



# THE DATASHEET OF BAT42XV2





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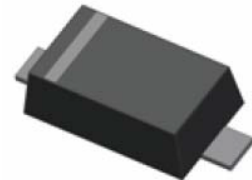
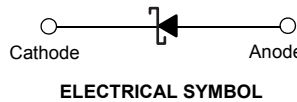
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# BAT42XV2-BAT43XV2 Schottky Barrier Diodes

## 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	$^\circ\text{C}/\text{W}$

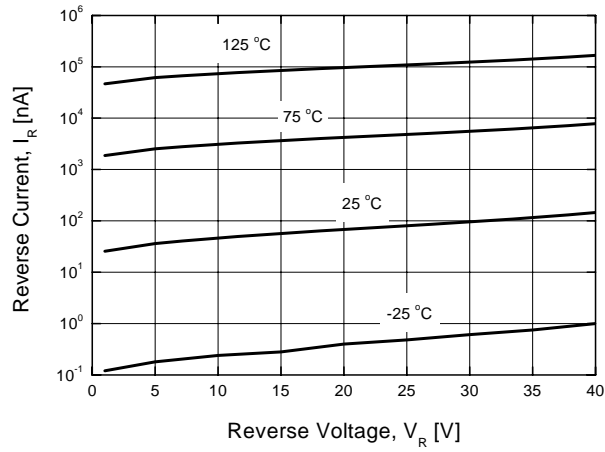
\* Device mounted on FR-4 PCB minimum land pad.

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

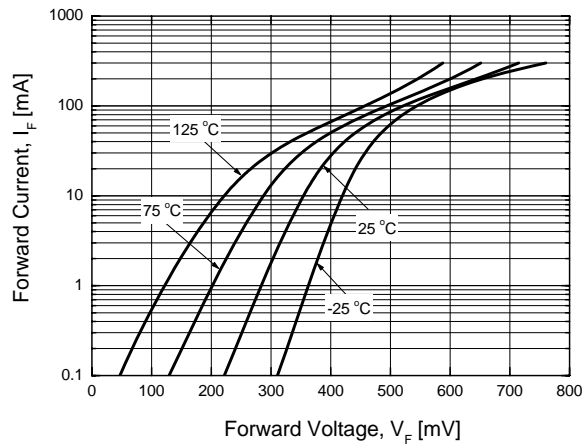
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_R$	Breakdown Voltage	$I_R=100\mu\text{A}$	30			V
$I_R$	Reverse Leakage Current	$V_R=25\text{V}$			500	nA
$V_F$	Forward Voltage	BAT42XV2 $I_F=10\text{mA}$ $I_F=50\text{mA}$ BAT43XV2 $I_F=2\text{mA}$ $I_F=15\text{mA}$ BAT42XV2, BAT43XV2 $I_F=200\text{mA}$	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

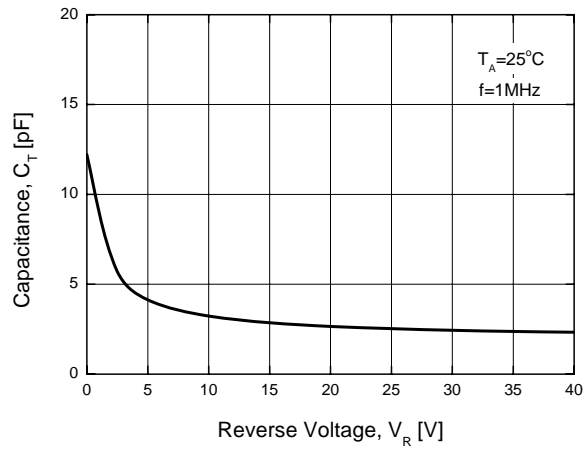


### Forward Voltage vs Forward Current

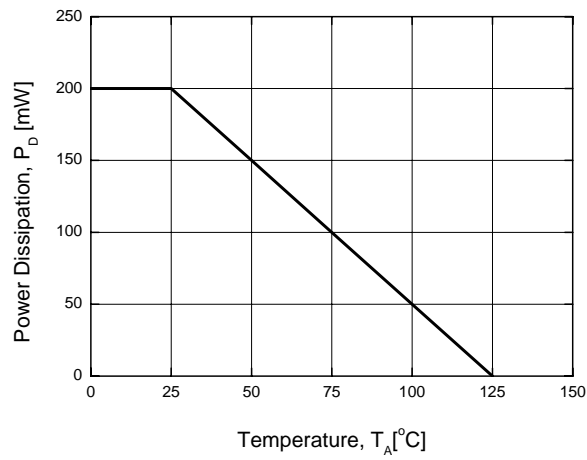


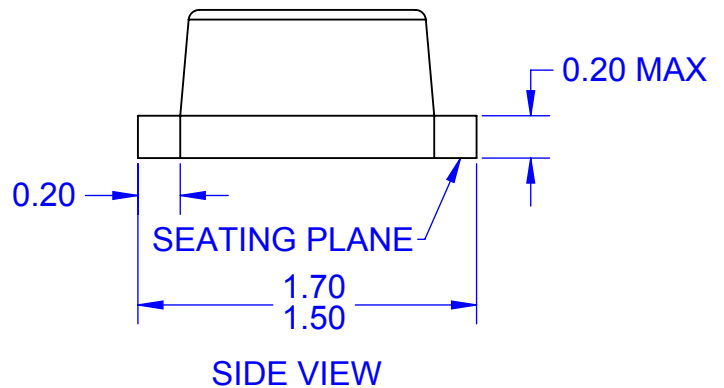
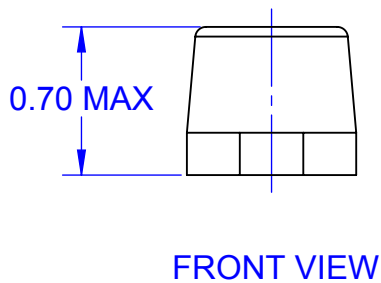
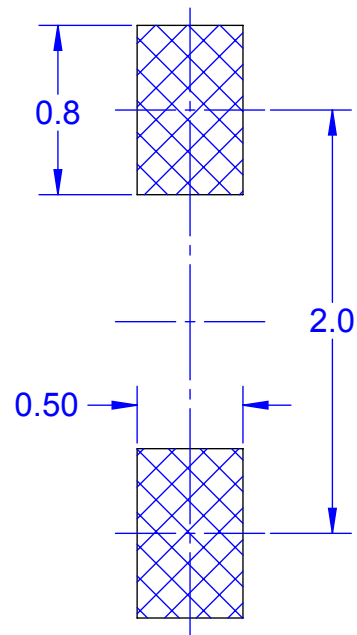
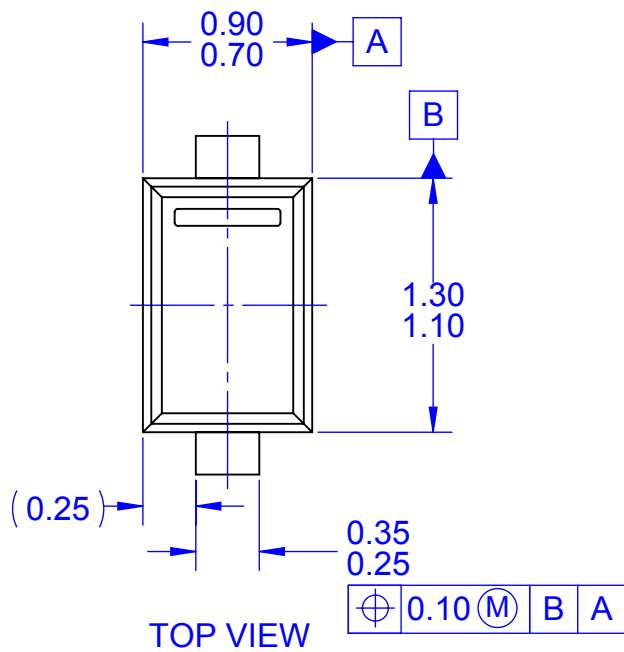
Typical Performance Characteristics (Continued)

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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