

# Schottky Barrier Diodes

## BAT43XV2

### Features

- Low Forward Voltage Drop
- Flat Lead, Surface Mount Device at 0.60 mm Height
- Extremely Small Outline Plastic Package SOD-523
- Moisture Level Sensitivity 1
- Matte Tin (Sn) Lead Finish
- Green Mold Compound
- This Device is Pb-Free and is RoHS Compliant

### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25°C unless otherwise noted)

| Symbol             | Parameter                          | Value       | Unit |
|--------------------|------------------------------------|-------------|------|
| V <sub>RRM</sub>   | Maximum Repetitive Reverse Voltage | 30          | V    |
| V <sub>R</sub>     | Maximum DC Blocking Voltage        | 30          | V    |
| I <sub>F(AV)</sub> | Average Rectified Forward Current  | 200         | mA   |
| I <sub>FSM</sub>   | Peak Forward Surge Current         | 4           | A    |
| T <sub>J</sub>     | Operating Junction Temperature     | +125        | °C   |
| T <sub>STG</sub>   | Storage Temperature Range          | -65 to +125 | °C   |

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

### THERMAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted)

| Symbol           | Parameter                               | Value | Unit |
|------------------|---|-------|------|
| P <sub>D</sub>   | Power Dissipation                       | 200   | mW   |
| R <sub>θJA</sub> | Thermal Resistance, Junction to Ambient | 500   | °C/W |

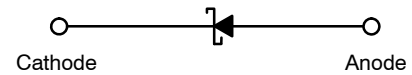
NOTE: Device mounted on FR-4 PCB minimum land pad.

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted)

| Symbol          | Parameter               | Test Conditions  | Min  | Typ | Max                 | Unit |
|-----------------|-------------------------|--|------|-----|---------------------|------|
| BV <sub>R</sub> | Breakdown Voltage       | I <sub>R</sub> = 100 μA  | 30   |     |                     | V    |
| I <sub>R</sub>  | Reverse Leakage Current | V <sub>R</sub> = 25 V  |      |     | 500                 | nA   |
| V <sub>F</sub>  | Forward Voltage         | I <sub>F</sub> = 2 mA<br>I <sub>F</sub> = 15 mA<br>I <sub>F</sub> = 200 mA                 | 0.26 |     | 0.33<br>0.45<br>1.0 | V    |
| T <sub>RR</sub> | Reverse Recovery Time   | I <sub>F</sub> = I <sub>R</sub> = 10 mA, R <sub>L</sub> = 100 Ω,<br>I <sub>RR</sub> = 1 mA |      | 5   |                     | nS   |
| C               | Capacitance             | V <sub>R</sub> = 1 V, f = 1 MHz  |      | 7   |                     | pF   |

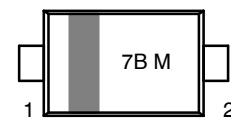
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

### ELECTRICAL SYMBOL



SOD-523  
CASE 502-01

### MARKING DIAGRAM



(Band Indicates Cathode)

7B = Specific Device Code  
M = Date Code

### ORDERING INFORMATION

| Device   | Package              | Shipping†             |
|----------|----------------------|-----------------------|
| BAT43XV2 | SOD-523<br>(Pb-Free) | 8000 /<br>Tape & Reel |

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, [BRD8011/D](#).

# BAT43XV2

## TYPICAL PERFORMANCE CHARACTERISTICS

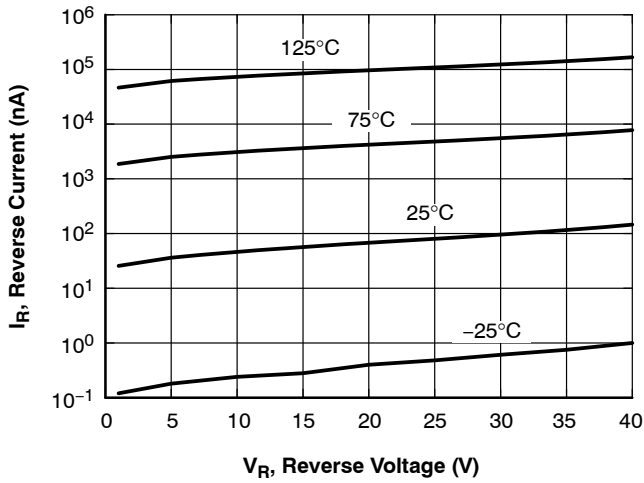


Figure 1. Reverse Current vs Reverse Voltage

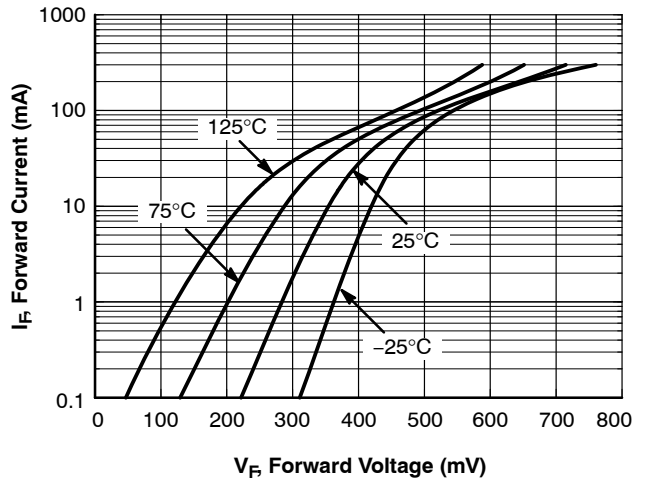


Figure 2. Forward Voltage vs Forward Current

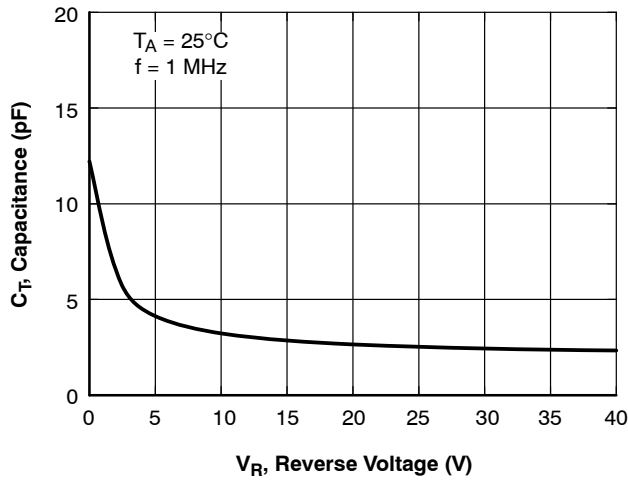


Figure 3. Total Capacitance

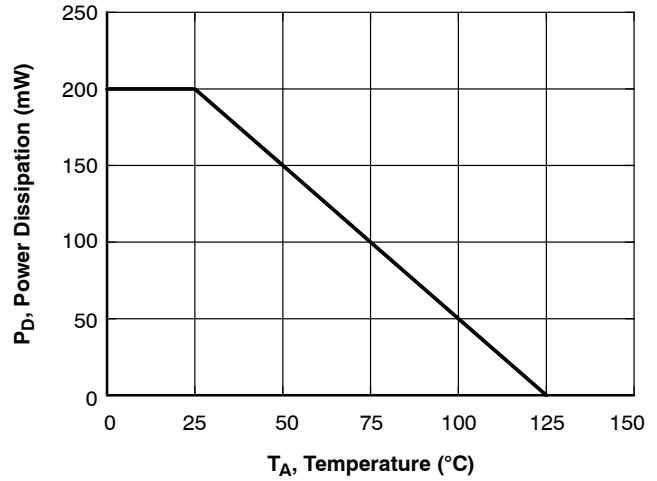


Figure 4. Power Derating Curve

**onsemi**, **Onsemi**, and other names, marks, and brands are registered and/or common law trademarks of Semiconductor Components Industries, LLC dba "**onsemi**" or its affiliates and/or subsidiaries in the United States and/or other countries. **onsemi** owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of **onsemi**'s product/patent coverage may be accessed at [www.onsemi.com/site/pdf/Patent-Marking.pdf](http://www.onsemi.com/site/pdf/Patent-Marking.pdf). **onsemi** reserves the right to make changes at any time to any products or information herein, without notice. The information herein is provided "as-is" and **onsemi** makes no warranty, representation or guarantee regarding the accuracy of the information, product features, availability, functionality, or suitability of its products for any particular purpose, nor does **onsemi** assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using **onsemi** products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by **onsemi**. "Typical" parameters which may be provided in **onsemi** data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. **onsemi** does not convey any license under any of its intellectual property rights nor the rights of others. **onsemi** products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use **onsemi** products for any such unintended or unauthorized application, Buyer shall indemnify and hold **onsemi** and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that **onsemi** was negligent regarding the design or manufacture of the part. **onsemi** is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

## PUBLICATION ORDERING INFORMATION

### LITERATURE FULFILLMENT:

Email Requests to: [orderlit@onsemi.com](mailto:orderlit@onsemi.com)

**onsemi Website:** [www.onsemi.com](http://www.onsemi.com)

### TECHNICAL SUPPORT

**North American Technical Support:**

Voice Mail: 1 800-282-9855 Toll Free USA/Canada

Phone: 011 421 33 790 2910

**Europe, Middle East and Africa Technical Support:**

Phone: 00421 33 790 2910

For additional information, please contact your local Sales Representative

