

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)

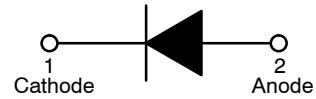
| Symbol | Parameter | Value | | Unit |
|-------------|---|-------------|--------|------------------|
| | | SS13FL | SS14FL | |
| V_{RRM} | Peak Reverse Voltage | 30 | 40 | V |
| V_R | Reverse Voltage | 30 | 40 | V |
| $I_{F(AV)}$ | Average Rectified Current at $T_A = 75^\circ\text{C}$ | 1.0 | | A |
| 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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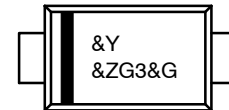


Schottky Barrier Rectifier



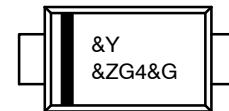
SOD-123F
CASE 425AD

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 |
|-----------------|--|-------|--------------------|
| Ψ_{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 JEDEC51-3 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 | μA | |
| 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 [†] |
|-------------|----------|------------------------------------|-----------------------|
| SS13FL | G3 | SOD-123F (Pb-Free/Halogen Free) | 3000 / Tape & Reel |
| SS14FL | G4 | SOD-123F (Pb-Free/Halogen 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.

TYPICAL PERFORMANCE CHARACTERISTICS

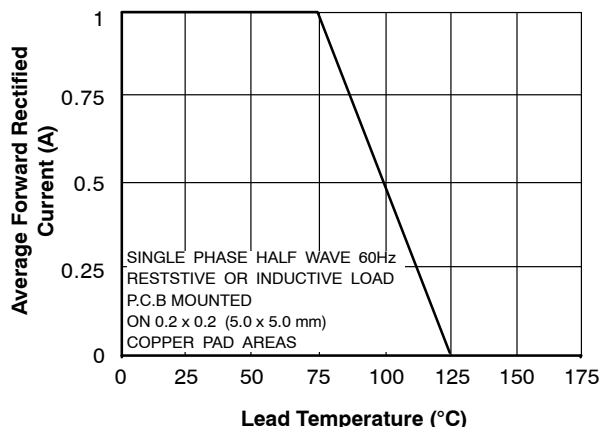


Figure 1. Forward Current Derating Curve

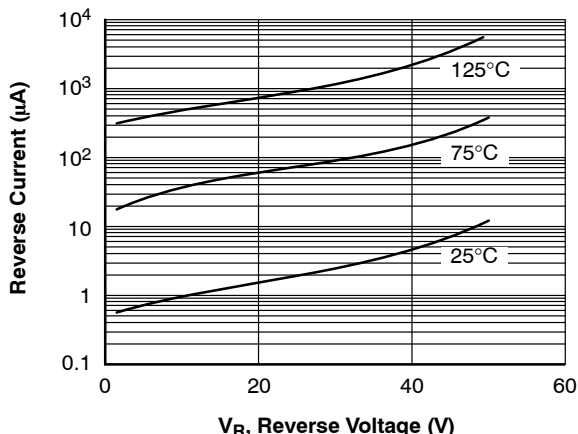


Figure 2. Typical Reverse Characteristics

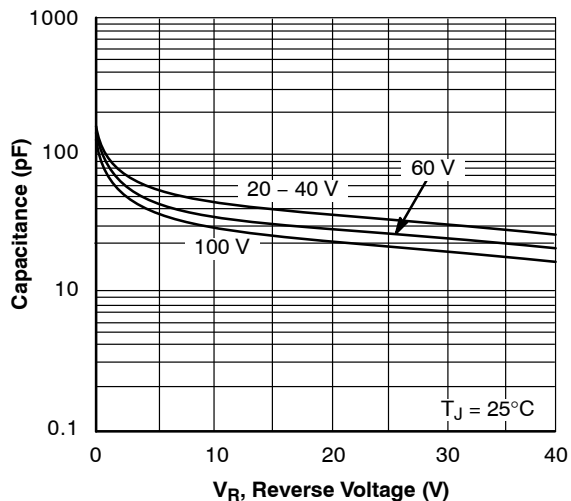


Figure 3. Typical Junction Characteristics

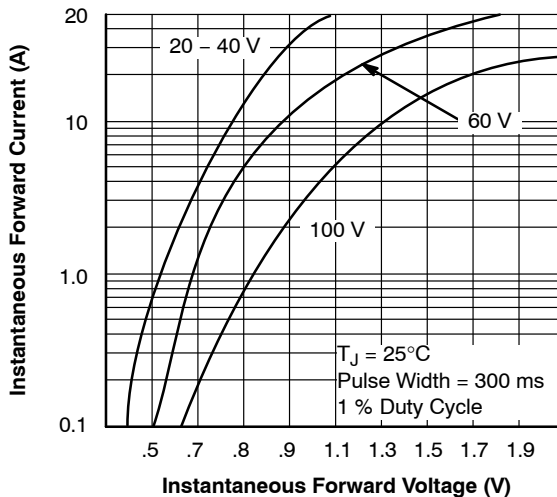
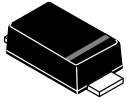


Figure 4. Typical Instantaneous Forward Characteristics

MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

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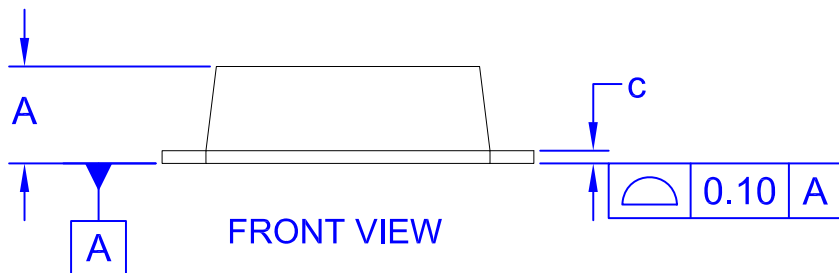
SCALE 4:1

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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| STATUS: | ON SEMICONDUCTOR STANDARD | |
| NEW STANDARD: | | |
| DESCRIPTION: | SOD-123FL | PAGE 1 OF 2 |



| ISSUE | REVISION | DATE |
|-------|--|-------------|
| O | RELEASED FOR PRODUCTION FROM FAIRCHILD MA02B TO ON SEMICONDUCTOR. REQ. BY B. NG. | 31 AUG 2016 |
| A | CONVERTED TO ONSEMI FORMAT AND ADDED BACKSIDE FOOT LENGTH. REQ. BY H. ALLEN. | 04 AUG 2017 |
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