

High-Voltage Surface Mount Schottky Rectifier

High Barrier Technology for improved high temperature performance

Major Ratings and Characteristics

| | |
|-------------|-------------|
| $I_{F(AV)}$ | 2.0 A |
| V_{RRM} | 90 V, 100 V |
| I_{FSM} | 75 A |
| V_F | 0.65 V |
| I_R | 10 μ A |
| T_j max. | 175 °C |



DO-214AA (SMB)

Features

- Low profile package
- Guardring for overvoltage protection
- Ideal for automated placement
- Low power losses, high efficiency
- Low forward voltage drop
- Low leakage current
- High surge capability
- Meets MSL level 1, per J-STD-020C
- Solder Dip 260 °C 40 seconds



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

Typical Applications

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

Maximum Ratings

$T_A = 25$ °C unless otherwise specified#

| Parameter | Symbol | SS2H9 | SS2H10 | Unit |
|--|----------------|---------------|--------|------------|
| Device marking code | | MS9 | MS10 | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 90 | 100 | V |
| Working peak reverse voltage | V_{RWM} | 90 | 100 | V |
| Maximum DC blocking voltage | V_{DC} | 90 | 100 | V |
| Maximum average forward rectified current at: $T_L = 130$ °C | $I_{F(AV)}$ | 2.0 | | 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 $t_p = 2.0$ μ s, 1 KHz | I_{RRM} | 1.0 | | A |
| Voltage rate of change (rated V_R) | dv/dt | 10000 | | V/ μ s |
| Operating junction and storage temperature range | T_J, T_{STG} | - 65 to + 175 | | °C |

Electrical Characteristics

$T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified#

| Parameter | Test condition | Symbol | SS2H9 | SS2H10 | Unit |
|--|--|--------|-------|--------|---------------|
| Maximum instantaneous forward voltage at ⁽¹⁾ : | $I_F = 2.0\text{ A}$, $T_J = 25\text{ }^\circ\text{C}$ | V_F | 0.79 | | V |
| | $I_F = 2.0\text{ A}$, $T_J = 125\text{ }^\circ\text{C}$ | | 0.65 | | |
| Maximum DC reverse current at rated DC blocking voltage ⁽¹⁾ | $T_J = 25\text{ }^\circ\text{C}$ | I_R | 10 | | μA |
| | $T_J = 125\text{ }^\circ\text{C}$ | | 4 | | |

Notes:

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

Thermal Characteristics

$T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified

| Parameter | Symbol | SS2H9 | SS2H10 | Unit |
|--|-----------------|-------|--------|--------------------|
| Maximum thermal resistance junction to lead $T_L = 25\text{ }^\circ\text{C}^{(1)}$ | $R_{\theta JA}$ | 80 | | $^\circ\text{C/W}$ |
| | $R_{\theta JL}$ | 25 | | |

Notes:

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

Ratings and Characteristics Curves

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

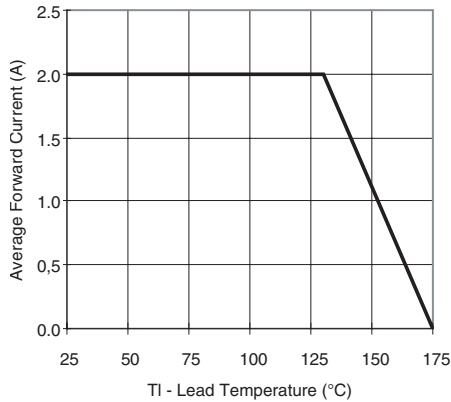


Figure 1. Forward Current Derating Curve

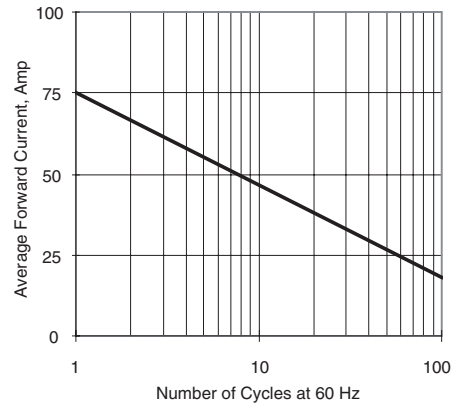


Figure 2. Max Non-Repetitive Peak FWD Surge Current

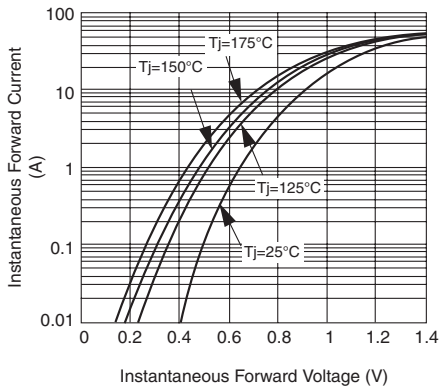


Figure 3. Typical Instantaneous Forward Characteristics

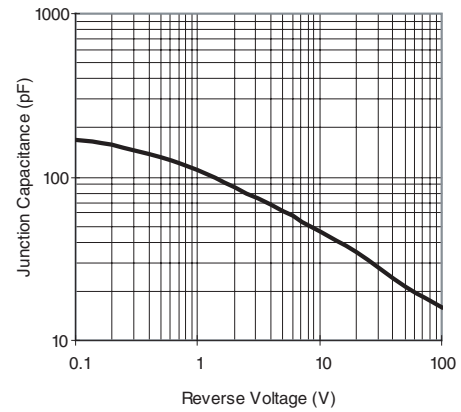


Figure 5. Typical Junction Capacitance

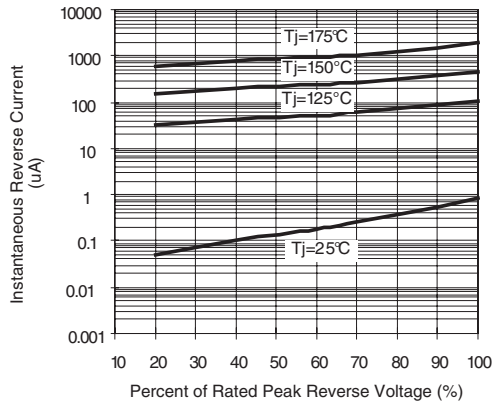


Figure 4. Typical Reverse Characteristics

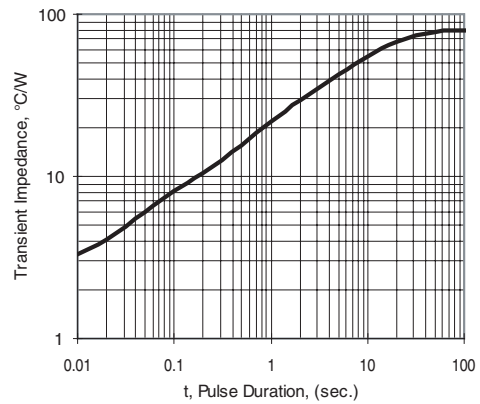


Figure 6. Typical Transient Thermal Impedance Per Leg

Package outline dimensions in inches (millimeters)

