

SS12 - S100 Schottky Rectifier

Features

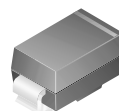
- Glass-Passivated Junctions
- High-Current Capability, Low V_F

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 | Marking | Package | Packing Method |
|-------------|---------|----------|----------------|
| SS12 | SS12 | DO-214AC | Tape and Reel |
| SS13 | SS13 | | |
| SS14 | SS14 | | |
| SS15 | SS15 | | |
| SS16 | SS16 | | |
| SS18 | SS18 | | |
| SS19 | SS19 | | |
| S100 | S100 | | |

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 | | | | | | | | Units |
|-------------|----------------------------------------------------------------------------------------|-------------|------|------|------|------|------|------|------|------------------|
| | | 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: 0.375-inch Lead Length at $T_A = 75^\circ\text{C}$ | 1.0 | | | | | | | | A |
| I_{FSM} | Non-Repetitive Peak Forward Surge 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

| Symbol | Parameter | Value | Units |
|-----------------|--------------------------------------------------------|-------|-------|
| P_D | Power Dissipation | 1.1 | W |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient ⁽¹⁾ | 88 | °C/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 | Test Conditions | Value | | | | | | | Units |
|--------|--------------------------------|---------------------------|-------|------|------|------|------|------|------|-------|
| | | | SS12 | SS13 | SS14 | SS15 | SS16 | SS18 | SS19 | |
| V_F | Forward Voltage | $I_F = 1.0\text{ A}$ | 500 | | 700 | | 850 | | | mV |
| I_R | 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

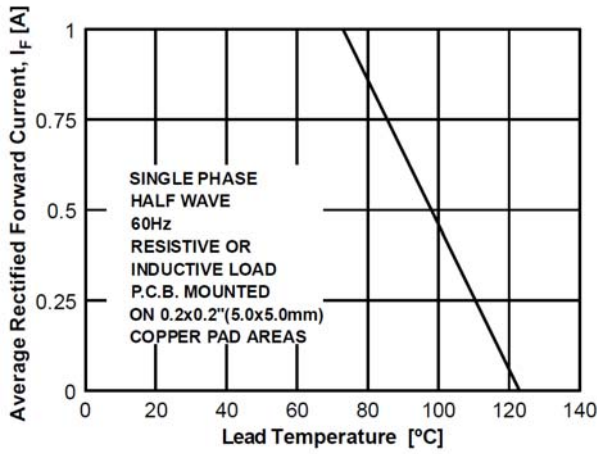


Figure 1. Forward Current Derating Curve

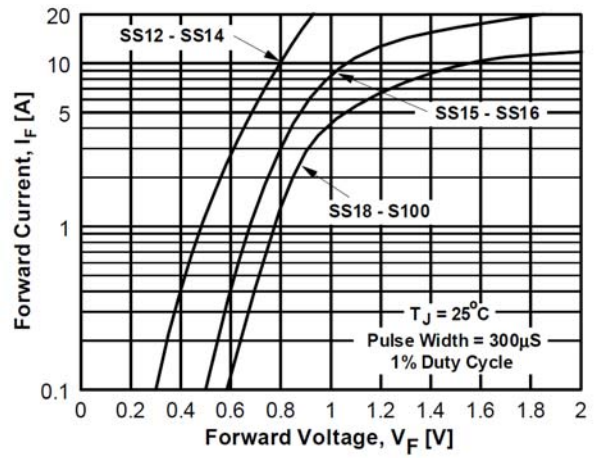


Figure 2. Forward Current Characteristics

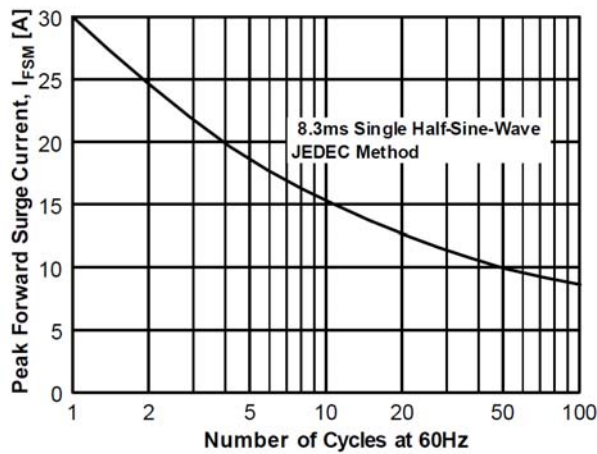


Figure 3. Non-Reverse Surge Current

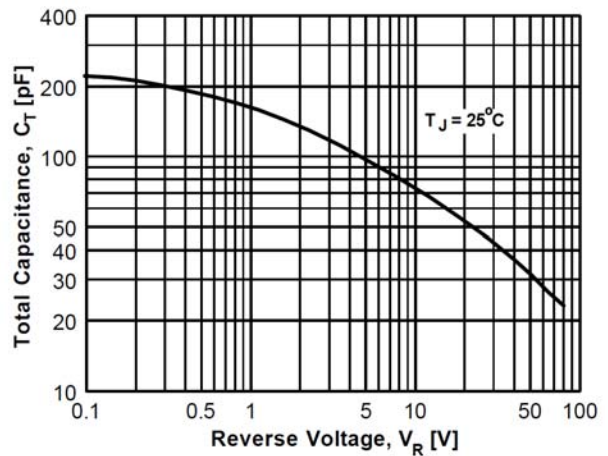







Figure 4. Total Capacitance



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