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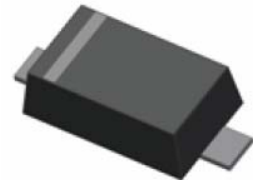
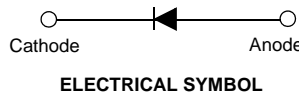
Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes 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 | $^\circ\text{C}/\text{W}$ |

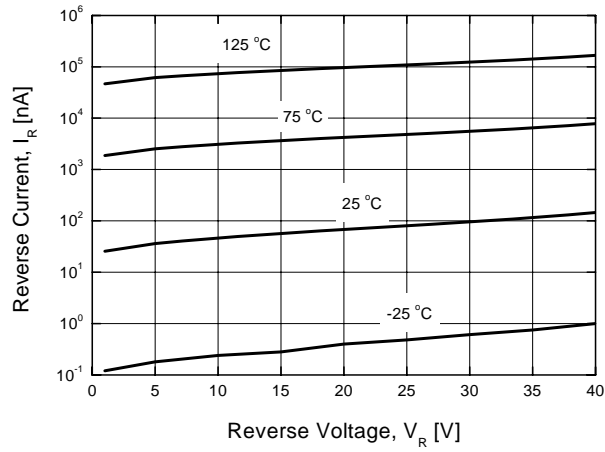
* Device mounted on FR-4 PCB minimum land pad.

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

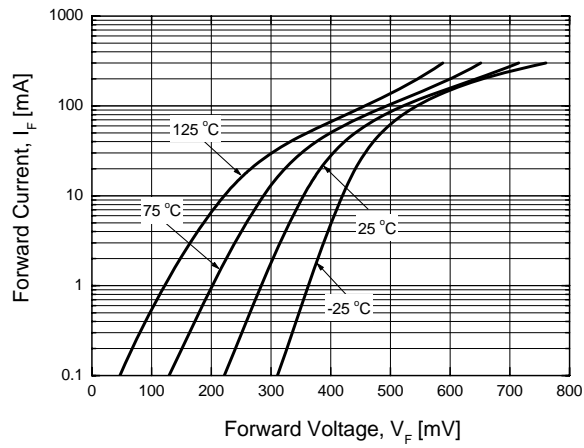
| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|----------|-------------------------|---|------|------|-------------------------------------|-------|
| BV_R | Breakdown Voltage | $I_R=100\mu\text{A}$ | 30 | | | V |
| I_R | Reverse Leakage Current | $V_R=25\text{V}$ | | | 500 | nA |
| 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

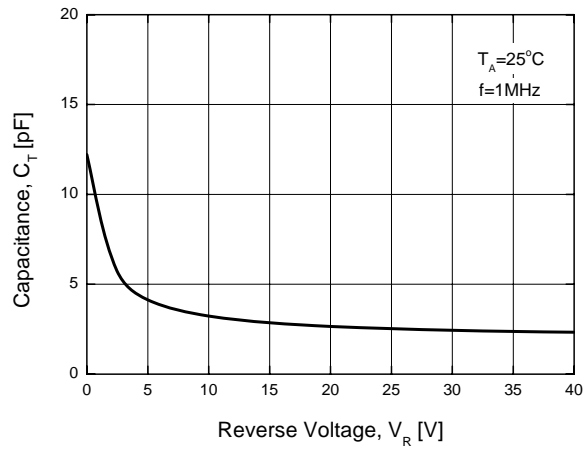


Forward Voltage vs Forward Current

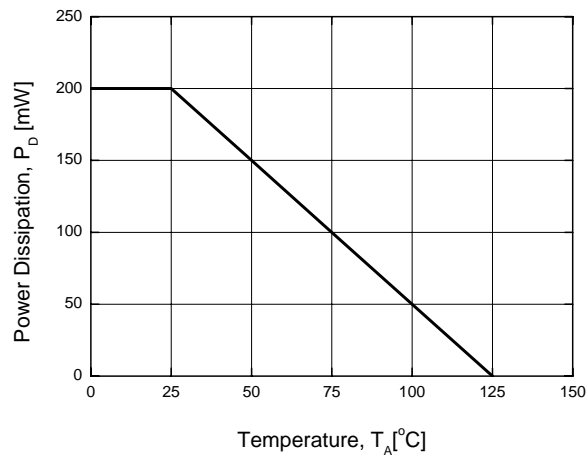


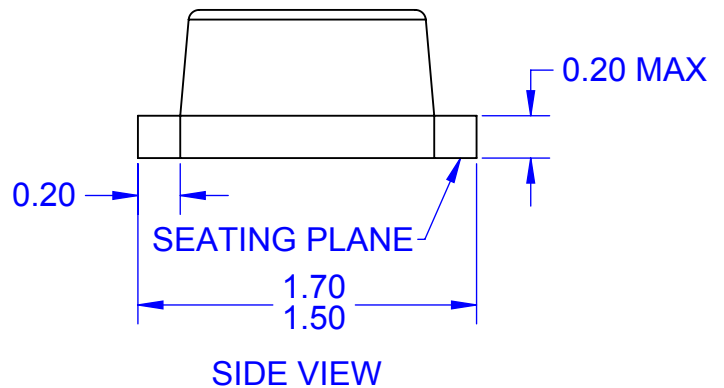
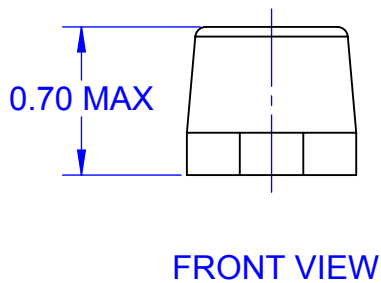
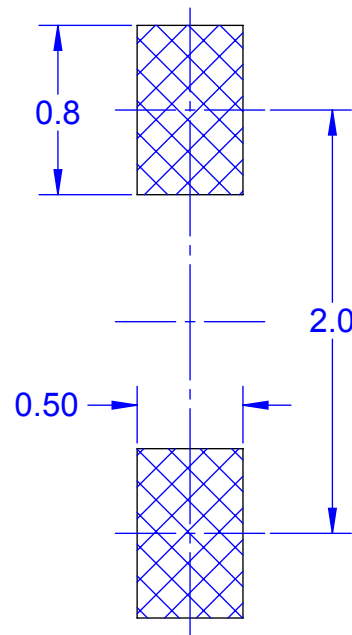
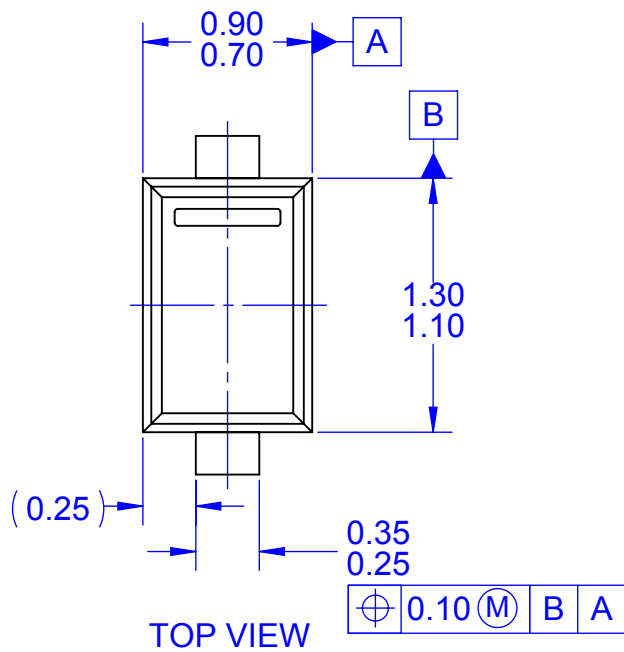
Typical Performance Characteristics (Continued)

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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