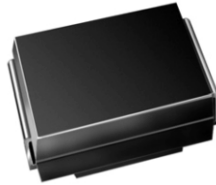


## High-Voltage Surface Mount Schottky Rectifier

High Barrier Technology for improved high temperature performance



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, 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**

$I_{F(AV)}$	2.0 A
$V_{RRM}$	90 V, 100 V
$I_{FSM}$	75 A
$V_F$	0.65 V
$I_R$	10 $\mu$ A
$T_j$ max.	175 °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** ( $T_A = 25$  °C unless otherwise noted)

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 $t_p = 2.0$ $\mu$ s, 1 kHz	$I_{RRM}$	1.0		A
Voltage rate of change (rated $V_R$ )	dv/dt	10000		V/ $\mu$ s
Operating junction and storage temperature range	$T_J, T_{STG}$	- 65 to + 175		°C

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)					
PARAMETER	TEST CONDITIONS	SYMBOL	SS2H9	SS2H10	UNIT
Maximum instantaneous forward voltage at <sup>(1)</sup> :	$I_F = 2.0\text{ A}$ , $T_j = 25\text{ }^\circ\text{C}$ $I_F = 2.0\text{ A}$ , $T_j = 125\text{ }^\circ\text{C}$	$V_F$	0.79 0.65		V
Maximum DC reverse current at rated DC blocking voltage <sup>(1)</sup>	$T_j = 25\text{ }^\circ\text{C}$ $T_j = 125\text{ }^\circ\text{C}$	$I_R$	10 4		$\mu\text{A}$ mA

**Note:**

(1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	SS2H9	SS2H10	UNIT
Maximum thermal resistance junction to lead $T_L = 25\text{ }^\circ\text{C}$ <sup>(1)</sup>	$R_{\theta JA}$ $R_{\theta JL}$	80 25		$^\circ\text{C/W}$

**Note:**

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

<b>ORDERING INFORMATION</b>				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SS2H9-E3/52T	0.096	52T	750	7" Diameter Plastic Tape & Reel
SS2H9-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)

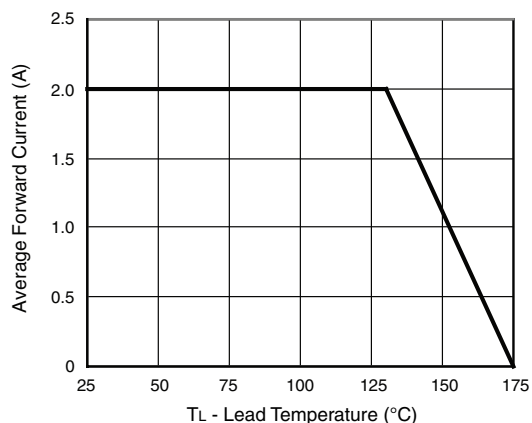


Figure 1. Forward Current Derating Curve

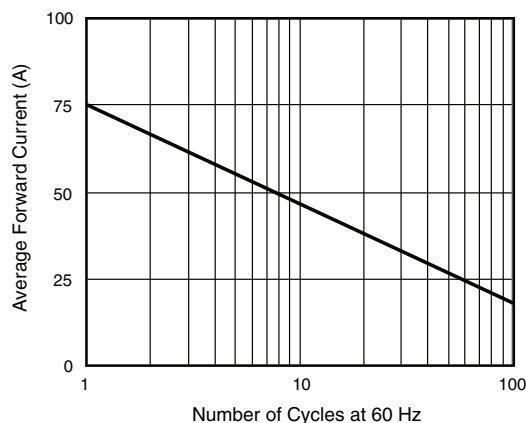


Figure 2. Max Non-Repetitive Peak Forward Surge Current

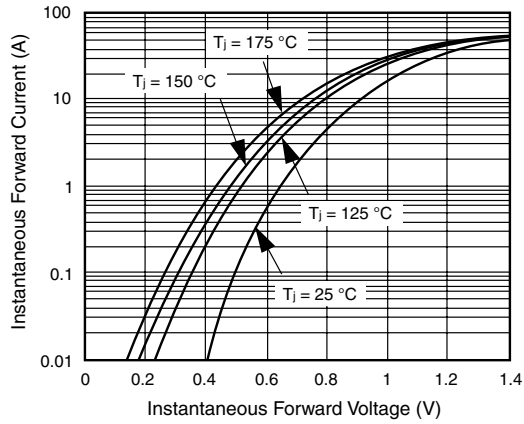


Figure 3. Typical Instantaneous Forward Characteristics

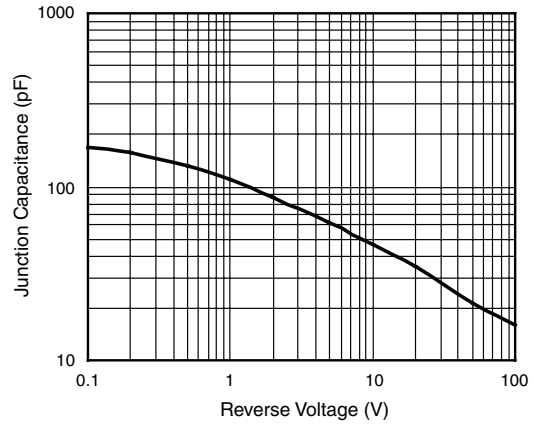


Figure 5. Typical Junction Capacitance

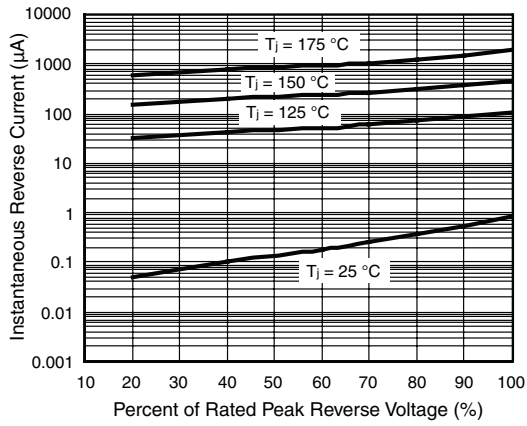


Figure 4. Typical Reverse Characteristics

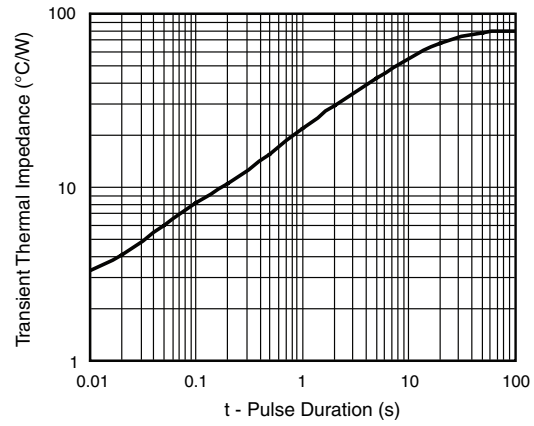
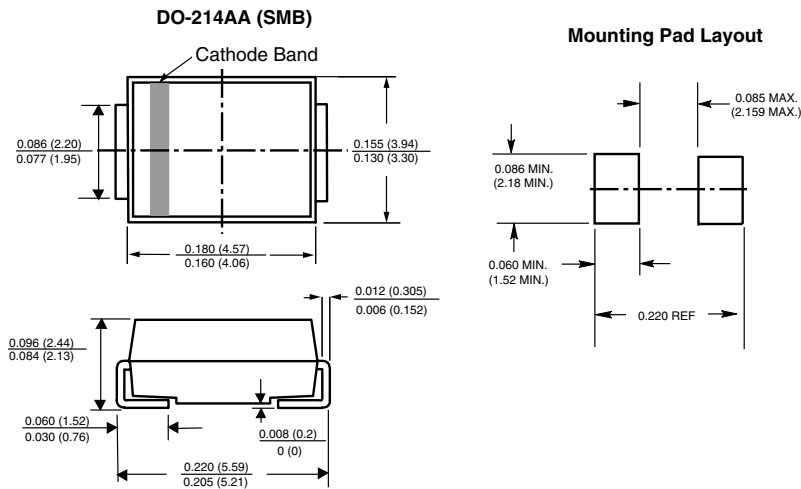


Figure 6. Typical Transient Thermal Impedance Per Leg

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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