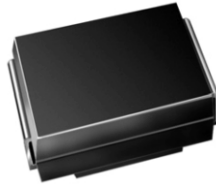


High Voltage Surface Mount Schottky Rectifier



DO-214AA (SMB)

FEATURES

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- Low forward voltage drop
- High surge capability
- Meets MSL level 1, per J-STD-020C, LF max peak of 260 °C
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



MAJOR RATINGS AND CHARACTERISTICS

| | |
|--------------------|-------------|
| $I_{F(AV)}$ | 1.5 A |
| V_{RRM} | 90 V, 100 V |
| I_{FSM} | 75 A |
| V_F | 0.71 V |
| $T_j \text{ max.}$ | 150 °C |

TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, free-wheeling, dc-to-dc converters, and polarity protection applications.

MECHANICAL DATA

Case: DO-214AA (SMB)

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

Polarity: Color band denotes the cathode end

MAXIMUM RATINGS ($T_A = 25\text{ °C}$ unless otherwise noted)

| PARAMETER | SYMBOL | SS29 | SS210 | UNIT |
|--|----------------|---------------|-------|------------------|
| Device marking code | | S9 | S10 | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 90 | 100 | V |
| Maximum RMS voltage | V_{RMS} | 63 | 70 | V |
| Maximum DC blocking voltage | V_{DC} | 90 | 100 | V |
| Maximum average forward rectified current (see Fig. 1) | $I_{F(AV)}$ | 1.5 | | A |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | I_{FSM} | 75 | | A |
| Peak repetitive reverse surge current at $t_p = 2\ \mu\text{s}$, 1 kHz | I_{RRM} | 1.0 | | A |
| Voltage rate of change (rated V_R) | dv/dt | 10000 | | V/ μs |
| Operating junction and storage temperature range | T_J, T_{STG} | - 55 to + 150 | | °C |

| ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) | | | | | |
|---|---|--------|------|-------|---------------------|
| PARAMETER | TEST CONDITIONS | SYMBOL | SS29 | SS210 | UNIT |
| Maximum instantaneous forward voltage at: ⁽¹⁾ | $I_F = 0.1\text{ A}, T_A = 25\text{ }^\circ\text{C}$ | V_F | 0.43 | | V |
| | $I_F = 1.0\text{ A}, T_A = 25\text{ }^\circ\text{C}$ | | 0.75 | | |
| | $I_F = 3.0\text{ A}, T_A = 25\text{ }^\circ\text{C}$ | | 0.95 | | |
| | $I_F = 1.5\text{ A}, T_A = 100\text{ }^\circ\text{C}$ | | 0.71 | | |
| | $I_F = 3.0\text{ A}, T_A = 100\text{ }^\circ\text{C}$ | | 0.85 | | |
| Maximum DC reverse current at rated V_R ⁽¹⁾ | $T_A = 25\text{ }^\circ\text{C}$ | I_R | 30 | | μA mA |
| | $T_A = 100\text{ }^\circ\text{C}$ | | 5 | | |

Note:

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

| THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) | | | | |
|--|-----------------|------|-------|--------------------|
| PARAMETER | SYMBOL | SS29 | SS210 | UNIT |
| Maximum thermal resistance ⁽¹⁾ | $R_{\theta JA}$ | 85 | | $^\circ\text{C/W}$ |
| | $R_{\theta JL}$ | 25 | | |

Note:

(1) P.C.B. mounted with 0.2 x 0.2" (5.0 x 5.0 mm) copper pad areas

| ORDERING INFORMATION | | | | |
|----------------------|-----------------|------------------------|---------------|----------------------------------|
| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| SS210-E3/52T | 0.096 | 52T | 750 | 7" Diameter Plastic Tape & Reel |
| SS210-E3/5BT | 0.096 | 5BT | 3200 | 13" Diameter Plastic Tape & Reel |

RATINGS AND CHARACTERISTICS CURVES

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

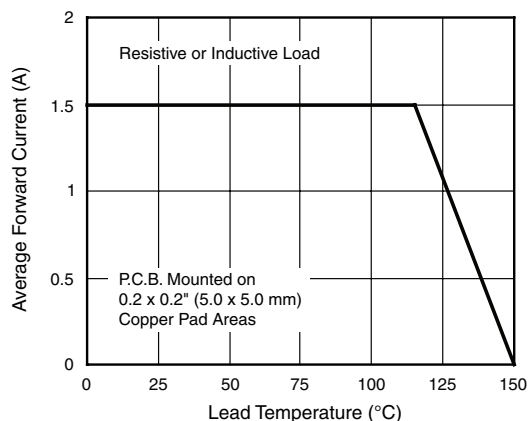


Figure 1. Forward Current Derating Curve

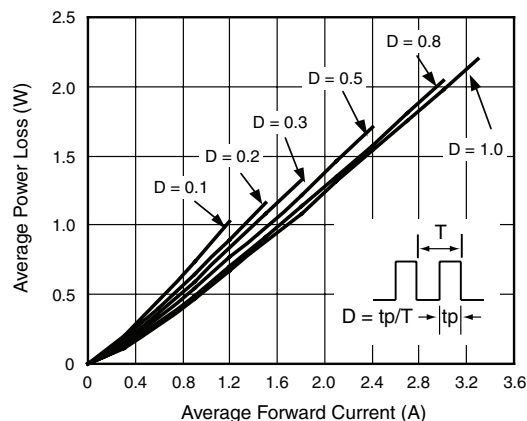


Figure 2. Forward Power Loss Characteristics

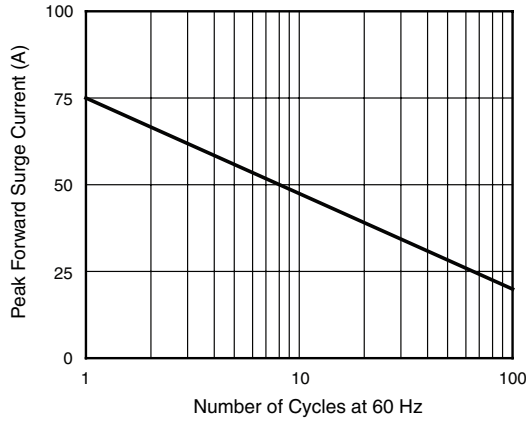


Figure 3. Maximum Non-Repetitive Peak Forward Surge Current

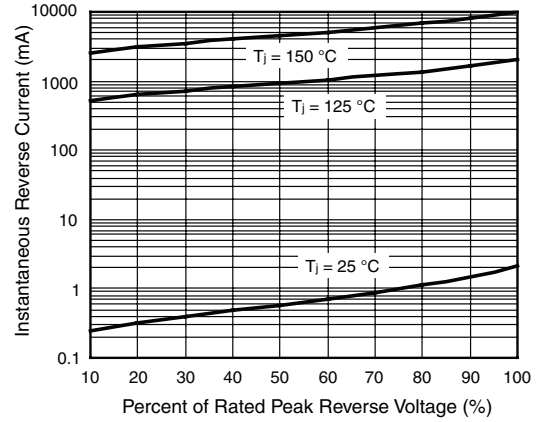


Figure 5. Typical Reverse Leakage Characteristics

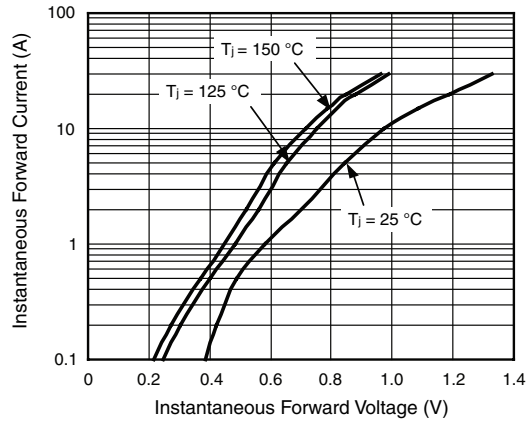


Figure 4. Typical Instantaneous Forward Characteristics

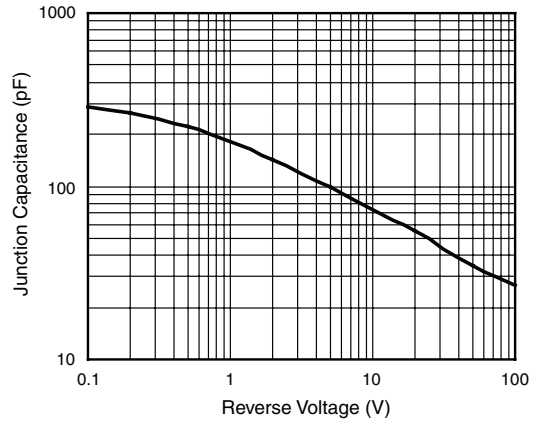
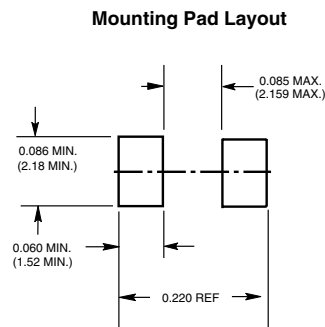
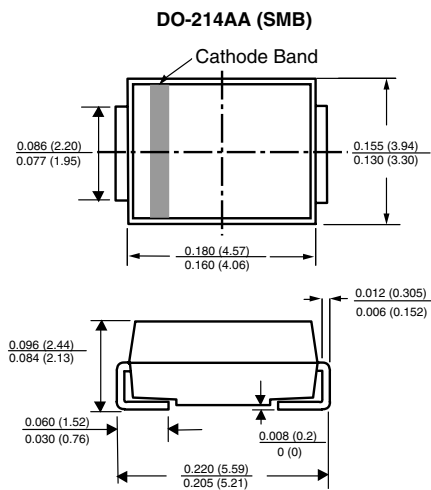


Figure 6. Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.