

High-Voltage Surface Mount Schottky Rectifier

High Barrier Tecnology 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 mA
	$T_J = 125\text{ }^\circ\text{C}$		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)

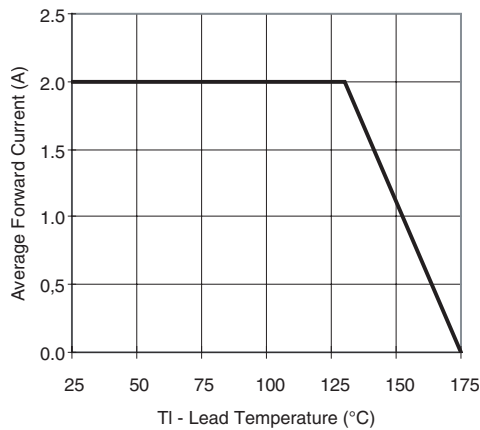


Figure 1. Forward Current Derating Curve

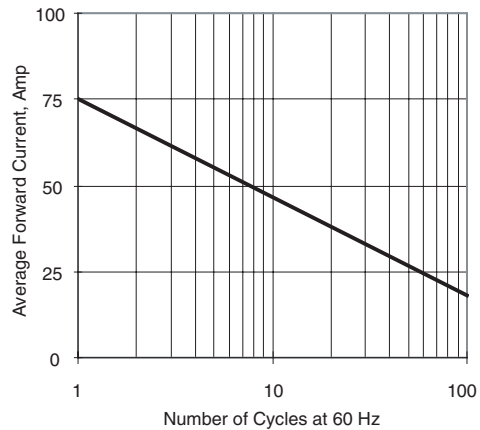


Figure 2. Max Non-Repetitive Peak FWD Surge Current

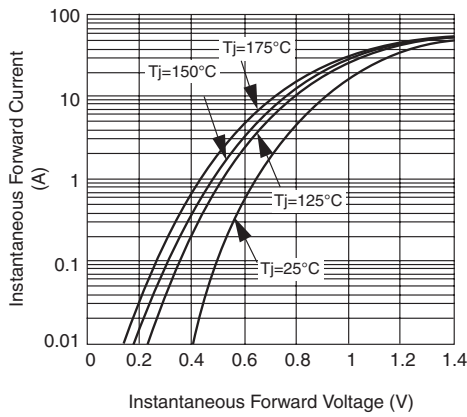


Figure 3. Typical Instantaneous Forward Characteristics

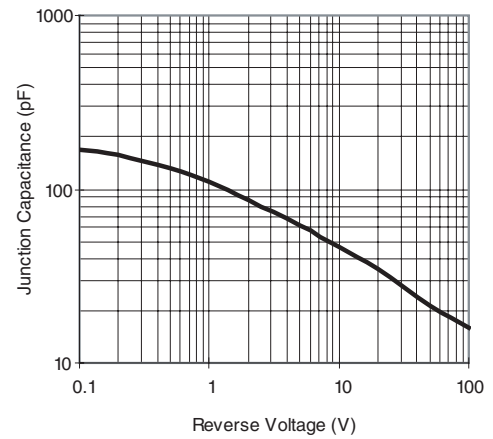


Figure 5. Typical Junction Capacitance

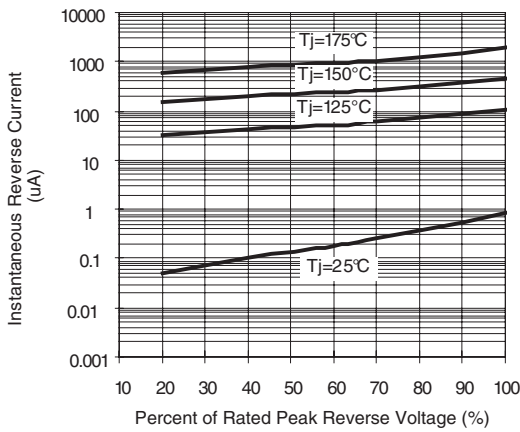


Figure 4. Typical Reverse Characteristics

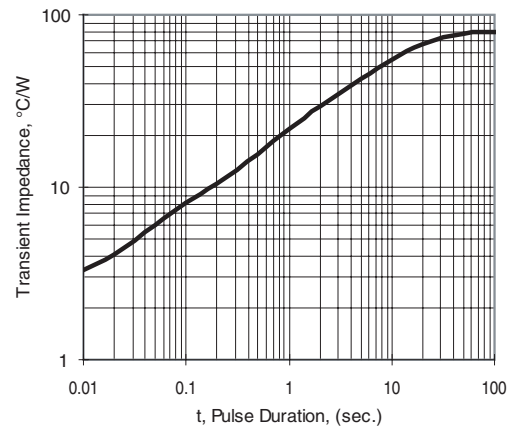


Figure 6. Typical Transient Thermal Impedance Per Leg

Package outline dimensions in inches (millimeters)

