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Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

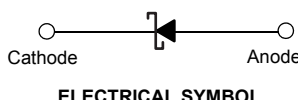
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BAT42XV2-BAT43XV2

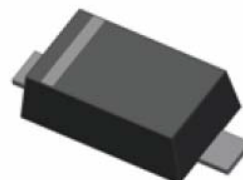
Schottky Barrier Diodes

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



BAT42XV2 Marking : 6B
BAT43XV2 Marking : 7B



SOD-523F
Band Indicates Cathode

Absolute Maximum Ratings * $T_A=25^\circ\text{C}$ 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	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-65 to +125	$^\circ\text{C}$

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

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

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

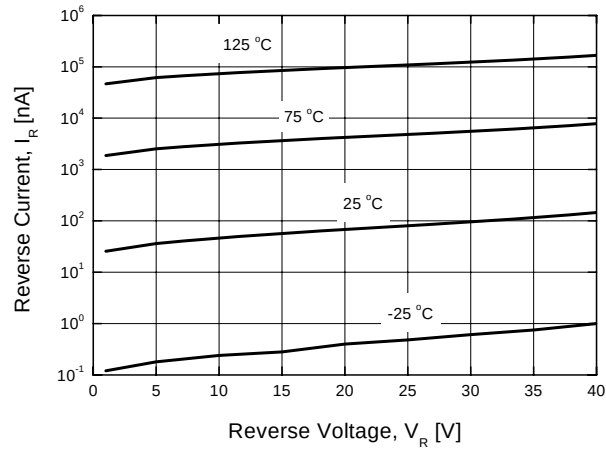
* Device mounted on FR-4 PCB minimum land pad.

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

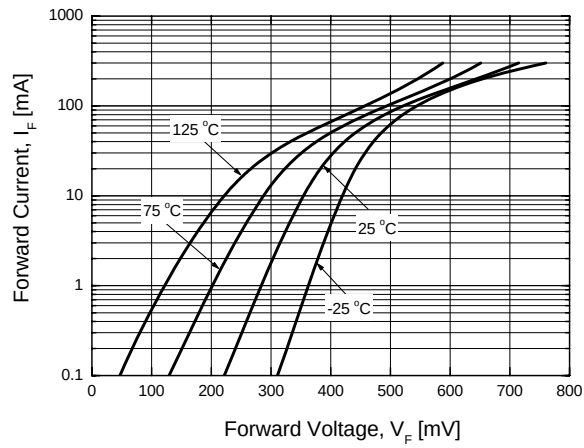
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_R	Breakdown Voltage	$I_R=100\mu\text{A}$	30			V
I_R	Reverse Leakage Current	$V_R=25\text{V}$			500	nA
V_F	Forward Voltage	BAT42XV2 $I_F=10\text{mA}$ $I_F=50\text{mA}$ BAT43XV2 $I_F=2\text{mA}$ $I_F=15\text{mA}$ BAT42XV2, BAT43XV2 $I_F=200\text{mA}$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

Typical Performance Characteristics

Reverse Current vs Reverse Voltage

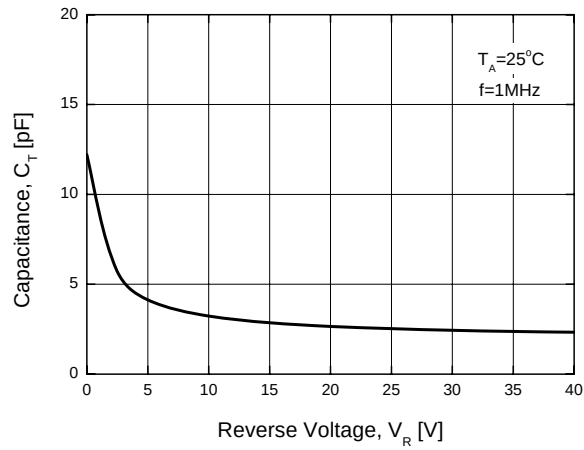


Forward Voltage vs Forward Current

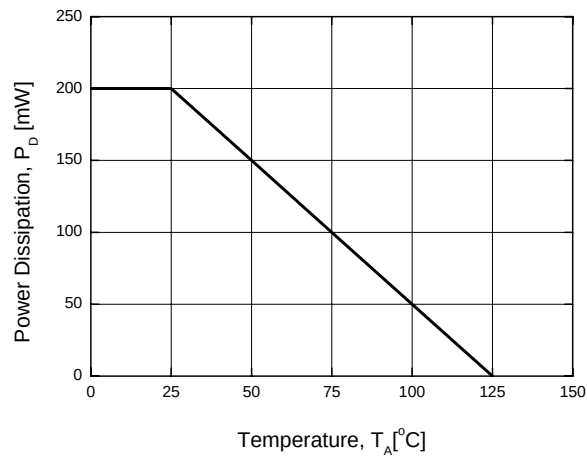


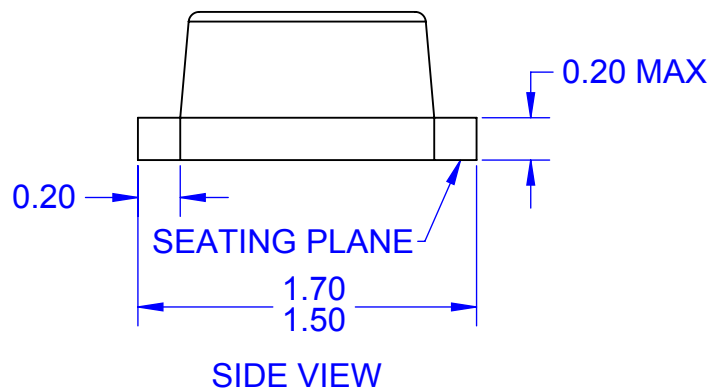
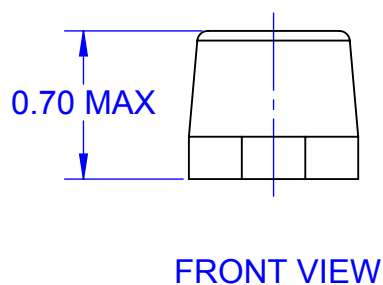
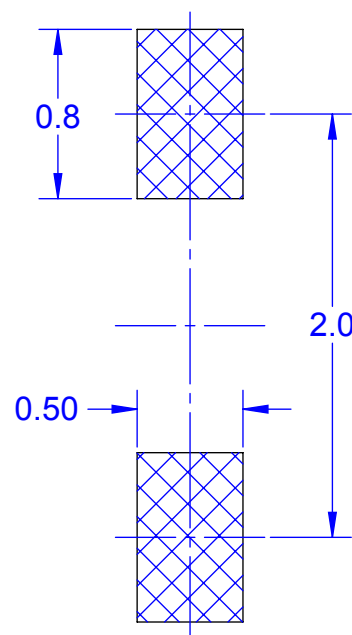
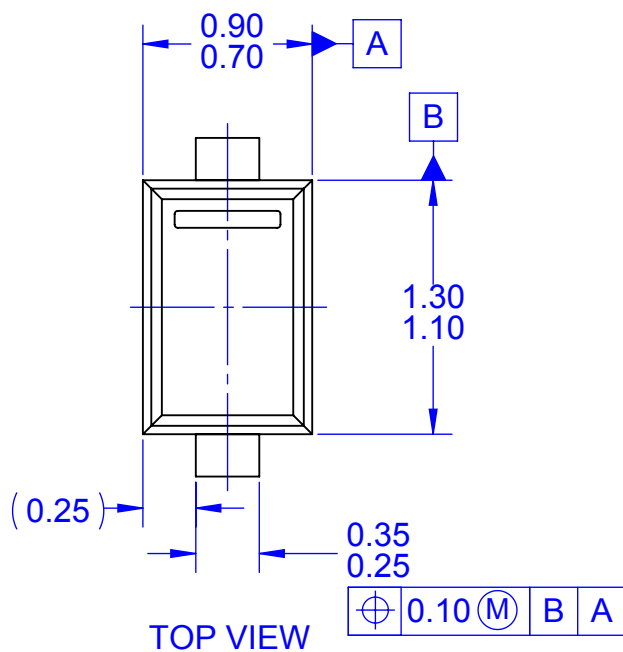
Typical Performance Characteristics (Continued)

Total Capacitance



Power Derating Curve





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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