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January 2015

# SS12 - S100 Schottky Rectifier

## Features

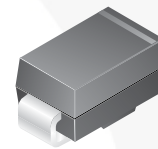
- Glass-Passivated Junctions
- High-Current Capability, Low  $V_F$

## Applications

- Low Voltage
- High-Frequency Inverters
- Free Wheeling
- Polarity Protection

## Description

The SS12-S100 series includes high-efficiency, low power loss, general-purpose schottky rectifiers. The clip-bonded leg structure provides high thermal performance and low electrical resistance. These rectifiers are suited for free wheeling, secondary rectification, and reverse polarity protection applications.



**SMA/DO-214AC**

COLOR BAND DENOTES CATHODE

## Ordering Information

| Part Number | Top Mark | Package        | Packing Method |
|-------------|----------|----------------|----------------|
| SS12        | SS12     | DO-214AC (SMA) | Tape and Reel  |
| SS13        | SS13     | DO-214AC (SMA) | Tape and Reel  |
| SS14        | SS14     | DO-214AC (SMA) | Tape and Reel  |
| SS15        | SS15     | DO-214AC (SMA) | Tape and Reel  |
| SS16        | SS16     | DO-214AC (SMA) | Tape and Reel  |
| SS18        | SS18     | DO-214AC (SMA) | Tape and Reel  |
| SS19        | SS19     | DO-214AC (SMA) | Tape and Reel  |
| S100        | S100     | DO-214AC (SMA) | Tape and Reel  |

## Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

| Symbol      | Parameter  | Value       |      |      |      |      |      |      |      | Unit             |
|-------------|--|-------------|------|------|------|------|------|------|------|------------------|
|             |  | SS12        | SS13 | SS14 | SS15 | SS16 | SS18 | SS19 | S100 |                  |
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage   | 20          | 30   | 40   | 50   | 60   | 80   | 90   | 100  | V                |
| $I_{F(AV)}$ | Maximum Average Forward Current:<br>0.375-inch Lead Length at $T_A = 75^\circ\text{C}$ | 1.0         |      |      |      |      |      |      |      | A                |
| $I_{FSM}$   | Non-Repetitive Peak Forward Surge<br>Current: 8.3 ms Single Half-Sine Wave             | 40          |      |      |      |      |      |      |      | A                |
| $T_{STG}$   | Storage Temperature Range  | -65 to +150 |      |      |      |      |      |      |      | $^\circ\text{C}$ |
| $T_J$       | Operating Junction Temperature   | -65 to +125 |      |      |      |      |      |      |      | $^\circ\text{C}$ |

## Thermal Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

| Symbol          | Parameter  | Value | Unit                      |
|-----------------|--|-------|---------------------------|
| $P_D$           | Power Dissipation                                      | 1.1   | W                         |
| $R_{\theta JA}$ | Thermal Resistance, Junction-to-Ambient <sup>(1)</sup> | 88    | $^\circ\text{C}/\text{W}$ |

### Note:

1. Device mounted on FE-4 PCB 0.013 mm.

## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

| Symbol | Parameter                              | Conditions                | Value |      |      |      |      |      |      | Unit |
|--------|--|---------------------------|-------|------|------|------|------|------|------|------|
|        |  |                           | SS12  | SS13 | SS14 | SS15 | SS16 | SS18 | SS19 |      |
| $V_F$  | Maximum Forward Voltage                | $I_F = 1.0\text{ A}$      | 500   |      |      | 700  | 850  |      |      | mV   |
| $I_R$  | Maximum Reverse Current at Rated $V_R$ | $T_A = 25^\circ\text{C}$  | 0.2   |      |      |      |      |      |      | mA   |
|        |  | $T_A = 100^\circ\text{C}$ | 10    |      |      |      |      |      |      |      |

## Typical Performance Characteristics

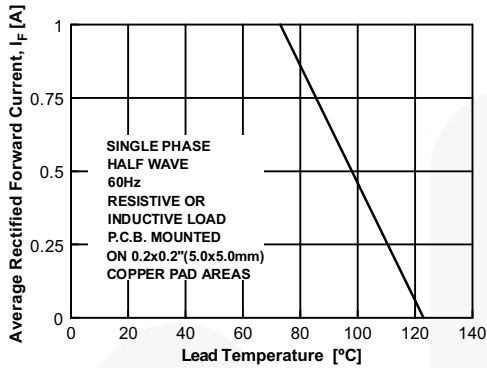


Figure 1. Forward Current Derating Curve

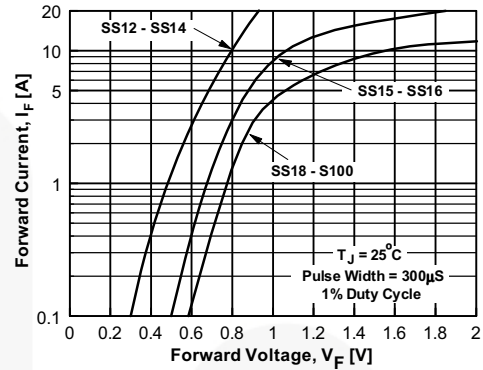


Figure 2. Forward Voltage Characteristics

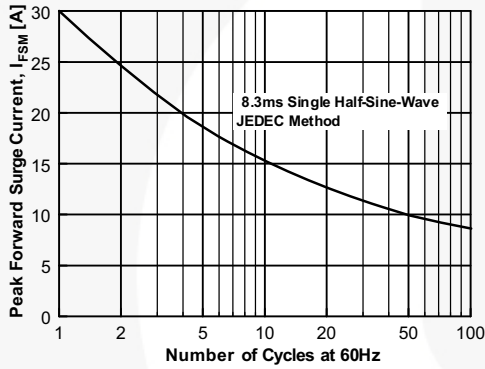


Figure 3. Non-Repetitive Surge Current

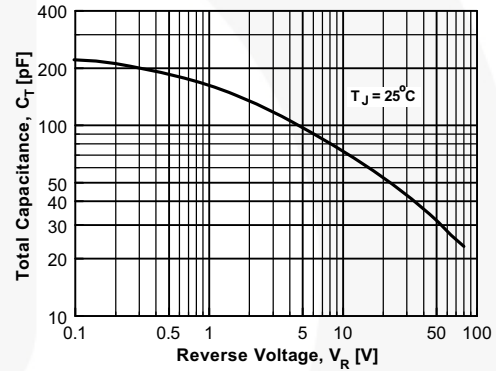


Figure 4. Total Capacitance

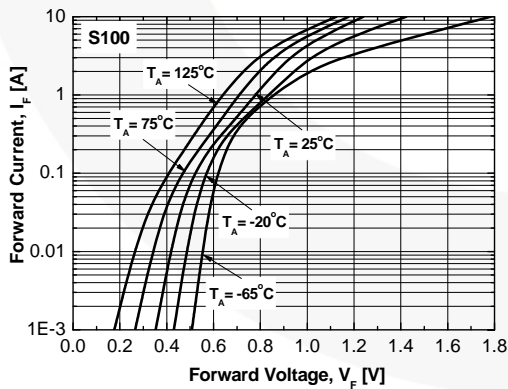
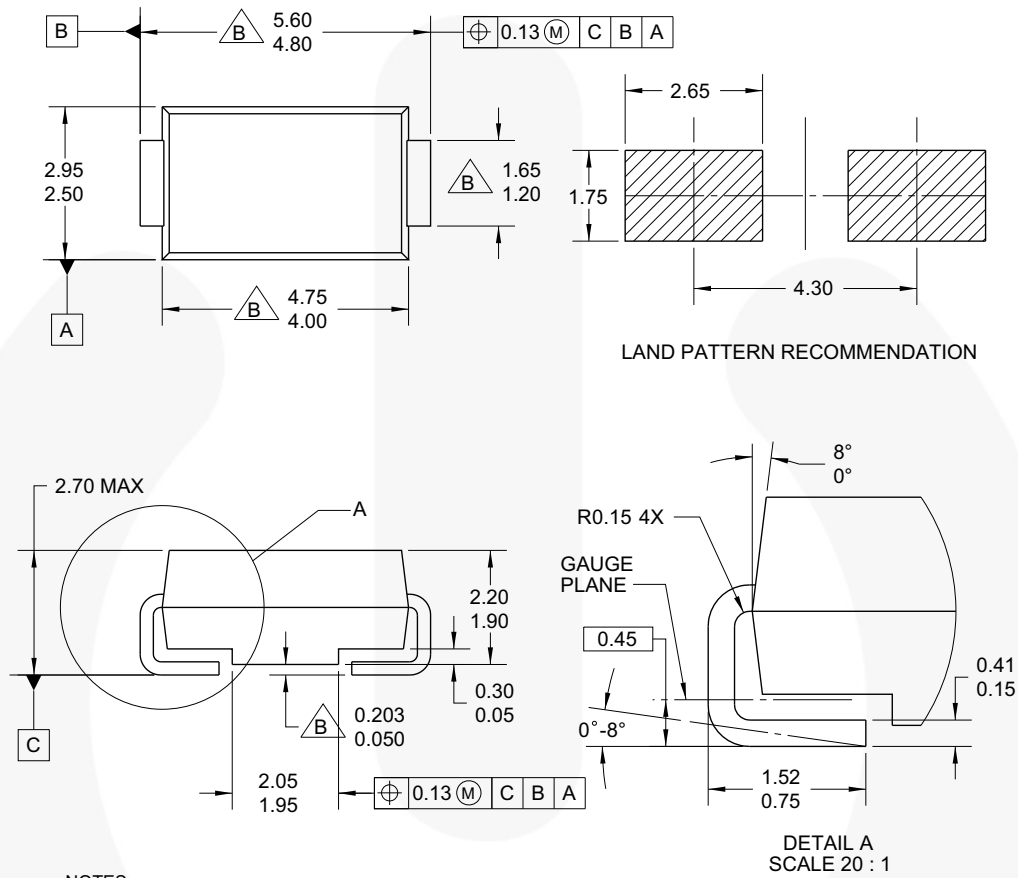


Figure 5. Low-Current Forward Voltage Characteristics

Physical Dimension



NOTES:






- A. EXCEPT WHERE NOTED CONFORMS TO JEDEC DO214 VARIATION AC.
- B. DOES NOT COMPLY JEDEC STD. VALUE.
- C. ALL DIMENSIONS ARE IN MILLIMETERS.
- D. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.
- E. DIMENSION AND TOLERANCE AS PER ASME Y14.5-1994.
- F. LAND PATTERN STD. DIOM5025X231M.
- G. DRAWING FILE NAME: DO214ACREV1

Figure 6. 2-LEAD, SMA, JEDEC DO-214, VARIATION AC



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