



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

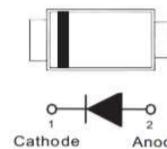
Applications

- 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_A = 25°C unless otherwise noted)

| PARAMETER | SYMBOL | SS2020FL-AU | SS2030FL-AU | SS2040FL-AU | UNIT |
|---|--------------------|-------------|-------------|-------------|------|
| Maximum Repetitive Peak Reverse Voltage | V _{RRM} | 20 | 30 | 40 | V |
| Maximum Rms Voltage | V _{RMS} | 14 | 21 | 28 | V |
| Maximum DC Blocking Voltage | V _R | 20 | 30 | 40 | V |
| Maximum Average Forward Rectified Current | I _{F(AV)} | | 2 | | A |
| Peak Forward Surge Current : 8.3ms Single Half Sine-Wave Superimposed On Rated Load | I _{FSM} | | 50 | | A |
| Typical Junction Capacitance Measured at 1 MHZ And Applied V _R = 4 V | C _J | | 100 | | pF |
| (Note 1) Typical Thermal Resistance (Note 2) | R _{θJA} | | 200 | | °C/W |
| | R _{θJC} | | 32 | | |
| Operating Junction Temperature Range | T _J | | -55 to +150 | | °C |
| Storage Temperature Range | T _{STG} | | -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 _F | I _F = 1A | T _J = 25 °C | 0.41 | - | 0.41 | - | 0.41 | - | V |
| | | I _F = 2A | | - | 0.5 | - | 0.5 | - | 0.5 | |
| | | I _F = 1A | T _J = 125 °C | 0.32 | - | 0.32 | - | 0.32 | - | |
| | | I _F = 2A | | 0.41 | - | 0.41 | - | 0.41 | - | |
| Reverse Current ^(Note 3) | I _R | V _R = 10V | T _J =25°C | 2 | - | 2 | - | 2 | - | uA |
| | | V _R = 20V | | - | 100 | 3 | - | 3 | - | |
| | | V _R = 30V | | - | - | - | 100 | 7 | - | |
| | | V _R = 40V | | - | - | - | - | - | 100 | |
| | | V _R = 20V | T _J = 125 °C | 3 | - | 3 | - | 3 | - | mA |
| | | V _R = 30V | | - | - | 5 | - | 5 | - | |
| | | V _R = 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 100cm² copper pad area.
 3. Short duration pulse test used to minimize self-heating effect.



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Rating and Characteristic Curves

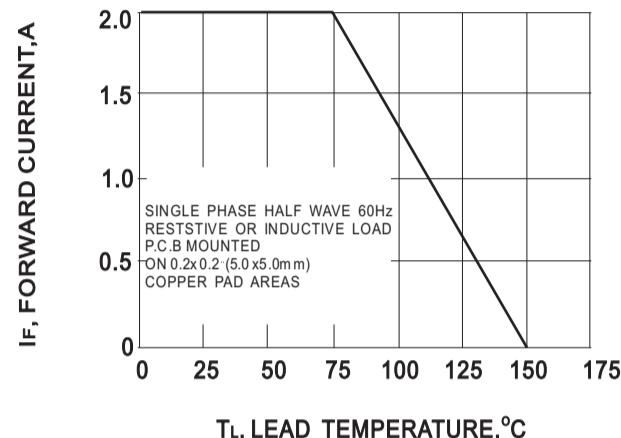


FIG. 1-FORWARD CURRENT DERATING CURVE

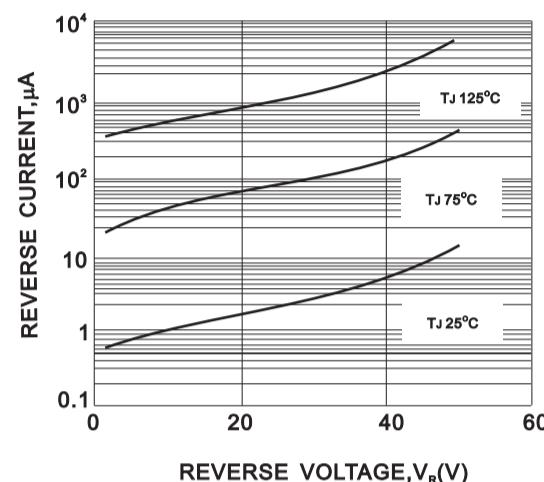


FIG. 2-TYPICAL REVERSE CHARACTERISTIC

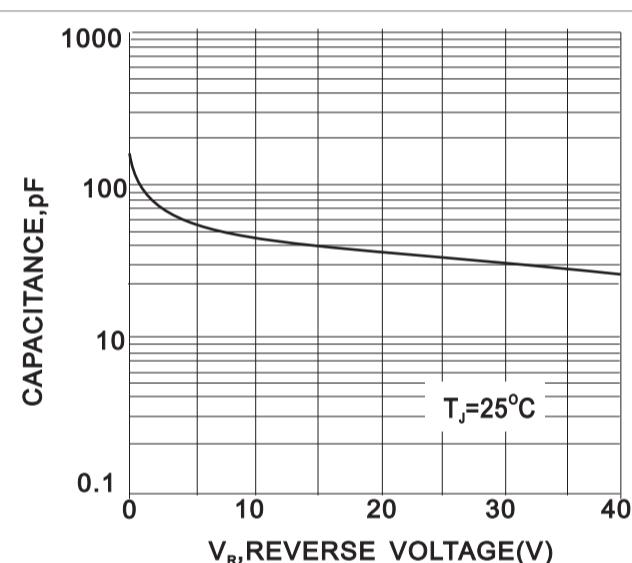


FIG. 3-TYPICAL JUNCTION CHAATERISTIC

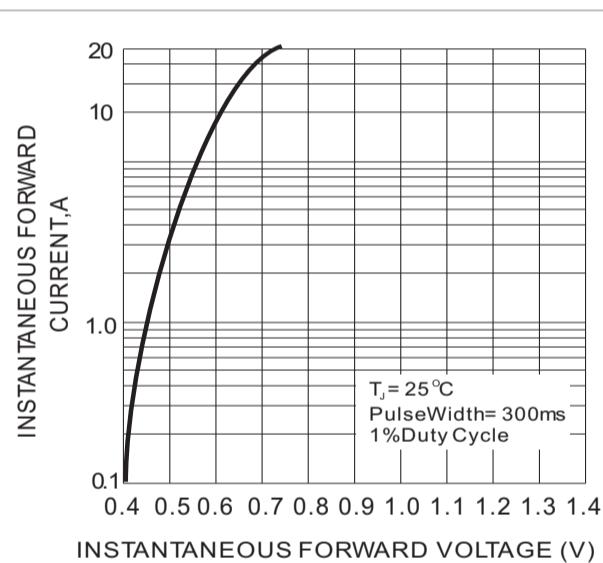


FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

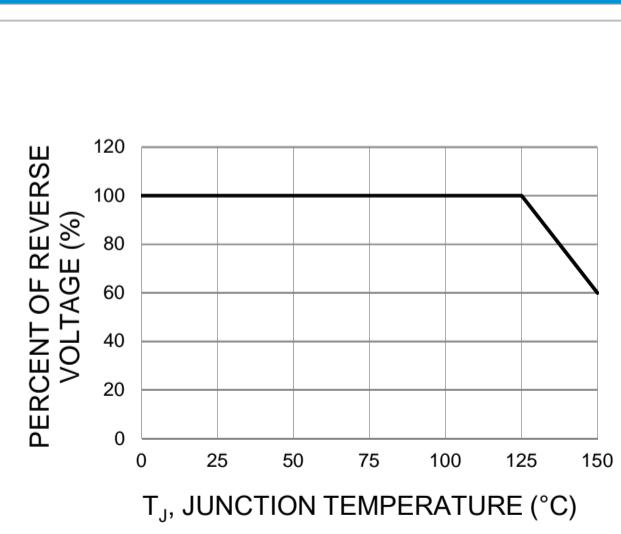


FIG. 5-OPERATING TEMPERATURE DERATING CURVE

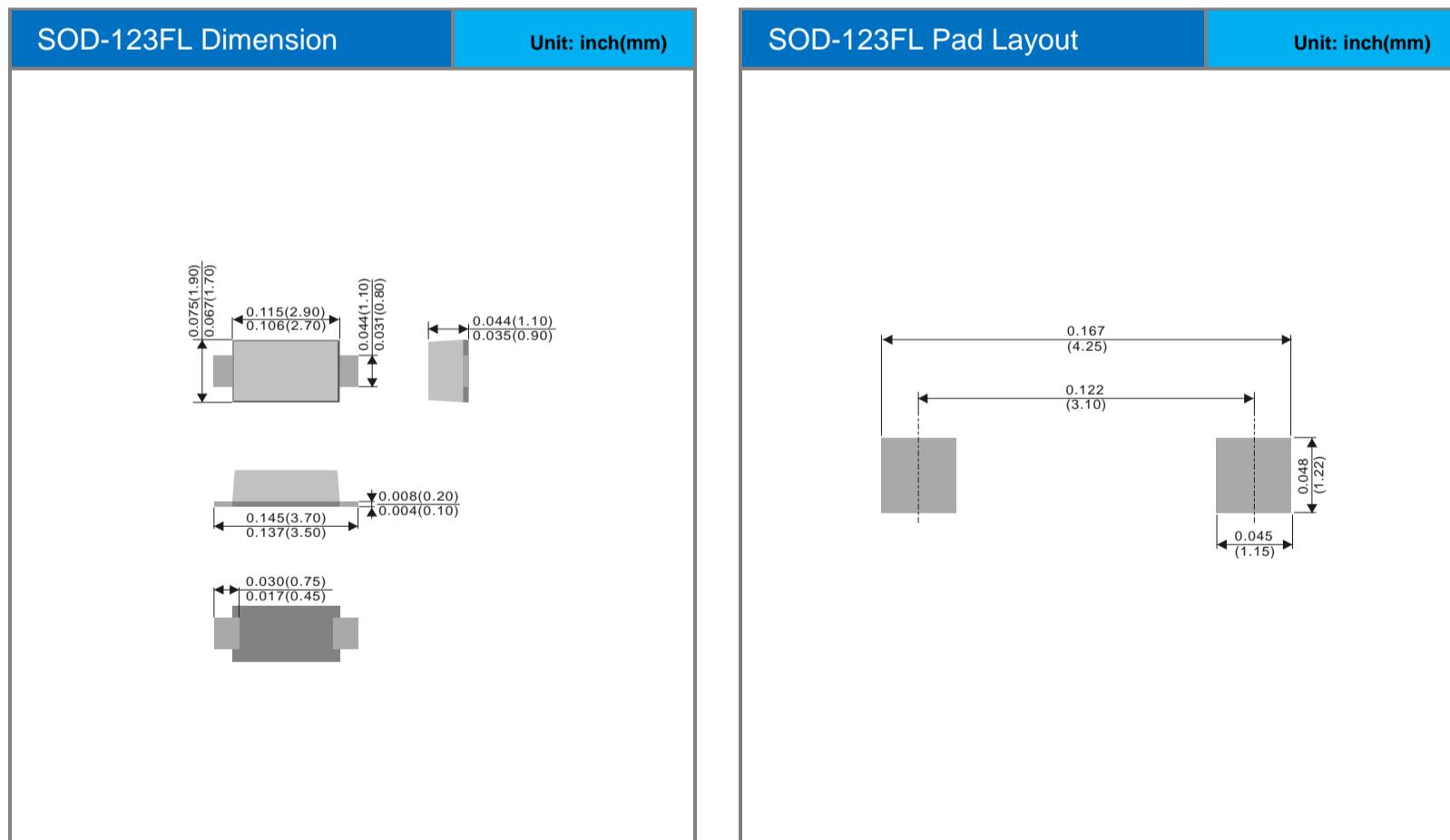


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Part No. Packing Code Version

| Part No. Packing Code | Package Type | Packing Type | Marking | Version |
|-----------------------|--------------|------------------|---------|--------------|
| SS2020FL-AU_R1_000A1 | SOD-123FL | 3K pcs / 7" reel | GM | Halogen free |
| SS2030FL-AU_R1_000A1 | SOD-123FL | 3K pcs / 7" reel | GN | Halogen free |
| SS2040FL-AU_R1_000A1 | SOD-123FL | 3K pcs / 7" reel | GP | Halogen free |

Packaging Information & Mounting Pad Layout





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