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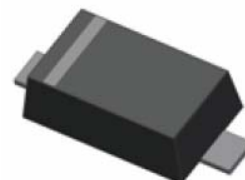
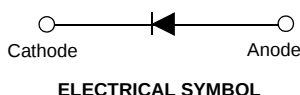
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# BAT42XV2-BAT43XV2

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

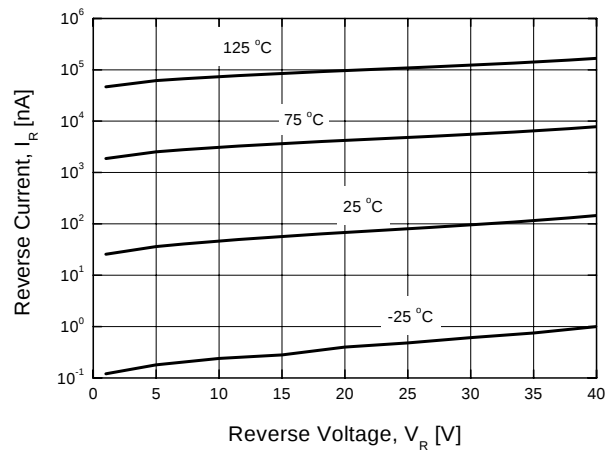
\* Device mounted on FR-4 PCB minimum land pad.

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

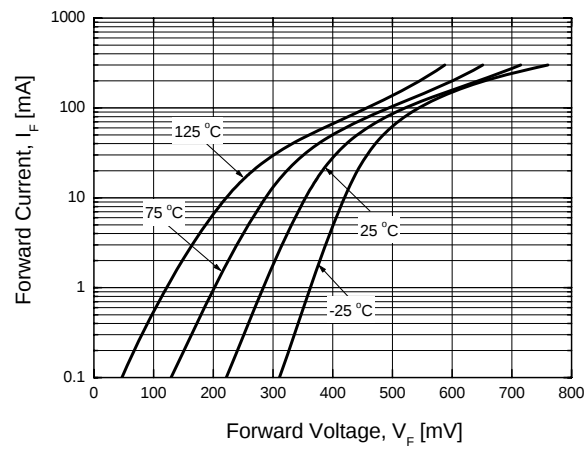
| Symbol   | Parameter               | Test Condition                                                                                                                                      | Min. | Typ. | Max.                                | Units |
|----------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------|------|-------------------------------------|-------|
| $BV_R$   | 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<br>$I_F=10\text{mA}$<br>$I_F=50\text{mA}$<br>BAT43XV2<br>$I_F=2\text{mA}$<br>$I_F=15\text{mA}$<br>BAT42XV2, BAT43XV2<br>$I_F=200\text{mA}$ | 0.26 |      | 0.40<br>0.65<br>0.33<br>0.45<br>1.0 | V     |
| $T_{RR}$ | Reverse Recovery Time   | $I_F=I_R=10\text{mA}$<br>$R_L=100\Omega$<br>$I_{RR}=1\text{mA}$                                                                                     |      | 5    |                                     | nS    |
| C        | Capacitance             | $V_R=1\text{V}$ , $f=1\text{MHz}$                                                                                                                   |      | 7    |                                     | pF    |

## Typical Performance Characteristics

### Reverse Current vs Reverse Voltage

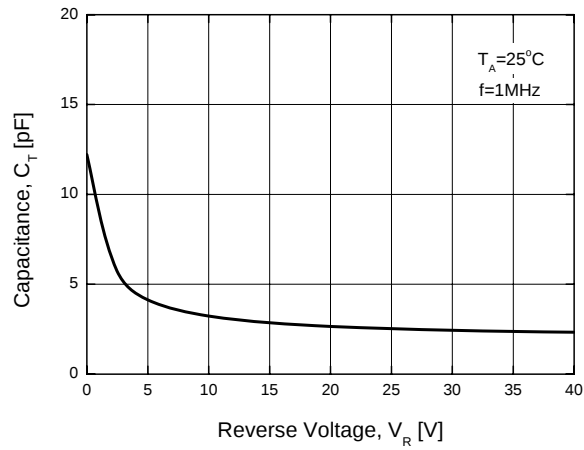


### Forward Voltage vs Forward Current

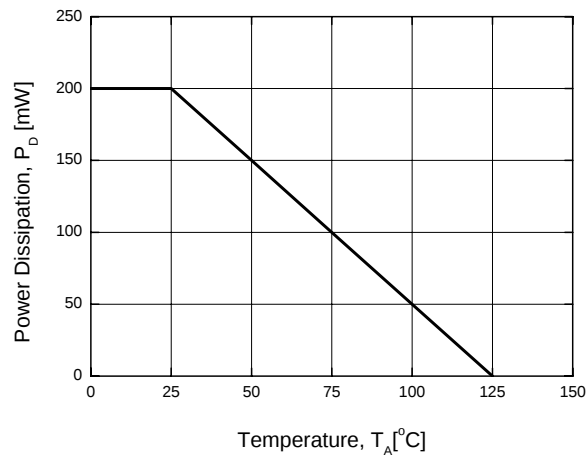


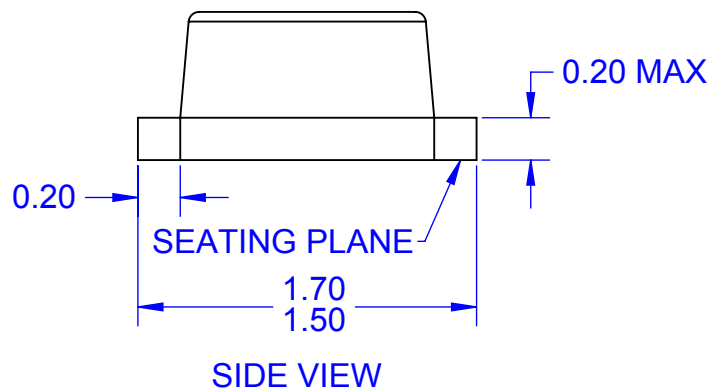
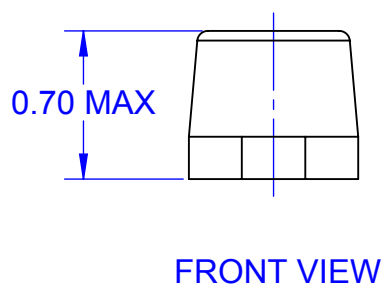
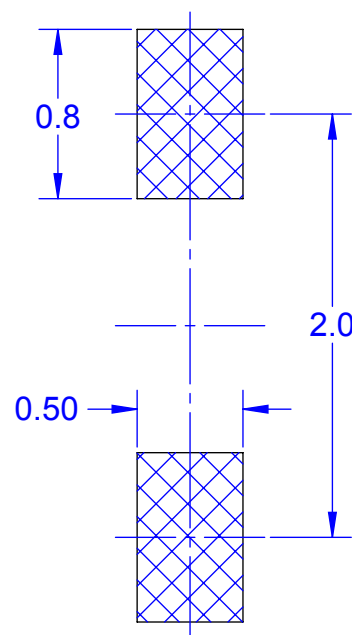
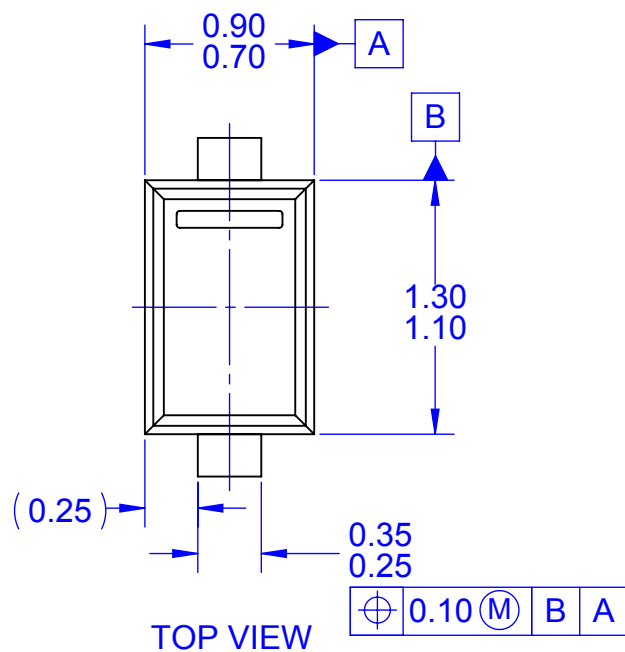
# Typical Performance Characteristics (Continued)

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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