

FSV330AF

Schottky Barrier Rectifier

Features

- Low Forward Voltage Drop: 0.5 V Maximum at 3 A, $T_A = 25^\circ\text{C}$
- Ultra Thin Profile – Maximum Height of 1.0 mm
- High Surge Capacity
- UL Flammability 94V-0 Classification
- MSL 1
- Green Mold Compound
- These Devices are Pb-Free, Halogen Free and are RoHS Compliant

Specifications

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

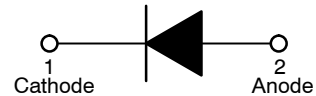
| Symbol | Rating | Value | Unit |
|-------------|--|-------------|------------------|
| V_{RRM} | Recurrent Peak Reverse Voltage | 30 | V |
| V_{RMS} | RMS Reverse Voltage | 21 | V |
| V_R | DC Blocking Voltage | 30 | V |
| $I_{F(AV)}$ | Average Forward Current | 3 | A |
| I_{FSM} | Peak Forward Surge Current: 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) | 80 | A |
| T_J | Operating Junction Temperature Range | -55 to +150 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature Range | -55 to +150 | $^\circ\text{C}$ |

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.

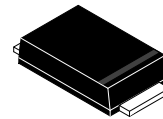


ON Semiconductor®

www.onsemi.com

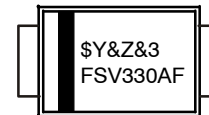


Schottky Barrier Rectifier



DO-214AD
(SMAF)
CASE 403AD

MARKING DIAGRAM



Band Indicates Cathode

\$Y = ON Semiconductor Logo
&Z = Assembly Plant Code
&3 = Data Code (Year & Week)
FSV330AF = Specific Device Code

ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

FSV330AF

THERMAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Symbol | Characteristic | Value | Unit |
|-----------------|--|-------|---------------------------|
| Ψ_{JL} | Typical Thermal Characteristics, Junction-to-Lead (Note 1) | 20 | $^\circ\text{C}/\text{W}$ |
| $R_{\theta JA}$ | Typical Thermal Resistance, Junction-to-Ambient (Note 2) | 150 | $^\circ\text{C}/\text{W}$ |

1. Mounted on FR4 PCB, single-sided cooper, with 48 cm² pad area.
2. Mounted on FR4 PCB, single-sided cooper, mini pad

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|----------|-----------------------|---|-----|-------|-----|---------------|
| V_F | Forward Voltage | $I_F = 3 \text{ A}$ | - | - | 0.5 | V |
| I_R | Reverse Current | $V_R = V_{DC}, T_A = 85^\circ\text{C}$ | - | - | 100 | μA |
| T_{rr} | Reverse Recovery Time | $I_F = 0.5 \text{ A}, I_R = 1 \text{ A}, I_{rr} = 0.25 \text{ A}$ | - | 12.50 | - | ns |
| C_J | Junction Capacitance | $V_R = 0 \text{ V}, f = 1 \text{ MHz}$ | - | 485 | - | 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.

ORDERING INFORMATION

| Part Number | Top Mark | Package | Shipping† |
|-------------|----------|---|---------------------|
| FSV330AF | FSV330AF | DO-214AD (SMAF) (Pb-Free/Halogen Free) | 10000 / Tape & Reel |

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

TYPICAL PERFORMANCE CHARACTERISTICS

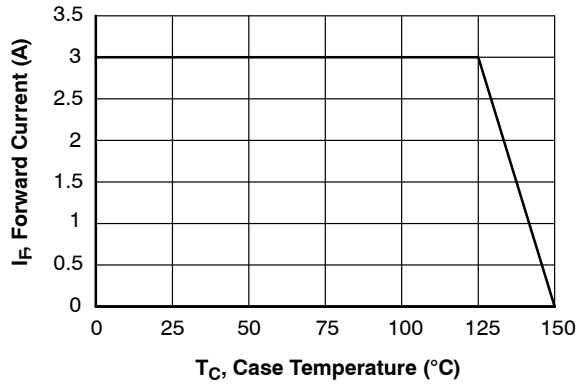


Figure 1. Forward Current Derating Curve

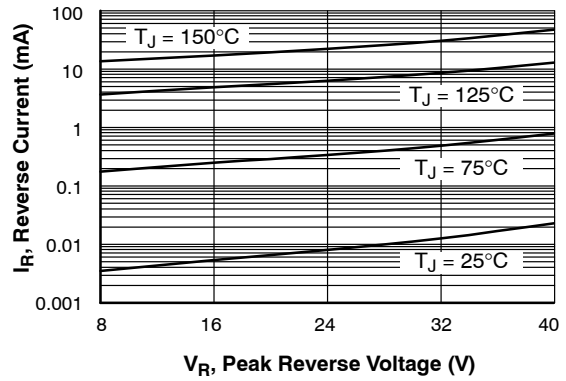


Figure 2. Typical Reverse Characteristics

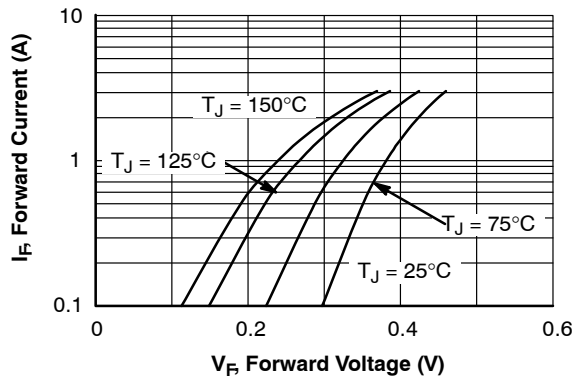


Figure 3. Typical Forward Characteristics

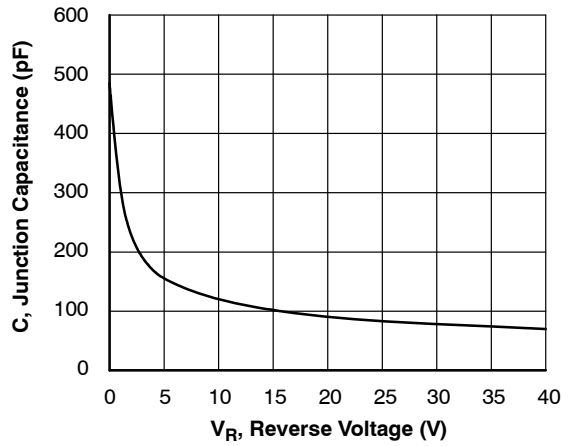
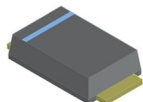


Figure 4. Typical Junction Capacitance

MECHANICAL CASE OUTLINE

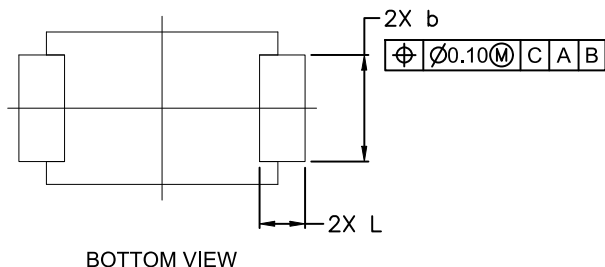
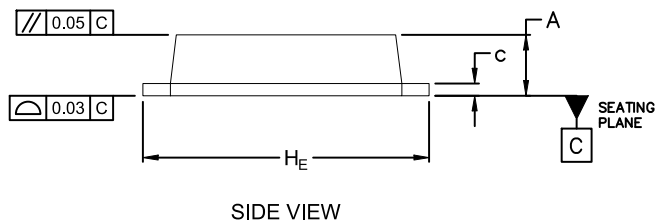
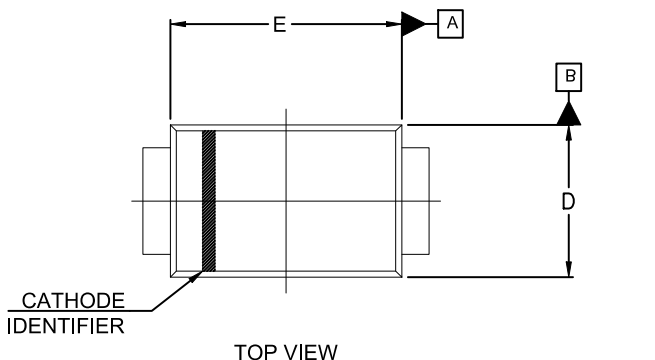
PACKAGE DIMENSIONS

ON Semiconductor®



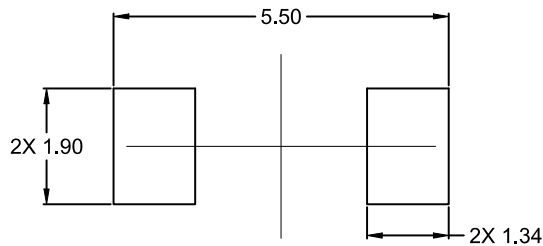
SMA-FL CASE 403AD ISSUE A

DATE 14 JUL 2020



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2009.
 2. CONTROLLING DIMENSION: MILLIMETERS
 3. DIMENSIONS D & E ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR EXTRUSIONS.

| DIM | MILLIMETERS | | |
|----------------|-------------|------|------|
| | MIN. | NOM. | MAX. |
| A | 0.90 | 1.00 | 1.10 |
| b | 1.25 | 1.60 | 1.90 |
| c | 0.10 | — | 0.25 |
| D | 2.30 | 2.50 | 2.70 |
| E | 3.60 | 3.95 | 4.30 |
| H _E | 4.40 | 4.80 | 5.20 |
| L | 0.50 | 0.75 | 0.95 |



**RECOMMENDED
MOUNTING FOOTPRINT***

* For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

| | | |
|-------------------------|--------------------|--|
| DOCUMENT NUMBER: | 98AON13439G | Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red. |
| DESCRIPTION: | SMA-FL | PAGE 1 OF 1 |

ON Semiconductor and are trademarks of Semiconductor Components Industries, LLC dba ON Semiconductor or its subsidiaries in the United States and/or other countries. ON Semiconductor reserves the right to make changes without further notice to any products herein. ON Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ON Semiconductor 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. ON Semiconductor does not convey any license under its patent rights nor the rights of others.

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. **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

onsemi Website: 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