

# SS13FL, SS14FL

## Surface Mount Schottky Barrier Rectifier

### Features

- Ultra Thin Profile – Maximum Height of 1.08 mm
- 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)

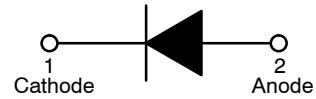
| Symbol      | Parameter   | Value       |        | Unit             |
|-------------|---|-------------|--------|------------------|
|             |   | SS13FL      | SS14FL |                  |
| $V_{RRM}$   | Peak Reverse Voltage                                      | 30          | 40     | V                |
| $V_R$       | Reverse Voltage   | 30          | 40     | V                |
| $I_{F(AV)}$ | Average Rectified Current at $T_A = 75^\circ\text{C}$     | 1.0         |        | A                |
| $I_{FSM}$   | Non-Repetitive Peak Forward Surge Current at $t = 8.3$ ms | 40          |        | A                |
| $T_J$       | Operating Junction Temperature Range                      | -55 to +125 |        | $^\circ\text{C}$ |
| $T_{STG}$   | Storage Temperature Range                                 | -55 to +125 |        | $^\circ\text{C}$ |

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.

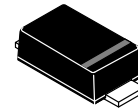


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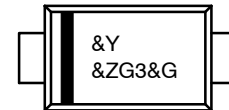


Schottky Barrier Rectifier



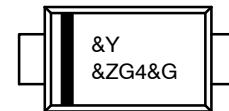
SOD-123F  
CASE 425AD

### MARKING DIAGRAMS



Band Indicates Cathode

- &Y = Binary Calendar Year Coding Scheme
- &Z = Assembly Plant Code
- G3 = Specific Device Code
- &G = Single Digit Weekly Data Code



Band Indicates Cathode

- &Y = Binary Calendar Year Coding Scheme
- &Z = Assembly Plant Code
- G4 = Specific Device Code
- &G = Single Digit Weekly Data Code

### ORDERING INFORMATION

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

# SS13FL, SS14FL

## THERMAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted) (Note 1)

| Symbol          | Characteristic   | Value | Unit               |
|-----------------|--|-------|--------------------|
| $\Psi_{JL}$     | Typical Thermal Characteristics, Junction-to-Lead (Note 2) | 25    | $^\circ\text{C/W}$ |
| $R_{\theta JA}$ | Typical Thermal Resistance, Junction-to-Ambient            | 140   | $^\circ\text{C/W}$ |

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

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

| Symbol   | Parameter                 | Conditions  | Min    | Typ | Max   | Unit          |    |
|----------|---------------------------|---|--------|-----|-------|---------------|----|
| $BV_R$   | Reverse Breakdown Voltage | $I_R = 500 \mu\text{A}$   | SS13FL | 30  | -     | -             | V  |
|          |                           |   | SS14FL | 40  | -     | -             |    |
| $V_F$    | Forward Voltage           | $I_F = 1.0 \text{ A}$   | -      | -   | 0.55  | V             |    |
| $I_R$    | Reverse Leakage Current   | $V_R = V_{RRM}$   | -      | -   | 30    | $\mu\text{A}$ |    |
| $T_{rr}$ | Reverse Recovery Time     | $I_F = 0.5 \text{ A}, I_R = 1 \text{ A}, I_{rr} = 0.25 \text{ A}$ | SS13FL | -   | 5.875 | -             | ns |
|          |                           |   | SS14FL | -   | 5.695 | -             |    |
| $C_J$    | Junction Capacitance      | $V_R = 0$   | -      | 60  | -     | 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 <sup>†</sup> |
|-------------|----------|------------------------------------|-----------------------|
| SS13FL      | G3       | SOD-123F<br>(Pb-Free/Halogen Free) | 3000 / Tape & Reel    |
| SS14FL      | G4       | SOD-123F<br>(Pb-Free/Halogen Free) | 3000 / Tape & Reel    |

<sup>†</sup>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

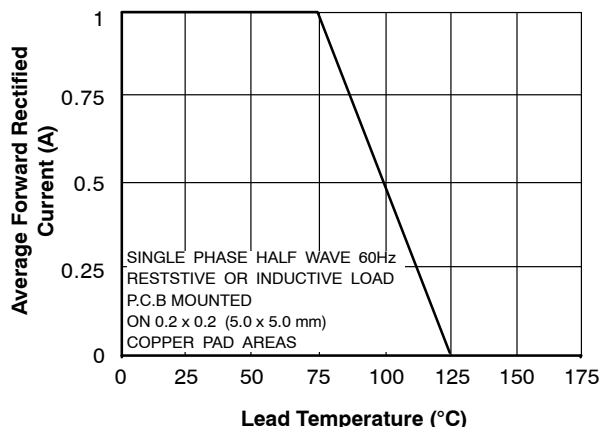


Figure 1. Forward Current Derating Curve

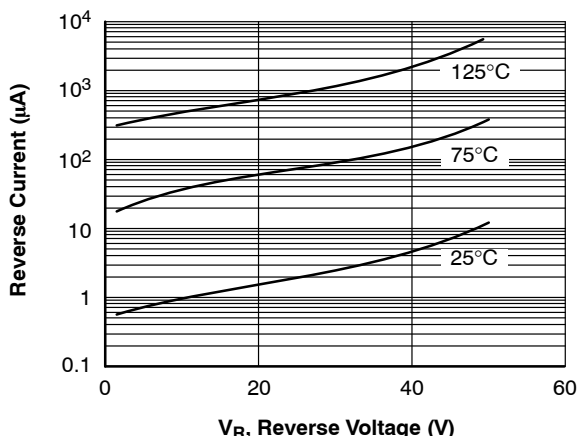


Figure 2. Typical Reverse Characteristics

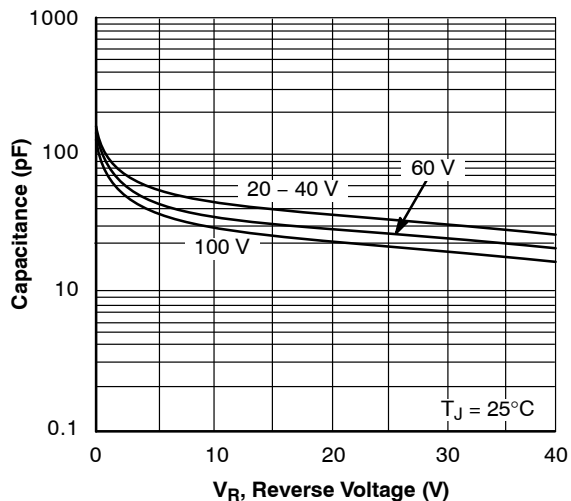


Figure 3. Typical Junction Characteristics

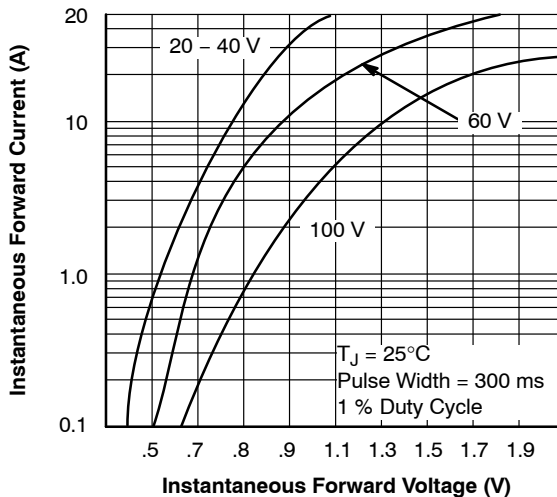


Figure 4. Typical Instantaneous Forward Characteristics

# MECHANICAL CASE OUTLINE

## PACKAGE DIMENSIONS

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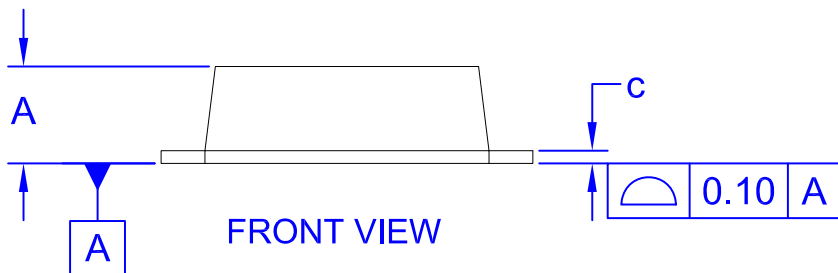
SCALE 4:1

SOD-123FL  
CASE 425AD  
ISSUE A

DATE 04 AUG 2017

### NOTES:

- A. NO INDUSTRY STANDARD APPLIES TO THIS PACKAGE
- B. ALL DIMENSIONS ARE IN MILLIMETERS
- C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.



| DIM | INCHES |       | MILLIMETERS |      |
|-----|--------|-------|-------------|------|
|     | MIN    | MAX   | MIN         | MAX  |
| A   | 0.031  | 0.043 | 0.80        | 1.08 |
| b   | 0.020  | 0.045 | 0.50        | 1.15 |
| c   | 0.002  | 0.008 | 0.05        | 0.20 |
| D   | 0.098  | 0.118 | 2.50        | 3.00 |
| E   | 0.059  | 0.077 | 1.50        | 1.95 |
| H   | 0.130  | 0.154 | 3.30        | 3.90 |
| L   | 0.018  | 0.035 | 0.45        | 0.90 |

|                         |                    |   |
|-------------------------|--------------------|---|
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| <b>DESCRIPTION:</b>     | <b>SOD-123FL</b>   | <b>PAGE 1 OF 1</b>  |

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