

## SS2020FL-AU ~ SS2040FL-AU Series

### Surface Mount Schottky Barrier Rectifier

**Voltage**

**20~40 V**

**Current**

**2 A**

#### Features

- Low power loss, high efficiency
- High surge current capability
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

#### Applications

- Low voltage rectification
- Reverse polarity protection
- Low power consumption applications

#### Mechanical Data

- Case : SOD-123FL Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0006 ounces, 0.017 grams

SOD-123FL



### Maximum Ratings (T<sub>A</sub> = 25°C unless otherwise noted)

| PARAMETER   | SYMBOL             | SS2020FL-AU | SS2030FL-AU | SS2040FL-AU | UNIT |
|---|--------------------|-------------|-------------|-------------|------|
| Maximum Repetitive Peak Reverse Voltage   | V <sub>RRM</sub>   | 20          | 30          | 40          | V    |
| Maximum Rms Voltage   | V <sub>RMS</sub>   | 14          | 21          | 28          | V    |
| Maximum DC Blocking Voltage   | V <sub>R</sub>     | 20          | 30          | 40          | V    |
| Maximum Average Forward Rectified Current   | I <sub>F(AV)</sub> | 2           |             |             | A    |
| Peak Forward Surge Current : 8.3ms Single Half Sine-Wave Superimposed On Rated Load | I <sub>FSM</sub>   | 50          |             |             | A    |
| Typical Junction Capacitance<br>Measured at 1 MHZ And Applied V <sub>R</sub> = 4 V  | C <sub>J</sub>     | 100         |             |             | pF   |
| Typical Thermal Resistance<br>(Note 1)<br>(Note 2)                                  | R <sub>θJA</sub>   | 200         |             |             | °C/W |
|   | R <sub>θJC</sub>   | 32          |             |             |      |
| Operating Junction Temperature Range  | T <sub>J</sub>     | -55 to +150 |             |             | °C   |
| Storage Temperature Range   | T <sub>STG</sub>   | -55 to +150 |             |             | °C   |

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### Electrical Characteristics

| PARAMETER                           | SYMBOL         | TEST CONDITION       |                         | SS2020FL-AU |      | SS2030FL-AU |      | SS2040FL-AU |      | UNIT |
|-------------------------------------|----------------|----------------------|-------------------------|-------------|------|-------------|------|-------------|------|------|
|                                     |                |                      |                         | TYP.        | MAX. | TYP.        | MAX. | TYP.        | MAX. |      |
| Forward Voltage                     | V <sub>F</sub> | I <sub>F</sub> = 1A  | T <sub>J</sub> = 25 °C  | 0.41        | -    | 0.41        | -    | 0.41        | -    | V    |
|                                     |                | I <sub>F</sub> = 2A  |                         | -           | 0.5  | -           | 0.5  | -           | 0.5  |      |
|                                     |                | I <sub>F</sub> = 1A  | T <sub>J</sub> = 125 °C | 0.32        | -    | 0.32        | -    | 0.32        | -    |      |
|                                     |                | I <sub>F</sub> = 2A  |                         | 0.41        | -    | 0.41        | -    | 0.41        | -    |      |
| Reverse Current <sup>(Note 3)</sup> | I <sub>R</sub> | V <sub>R</sub> = 10V | T <sub>J</sub> = 25 °C  | 2           | -    | 2           | -    | 2           | -    | uA   |
|                                     |                | V <sub>R</sub> = 20V |                         | -           | 100  | 3           | -    | 3           | -    |      |
|                                     |                | V <sub>R</sub> = 30V |                         | -           | -    | -           | 100  | 7           | -    |      |
|                                     |                | V <sub>R</sub> = 40V |                         | -           | -    | -           | -    | -           | 100  |      |
|                                     |                | V <sub>R</sub> = 20V | T <sub>J</sub> = 125 °C | 3           | -    | 3           | -    | 3           | -    | mA   |
|                                     |                | V <sub>R</sub> = 30V |                         | -           | -    | 5           | -    | 5           | -    |      |
|                                     |                | V <sub>R</sub> = 40V |                         | -           | -    | -           | -    | 6.5         | -    |      |

- Note : 1. Mounted on a FR4 PCB, single-sided copper, mini pad.  
 2. Mounted on a FR4 PCB, single-sided copper, with 100cm<sup>2</sup> copper pad area.  
 3. Short duration pulse test used to minimize self-heating effect.

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## Rating and Characteristic Curves

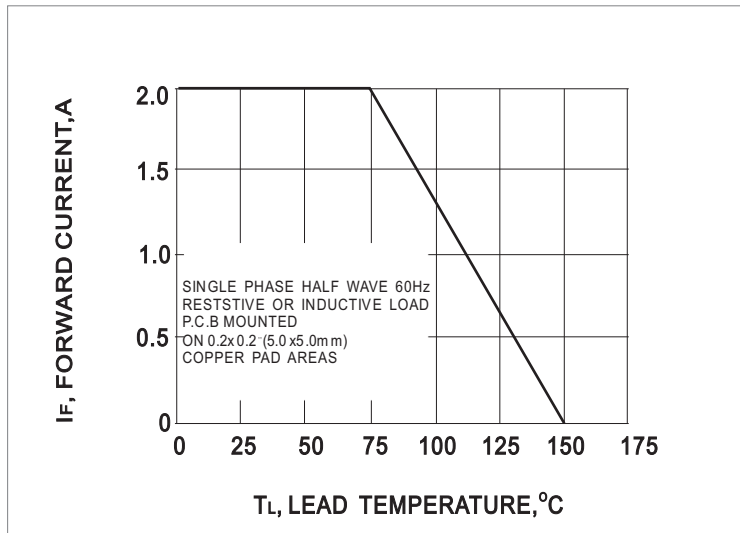


FIG. 1-FORWARD CURRENT DERATING CURVE

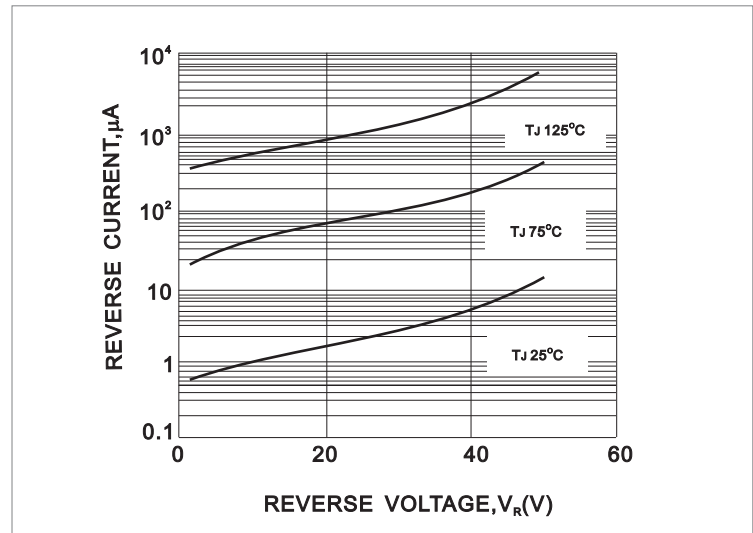


FIG. 2-TYPICAL REVERSE CHARACTERISTIC

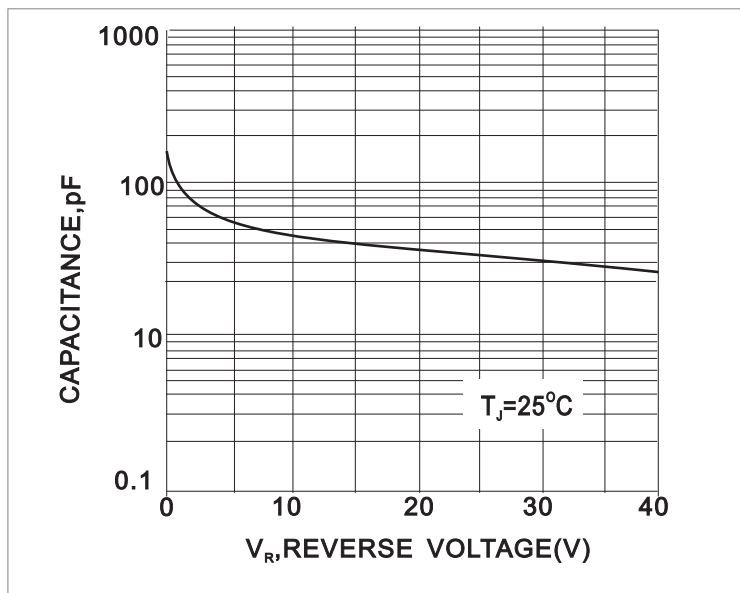


FIG. 3-TYPICAL JUNCTION CHARACTERISTIC

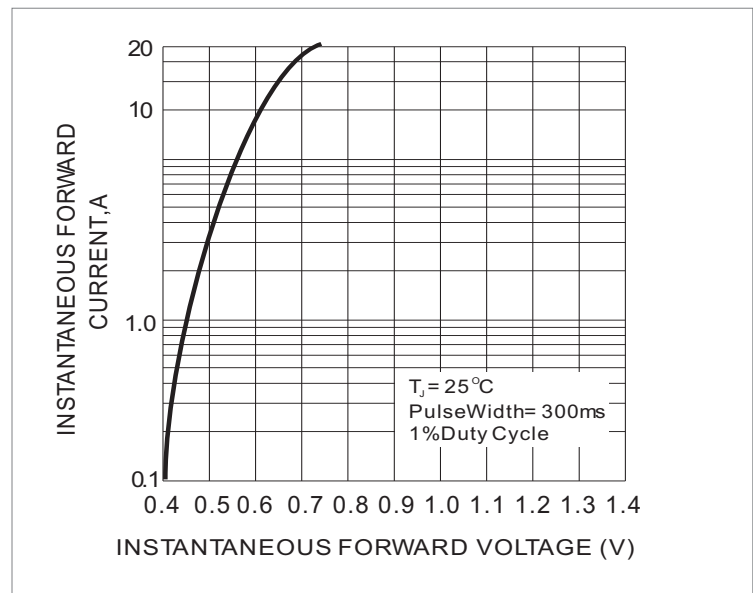


FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

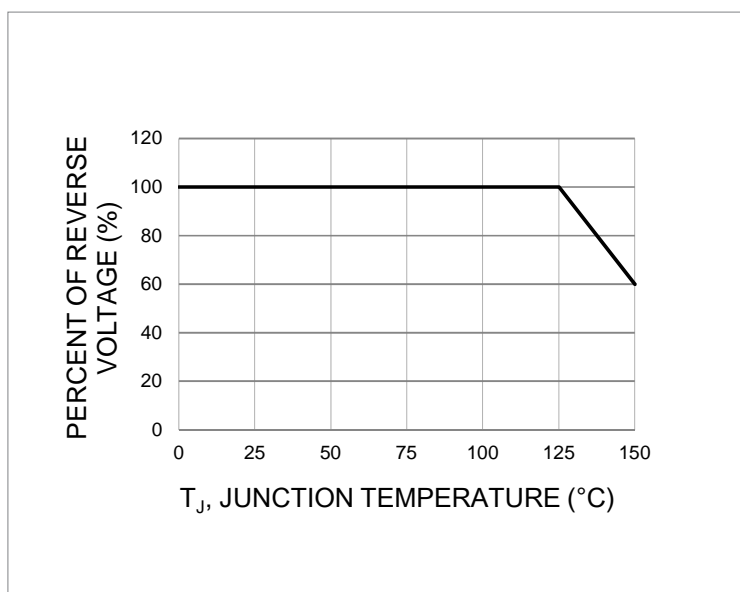


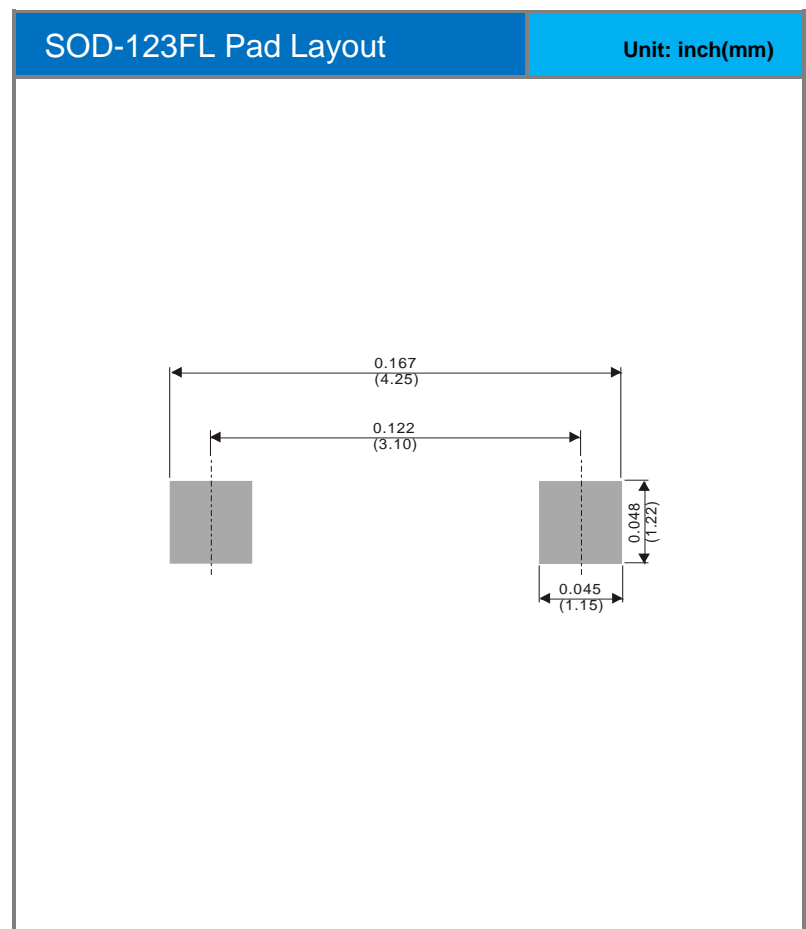
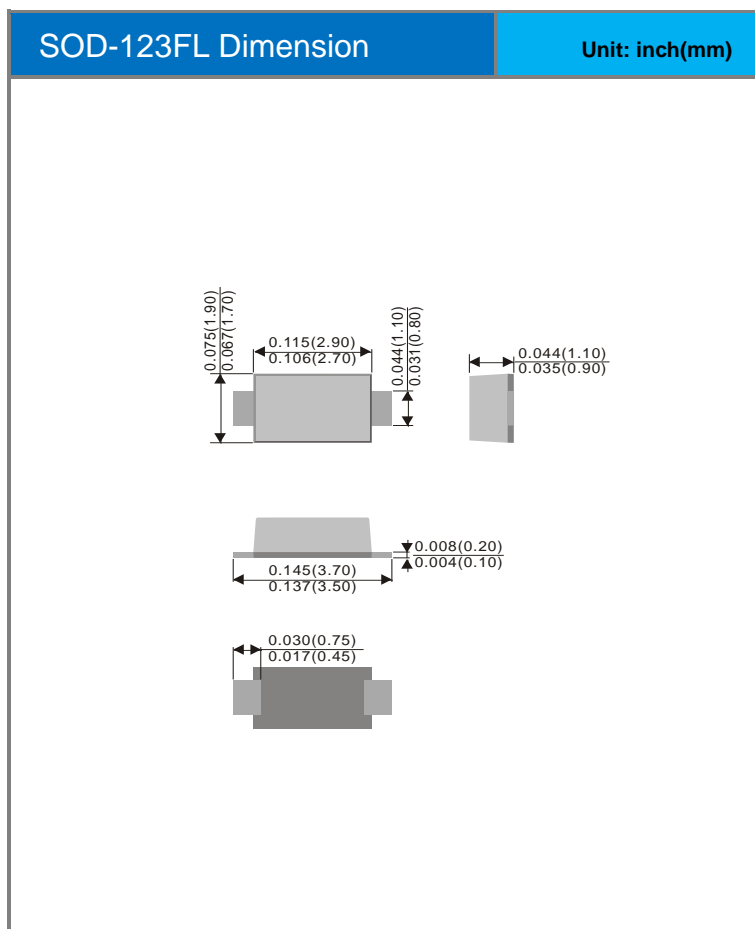
FIG. 5-OPERATING TEMPERATURE DERATING CURVE

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### Product and Packing Information

| Part No.    | Package Type | Packing Type     | Marking |
|-------------|--------------|------------------|---------|
| SS2020FL-AU | SOD-123FL    | 3K pcs / 7" reel | GM      |
| SS2030FL-AU | SOD-123FL    | 3K pcs / 7" reel | GN      |
| SS2040FL-AU | SOD-123FL    | 3K pcs / 7" reel | GP      |

### Packaging Information & Mounting Pad Layout



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