# THE DATASHEET OF

# FSV530AF

# FSV530AF

# Schottky Barrier Rectifier

### Features

- Low Forward Voltage Drop: 0.54 V Maximum at 5 A, $T_A$ = 25°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 Free and are RoHS Compliant

### Specifications

**ABSOLUTE MAXIMUM RATINGS** ($T_A$ = 25°C unless otherwise noted)

| Symbol | Parameter | 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 | 5 | A |
| $I_{FSM}$ | Peak Forward Surge Current: 8.3 ms Single Half Sine–Wave Superimposed on Rated Load (JEDEC Method) | 100 | A |
| $T_J$ | Operating Junction Temperature Range | –55 to +150 | °C |
| $T_{STG}$ | Storage Temperature Range | –55 to +150 | °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.

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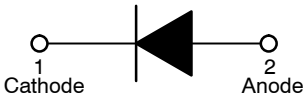
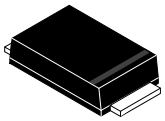
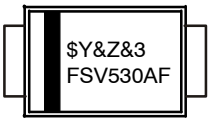



**Schottky Barrier Rectifier**



**DO–214AD**
**(SMAF)**
**CASE 403AD**

### MARKING DIAGRAM




Band Indicates Cathode

| | |
|---|---|
| $Y | = ON Semiconductor Logo |
| &Z | = Assembly Plant Code |
| &3 | = Data Code (Year & Week) |
| FSV530AF | = Specific Device Code |

### ORDERING INFORMATION

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

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**THERMAL CHARACTERISTICS** ($T_A$ = 25°C unless otherwise noted) (Note 1)

| Symbol | Characteristic | Value | Unit |
|---|---|---|---|
| $\Psi_{JL}$ | Typical Thermal Characteristics, Junction−to−Lead (Note 2) | 15 | °C/W |
| $R_{\theta JA}$ | Typical Thermal Resistance, Junction−to−Ambient | 120 | °C/W |

1. Per JESD51−3 recommended thermal test board. Device mounted on FR−4 PCB, board size = 76.2 mm x 114.3 mm.
2. Thermocouple soldered at cathode lead.

**ELECTRICAL CHARACTERISTICS** ($T_A$ = 25°C unless otherwise noted)

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| $V_F$ | Forward Voltage | $I_F$ = 5 A | − | − | 0.54 | V |
| $I_R$ | Reverse Current | $V_R$ = 30 V | − | − | 100 | μA |
| Trr | Reverse Recovery Time | $I_F$ = 0.5 A, $I_R$ = 1 A, $I_{rr}$ = 0.25 A | − | 15.72 | − | ns |
| $C_J$ | Junction Capacitance | $V_R$ = 0 V, f = 1 MHz | − | 159 | − | 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† |
|---|---|---|---|
| FSV530AF | FSV530AF | DO−214AD (SMAF)<br>(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

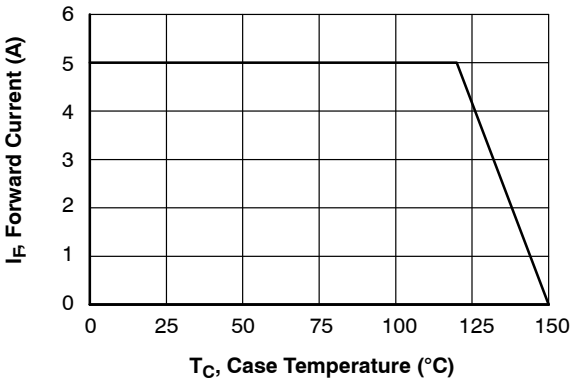


**Figure 1. Forward Current Derating Curve**

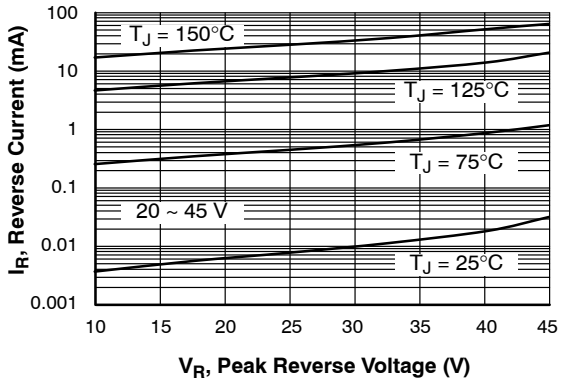


**Figure 2. Typical Reverse Characteristics**

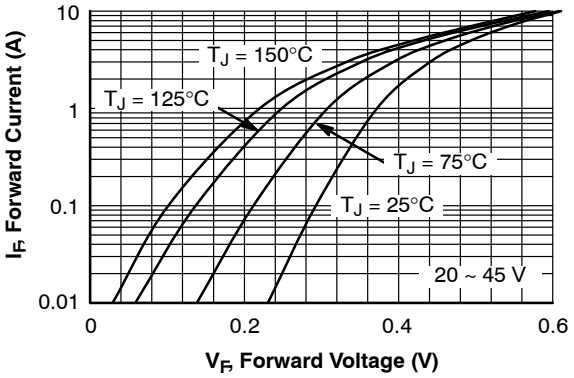


**Figure 3. Typical Forward Characteristics**

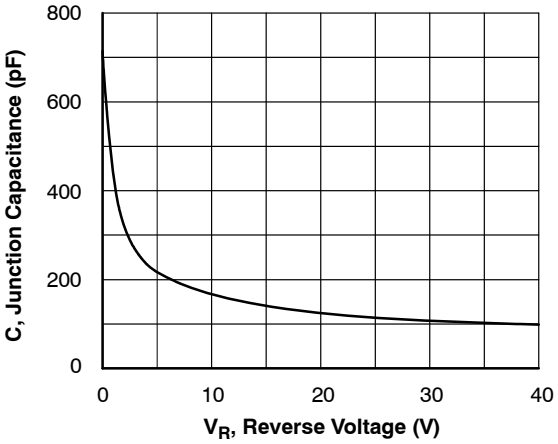


**Figure 4. Typical Junction Capacitance**

# MECHANICAL CASE OUTLINE
## PACKAGE DIMENSIONS

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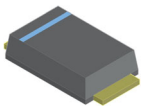

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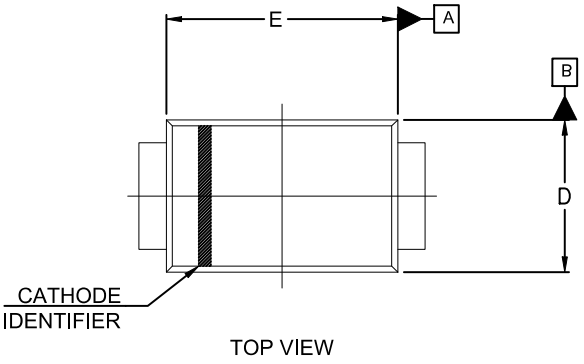
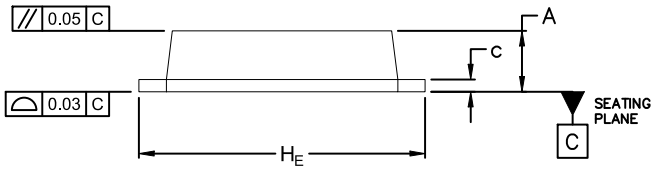
CASE 403AD
ISSUE A

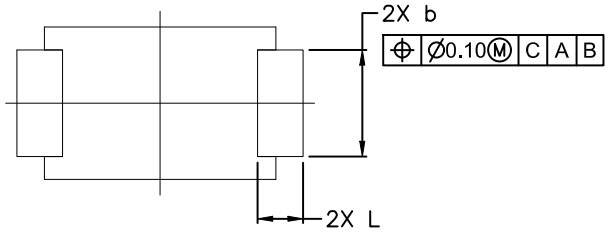
DATE 14 JUL 2020




TOP VIEW



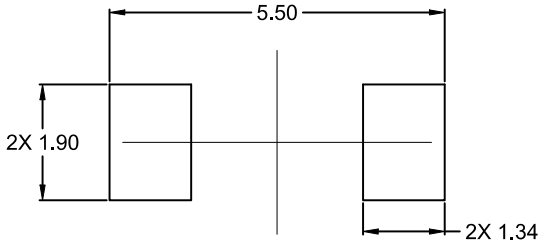

SIDE VIEW




BOTTOM VIEW

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.

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- Shortage Management
- Alternative Solution
- Excess Inventory Management