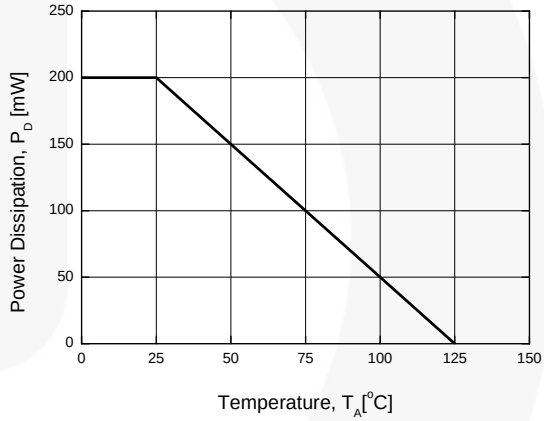

Figure 4. Power Derating

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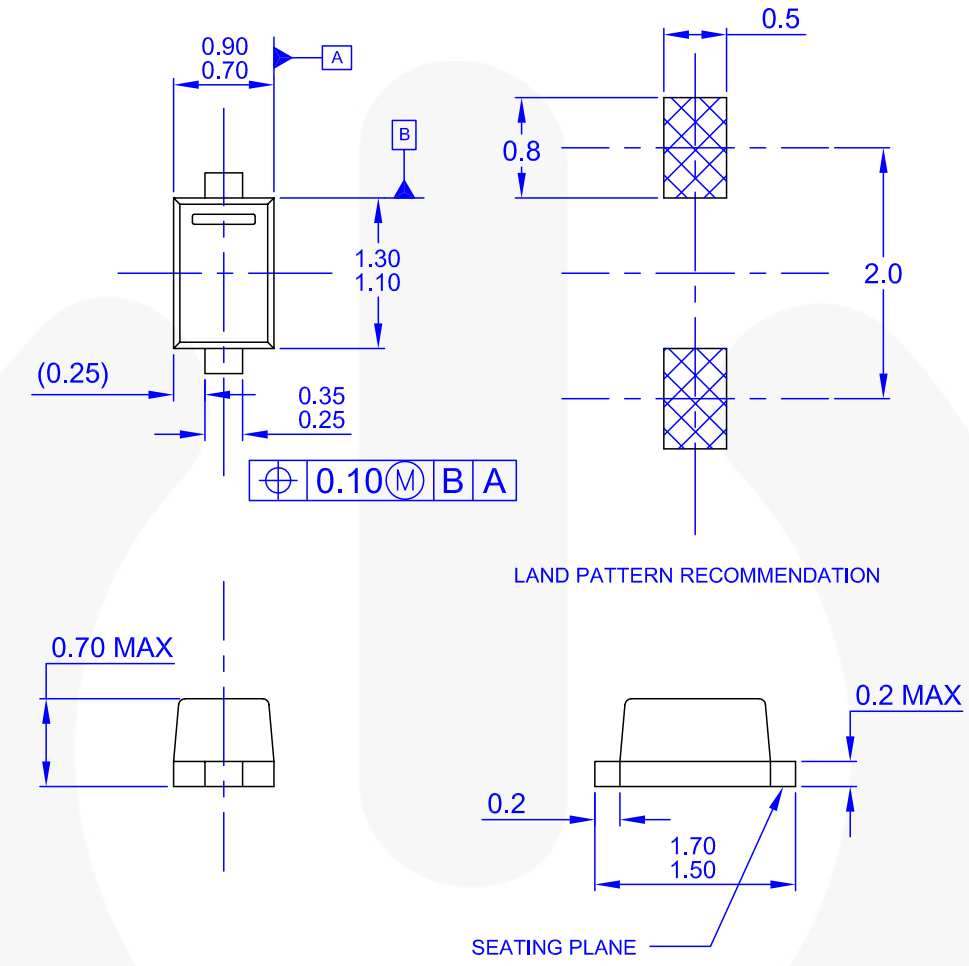
Physical Dimensions



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

Figure 5. 2-LEAD, SOD523F, JEITA SC-79, 0.7MM TALL

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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.

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