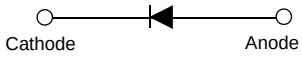
FAIRCHILD SEMICONDUCTOR®

January 2010

BAT42XV2-BAT43XV2
Schottky Barrier Diodes

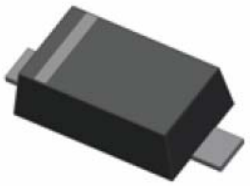
Features

- 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

BAT42XV2 Marking : 6B
BAT43XV2 Marking : 7B



SOD-523F
Band Indicates Cathode

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

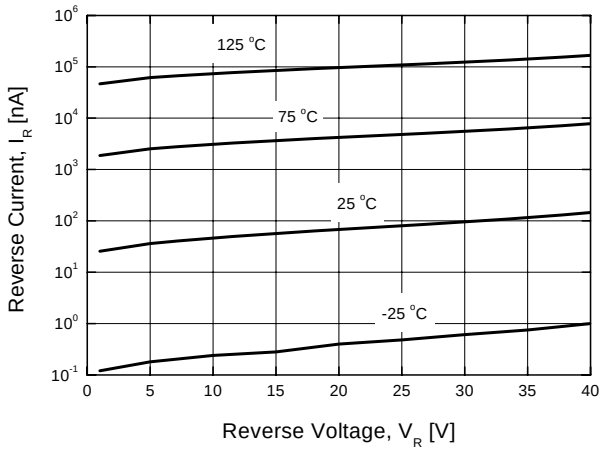
* Device mounted on FR-4 PCB minimum land pad.

Electrical Characteristics T_A=25°C unless otherwise noted

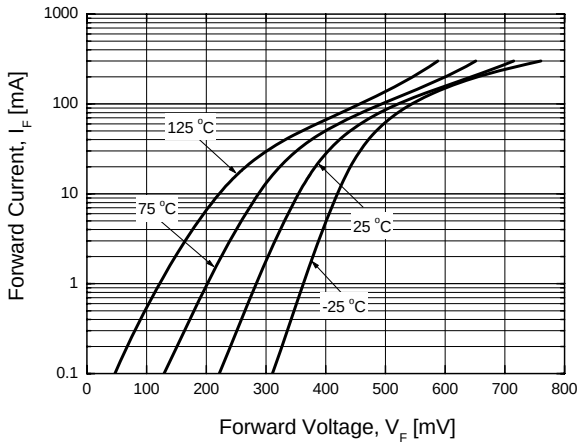
Symbol	Parameter		Test Condition	Min.	Typ.	Max.	Units
BV_R	Breakdown Voltage		I_R=100μA	30			V
I_R	Reverse Leakage Current		V_R=25V			500	nA
V_F	Forward Voltage	BAT42XV2	I_F=10mA			0.40	V
			I_F=50mA			0.65	
		BAT43XV2	I_F=2mA	0.26		0.33	
			I_F=15mA			0.45	
		BAT42XV2, BAT43XV2	I_F=200mA			1.0	
T_{RR}	Reverse Recovery Time		I_F=I_R=10mA R_L=100Ω I_{RR}=1mA		5		nS
C	Capacitance		V_R=1V, f=1MHz		7		pF

Typical Performance Characteristics

Reverse Current vs Reverse Voltage

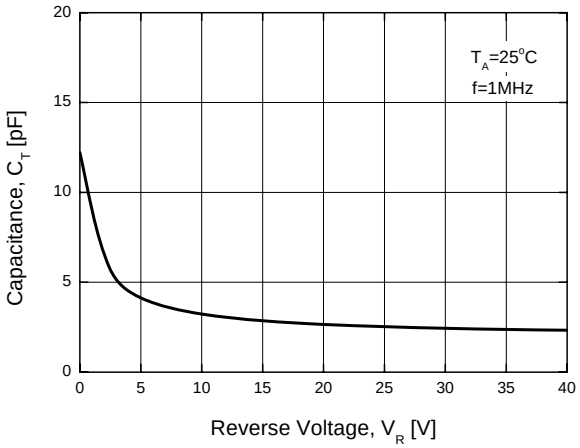


Forward Voltage vs Forward Current

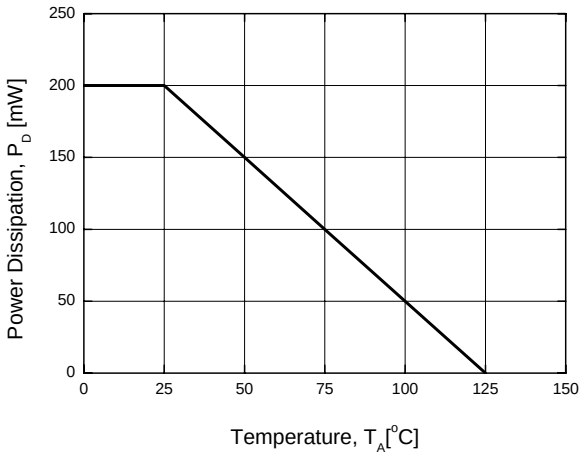


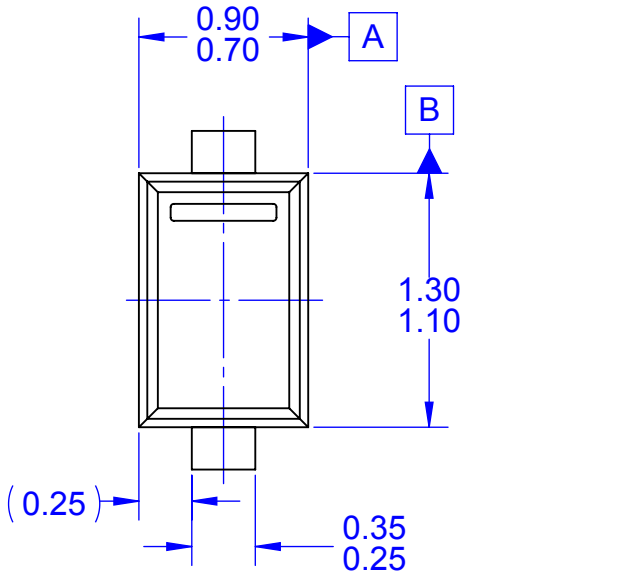
Typical Performance Characteristics (Continued)

Total Capacitance

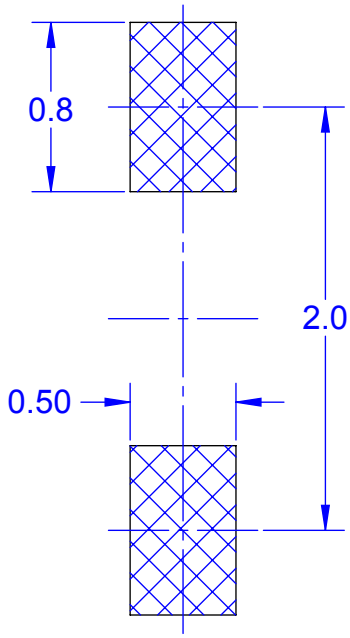


Power Derating Curve

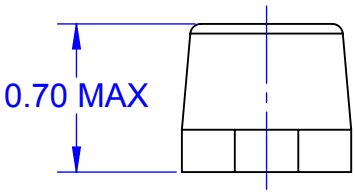




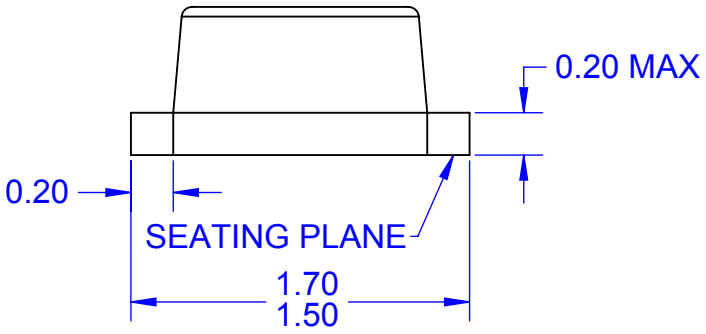
TOP VIEW



LAND PATTERN RECOMMENDATION



FRONT VIEW



SIDE VIEW

NOTES:

A. CONFORMS TO JEITA SC-79
B. ALL DIMENSIONS ARE IN MILLIMETERS
C. DRAWING CONFORMS TO ASME Y14.5M-2009
D. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR PROTRUSIONS.
E. LAND PATTERN RECOMMENDATION IS BASED ON IPC7351A STANDARD SOD1609X65M
F. DRAWING FILENAME: MKT-SOD523F1rev2

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