High-Voltage Surface Mount Schottky Rectifier

High Barrier Tecnology for improved high temperature performance

DO-214AC (SMA)

Major Ratings and Characteristics

$I_{F(AV)}$	1.0 A
V_{RRM}	90 V to 100 V
I_{FSM}	50 A
V_F	0.62 V
I_R	1.0 µA
T_j max.	175 °C

Features

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- 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-214AC (SMA)

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	SS1H9	SS1H10	Unit
Device marking code		S9	S10	
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 (see Fig. 1)	$I_{F(AV)}$	1.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	50		A
Peak repetitive reverse surge current at t_p = 2.0 µs, 1 KHz	I_{RRM}	1.0		A
Storage temperature range	T_{STG}	- 65 to + 175		°C
Maximum operating temperature	T_J	175		°C

Electrical Characteristics

T_A = 25 °C unless otherwise specified#

Parameter	Test condition	Symbol	SS1H9	SS1H10	Unit
Maximum instantaneous forward voltage at: (1)	I_F = 1.0 A, T_J = 25 C I_F = 1.0 A, T_J = 125 °C I_F = 2.0 A, T_J = 25 °C I_F = 2.0 A, T_J = 125 °C	V_F	0.77 0.62 0.86 0.70		V
Maximum DC reverse current at rated DC blocking voltage(1)	T_J = 25 °C T_J = 125 °C	I_R	1.0 0.5		µA mA

Notes:

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

Thermal Characteristics

T_A = 25 °C unless otherwise specified

Parameter	Symbol	SS1H9	SS1H10	Unit
Maximum thermal resistance(1)	$R_{\theta JA}$ $R_{\theta JL}$	88 30		°C/W

Notes:

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

Ratings and Characteristics Curves

(T_A = 25 °C unless otherwise noted)

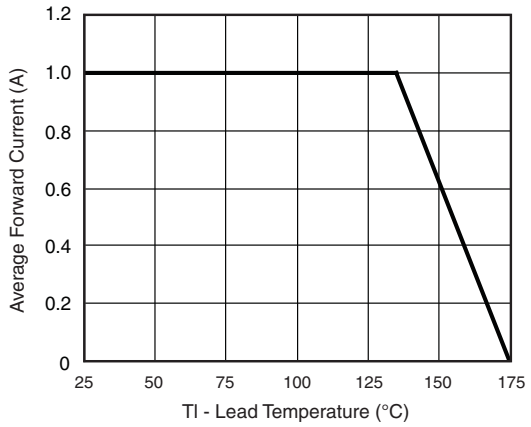


Figure 1. Forward Current Derating Curve

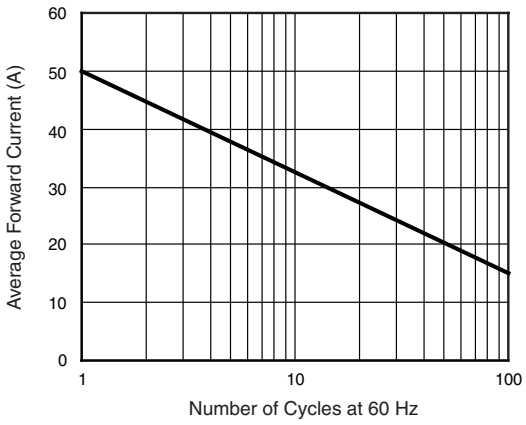


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

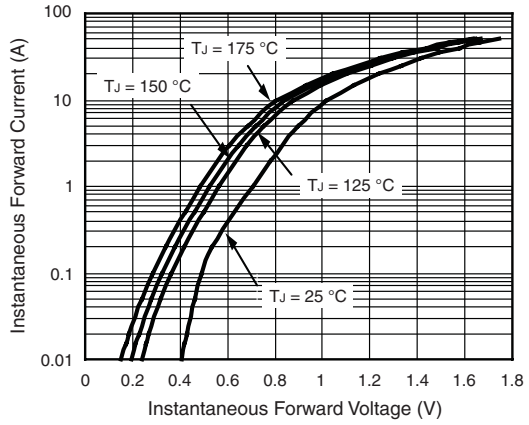


Figure 3. Typical Instantaneous Forward Characteristics

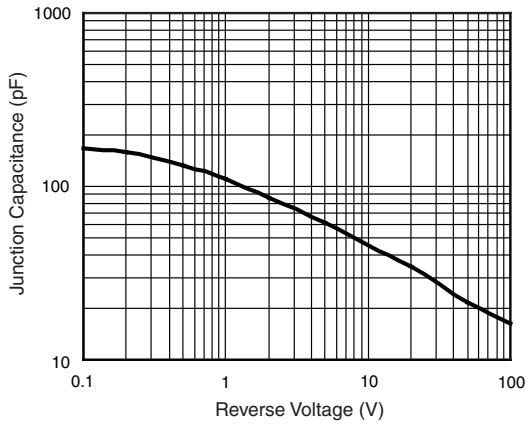


Figure 5. Typical Junction Capacitance

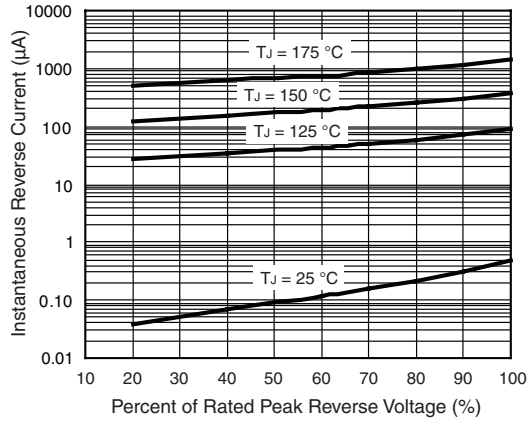


Figure 4. Typical Reverse Characteristics

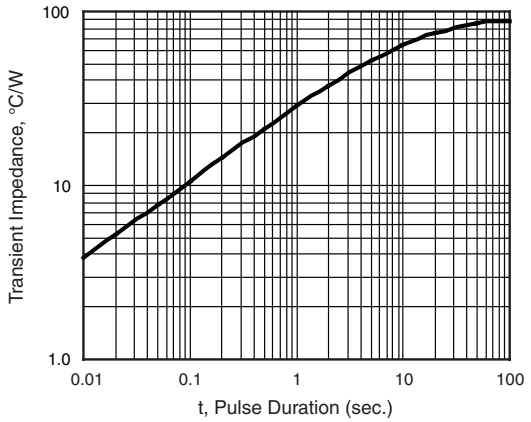
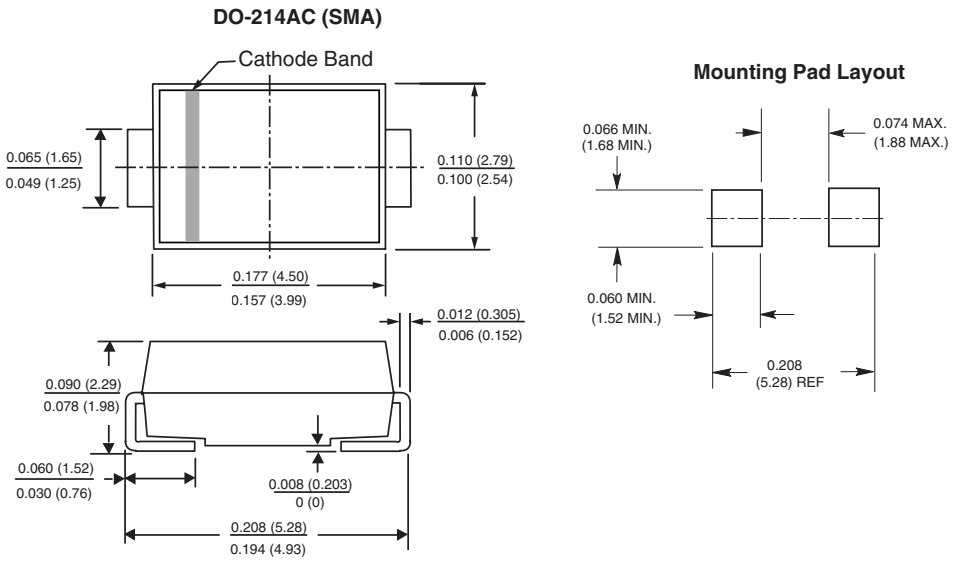


Figure 6. Typical Transient Thermal

Package outline dimensions in inches (millimeters)



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