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FAIRCHILD SEMICONDUCTOR®

October 2013

# SS22 - S210
# Schottky Rectifier

## Features

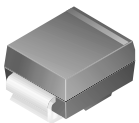
- Glass-Passivated Junctions
- High-Current Capability, Low $V_F$

## Applications

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

## Description

The SS22-S210 series includes high-efficiency, low power loss, general-propose Schottky rectifiers. The clip-bonded leg structure provides high thermal performance and low electrical resistance. These rectifier are suited for free wheeling, secondary rectification, and reverse polarity protection applications.



**SMB/DO-214AA**
COLOR BAND DENOTES CATHODE

## Ordering Information

| Part Number | Marking | Package | Packing Method |
|---|---|---|---|
| SS22 | SS22 | DO-214AA | Tape and Reel |
| SS23 | SS23 | | |
| SS24 | SS24 | | |
| SS25 | SS25 | | |
| SS26 | SS26 | | |
| SS28 | SS28 | | |
| SS29 | SS29 | | |
| S210 | S210 | | |

## 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°C unless otherwise noted.

| Symbol | Parameter | Value | | | | | | | | Units |
|---|---|---|---|---|---|---|---|---|---|---|
| | | SS22 | SS23 | SS24 | SS25 | SS26 | SS28 | SS29 | S210 | |
| $V_{RRM}$ | 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°C | 2.0 | | | | | | | | A |
| $I_{FSM}$ | Non-Repetitive Peak Forward Surge Current: 8.3 ms Single Half-Sine Wave | 50 | | | | | | | | A |
| $T_{STG}$ | Storage Temperature Range | -65 to +150 | | | | | | | | °C |
| $T_J$ | Operating Junction Temperature | -65 to +125 | | | | | | | | °C |

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## Thermal Characteristics[1]

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $P_D$ | Power Dissipation | 1.3 | W |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient[1] | 75 | °C/W |

**Note:**

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

## Electrical Characteristics

Values are at $T_A$ = 25°C unless otherwise noted.

| Symbol | Parameter | Test Conditions | Value | | | | | | | | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SS22 | SS23 | SS24 | SS25 | SS26 | SS28 | SS29 | S210 | |
| $V_F$ | Forward Voltage | $I_F$ = 2.0 A | 500 | | | 700 | | 850 | | | mV |
| $I_R$ | Reverse Current at Rated $V_R$ | $T_A$ = 25°C | 0.4 | | | | | | | | mA |
| | | $T_A$ = 100°C | 10 | | | | | | | | |

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## Typical Performance Characteristics

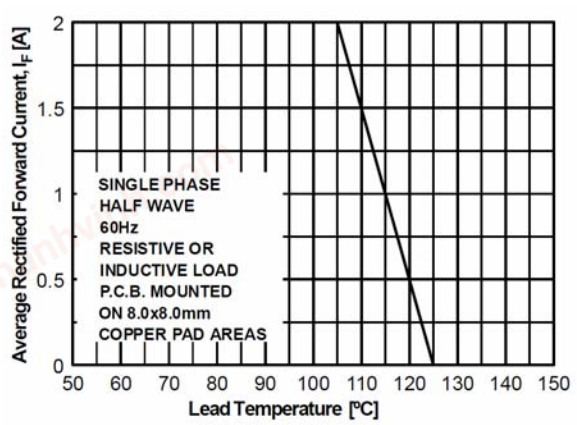



**Figure 1. Forward Current Derating Curve**

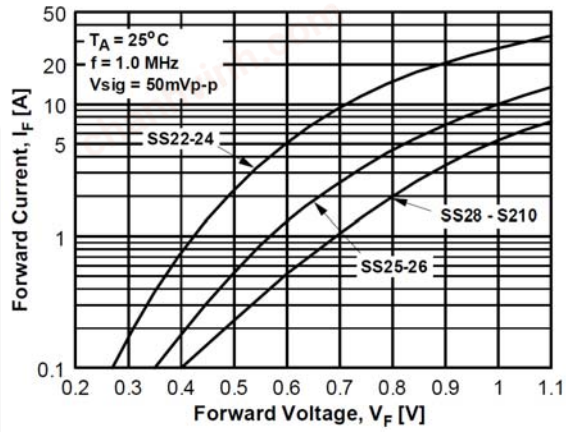



**Figure 2. Forward Current Characteristics**

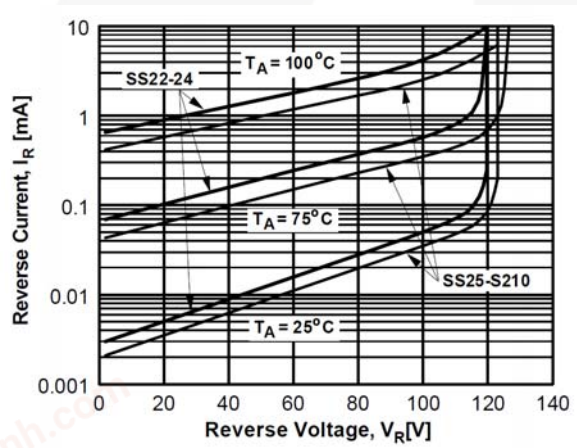



**Figure 3. Reverse Current vs. Reverse Voltage**

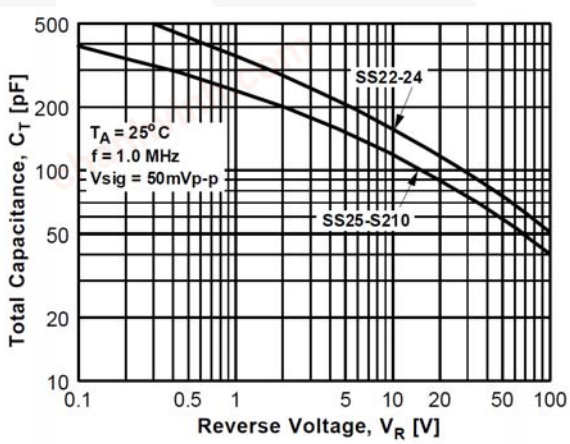



**Figure 4. Total Capacitance**

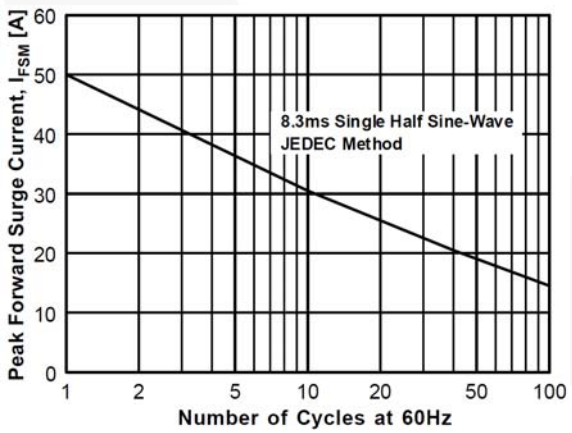



**Figure 5. Non-Repetitive Surge Current**

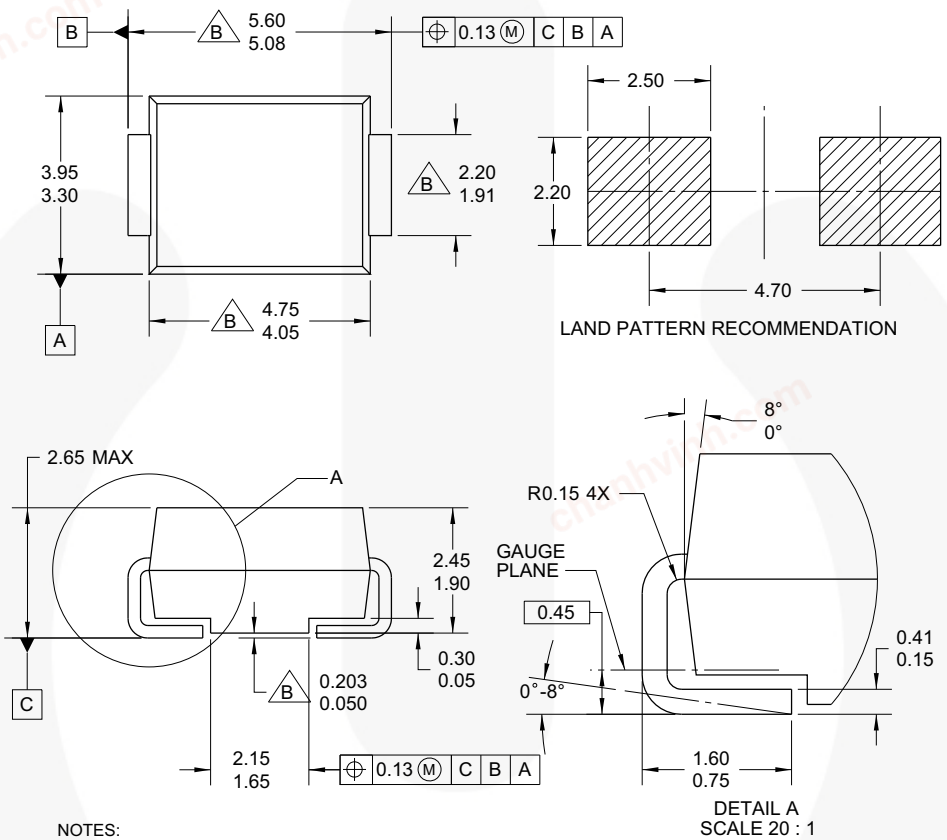
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## Physical Dimension

# DO-214AA




NOTES:

A. EXCEPT WHERE NOTED CONFORMS TO JEDEC DO214 VARIATION AA.
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. DIOM5336X240M.
G. DRAWING FILE NAME: DO214AAREV1

**Figure 6. 2-LEAD, SMB, JEDEC DO-214, VARIATION AA (ACTIVE)**

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