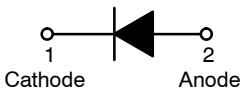
# THE DATASHEET OF

# S110FA

# Schottky Barrier Rectifiers, Surface Mount, 1 A, 50 V - 150 V

# SS15FA - S115FA




**Rectifier**




**SOD−123FL**
**CASE 425AB**

### Features

- Low Power Loss, High Efficiency
- Guard Ring for Overvoltage Protection
- High Surge Current Capability
- UL Flammability 94V−0 Classification
- MSL 1 per J−STD−020
- Green Molding Compound
- These Devices are Pb−Free and are RoHS Compliant

### MARKING DIAGRAM




Band Indicates Cathode

| | |
|---|---|
| YYYY | = Binary Calendar Year Code Scheme |
| Z | = Assembly Plant Code |
| XXX | = Specific Device Code |
| W | = Single Digit Week Code |

### ORDERING INFORMATION

| Part Number | Device Code Marking | Package | Shipping† |
|---|---|---|---|
| SS15FA | 15L | SOD−123FL (Pb−Free) | 3000 / Tape & Reel |
| SS16FA | 16L | SOD−123FL (Pb−Free) | 3000 / Tape & Reel |
| SS19FA | 19L | SOD−123FL (Pb−Free) | 3000 / Tape & Reel |
| S110FA | 10L | SOD−123FL (Pb−Free) | 3000 / Tape & Reel |
| S115FA | 1AL | SOD−123FL (Pb−Free) | 3000 / 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.

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## SPECIFICATIONS

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

| Symbol | Parameter | Value | | | | | Unit |
|---|---|---|---|---|---|---|---|
| | | SS15FA | SS16FA | SS19FA | S110FA | S115FA | |
| $V_{RRM}$ | Repetitive Peak Reverse Voltage | 50 | 60 | 90 | 100 | 150 | V |
| $V_{RMS}$ | RMS Reverse Voltage | 35 | 42 | 63 | 70 | 105 | V |
| $V_R$ | DC Blocking Voltage | 50 | 60 | 90 | 100 | 150 | V |
| $I_{F(AV)}$ | Average Forward Rectified Current | 1 | | | | | A |
| $I_{FSM}$ | Peak Forward Surge Current: 8.3 ms Single Half Sine–Wave Superimposed on Rated Load | 30 | | | | | 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.

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

| Symbol | Characteristic | Value | Unit |
|---|---|---|---|
| $\Psi_{JL}$ | Junction–to–Lead Thermal Characteristics | 16 | °C/W |
| $R_{\theta JA}$ | Junction–to–Ambient Thermal Resistance | 152 | °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.

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

| Symbol | Parameter | Conditions | Value | | | | | Unit |
|---|---|---|---|---|---|---|---|---|
| | | | SS15FA | SS16FA | SS19FA | S110FA | S115FA | |
| $V_F$ | Maximum Instantaneous Forward Voltage (Note 2) | $I_F$ = 0.5 A | 0.58 | | 0.70 | | 0.75 | V |
| | | $I_F$ = 1.0 A | 0.70 | | 0.80 | | 0.90 | |
| $I_R$ | Maximum Reverse Current at Rated $V_R$ | $T_J$ = 25°C | 0.4 | | 0.05 | | | mA |
| | | $T_J$ = 100°C | 6.0 | | – | | | |
| | | $T_J$ = 125°C | – | | 0.5 | | | |
| $C_J$ | Typical Junction Capacitance | $V_R$ = 4 V, f = 1 MHz | 54 | | 35 | | | pF |
| $T_{rr}$ | Typical Reverse Recovery Time | $I_F$ = 0.5 A, $I_R$ = 1 A, $I_{RR}$ = 0.25 A | 5.6 | | 8.3 | | | ns |

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.

2. Pulse test with PW = 300 μs, 1% duty cycle.

## TYPICAL PERFORMANCE CHARACTERISTICS

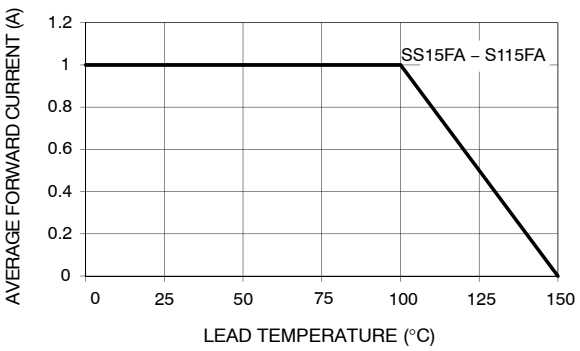



**Figure 1. Forward Current Derating Curve**

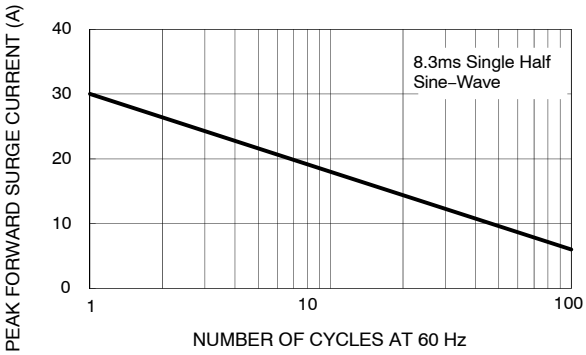



**Figure 2. Maximum Non–Repetitive Forward Surge Current**

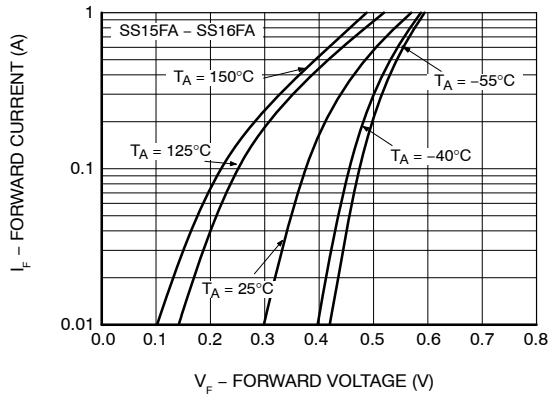



**Figure 3. Typical Forward Characteristics**

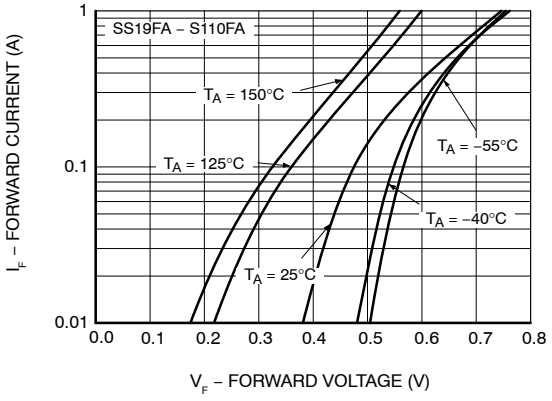



**Figure 4. Typical Forward Characteristics**

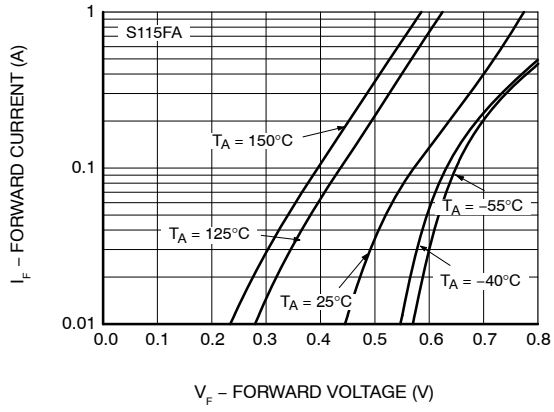



**Figure 5. Typical Forward Characteristics**

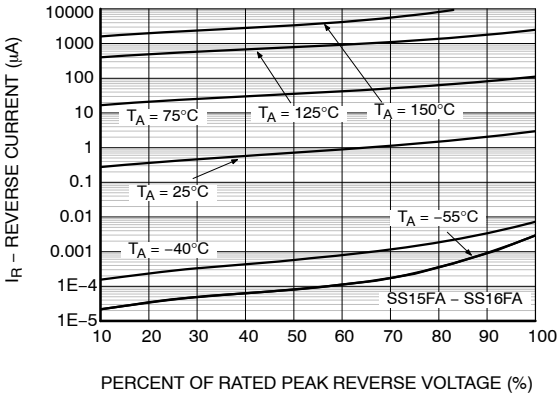



**Figure 6. Typical Reverse Characteristics**

## TYPICAL PERFORMANCE CHARACTERISTICS (continued)

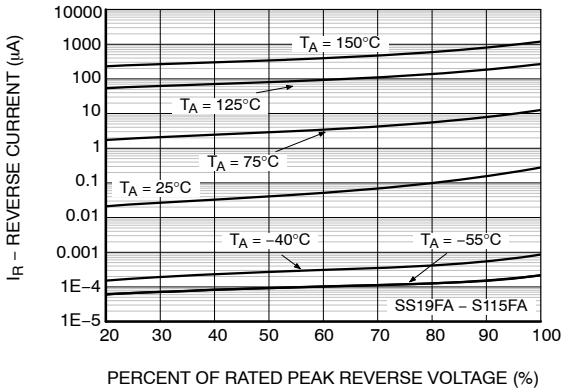



**Figure 7. Typical Reverse Characteristics**

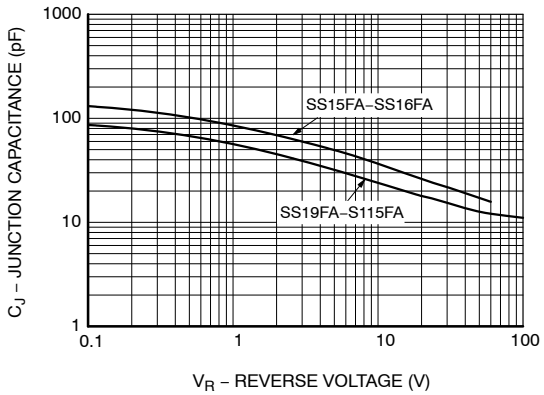
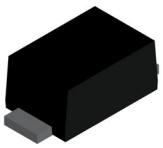


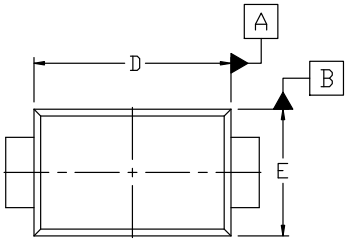

**Figure 8. Typical Junction Capacitance**

# MECHANICAL CASE OUTLINE
## PACKAGE DIMENSIONS

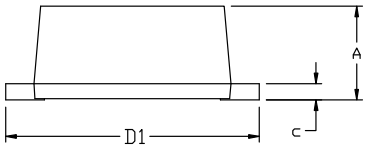


**SOD−123FA**
CASE 425AB
ISSUE A

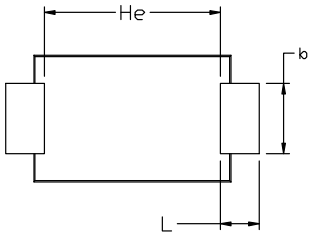
DATE 11 AUG 2022




TOP VIEW




FRONT VIEW

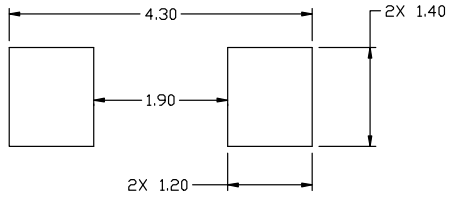



BOTTOM VIEW

NOTES:

1. NO INDUSTRY STANDARD APPLIES TO THIS PACKAGE.
2. ALL DIMENSIONS ARE IN MILLIMETERS.
3. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND THE BAR PROTRUSIONS.

| DIM | MILLIMETERS | | |
|---|---|---|---|
| | MIN. | NOM. | MAX. |
| A | 1.23 | 1.33 | 1.43 |
| b | 0.80 | 1.00 | 1.20 |
| c | 0.16 | 0.23 | 0.30 |
| D | 2.70 | 2.80 | 2.90 |
| D1 | 3.40 | 3.60 | 3.80 |
| E | 1.70 | 1.80 | 1.90 |
| He | 2.45 | --- | 2.60 |
| L | 0.35 | 0.60 | 0.85 |




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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