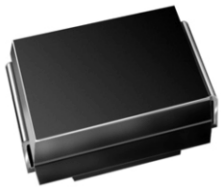
High-Voltage Surface Mount Schottky Rectifier

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 µA
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 µs, 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}	- 65 to + 175		°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)					
PARAMETER	**TEST CONDITIONS**	**SYMBOL**	**SS2H9**	**SS2H10**	**UNIT**
Maximum instantaneous forward voltage at (1):	I_F = 2.0 A, T_j = 25 °C I_F = 2.0 A, T_j = 125 °C	V_F	0.79 0.65		V
Maximum DC reverse current at rated DC blocking voltage (1)	T_j = 25 °C T_j = 125 °C	I_R	10 4		µA mA

Note:

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

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)				
PARAMETER	**SYMBOL**	**SS2H9**	**SS2H10**	**UNIT**
Maximum thermal resistance junction to lead T_L = 25 °C (1)	$R_{\theta JA}$ $R_{\theta JL}$	80 25		°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

ORDERING INFORMATION (Example)				
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
SS2H9HE3/52T(1)	0.096	52T	750	7" Diameter Plastic Tape & Reel
SS2H9HE3/5BT(1)	0.096	5BT	3200	13" Diameter Plastic Tape & Reel

Note:

(1) Automotive grade AEC Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

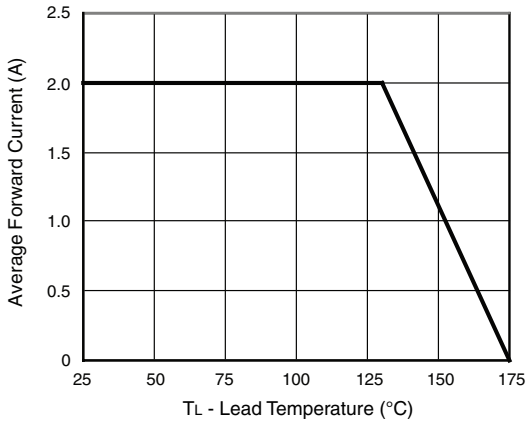


Figure 1. Forward Current Derating Curve

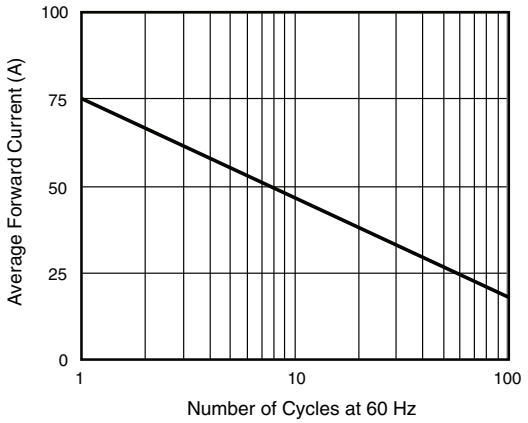


Figure 2. Max Non-Repetitive Peak Forward Surge Current

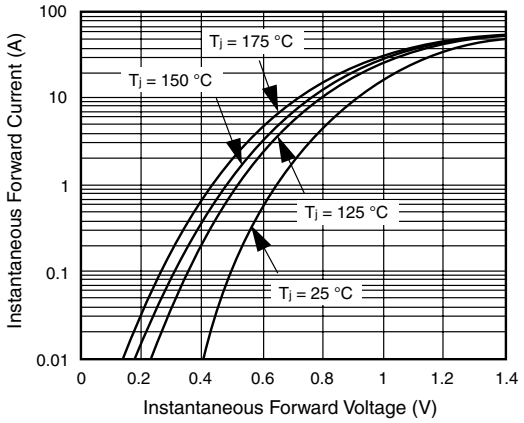


Figure 3. Typical Instanteous Forward Characteristics

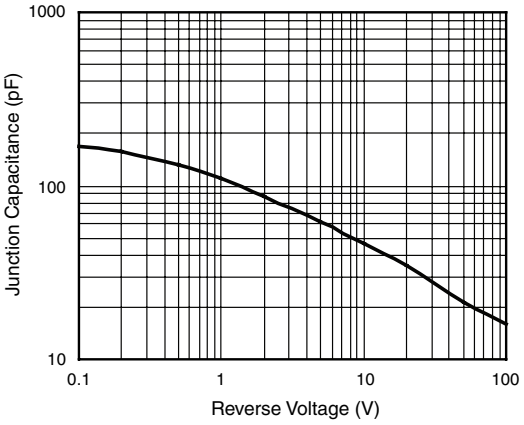


Figure 5. Typical Junction Capacitance

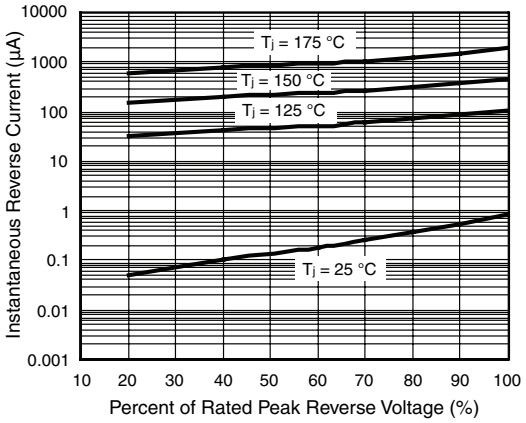


Figure 4. Typical Reverse Characteristics

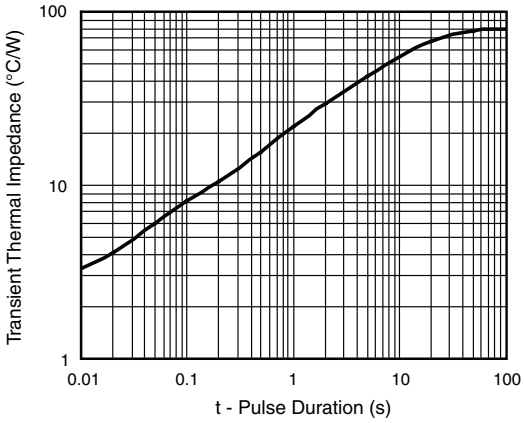
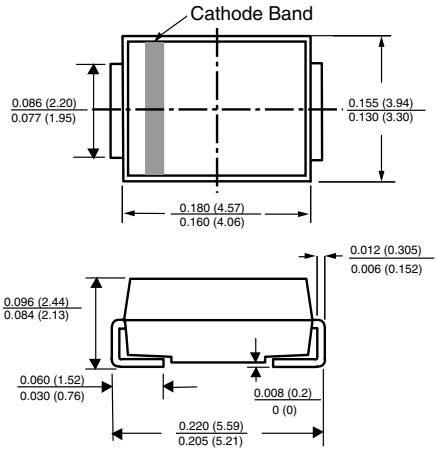


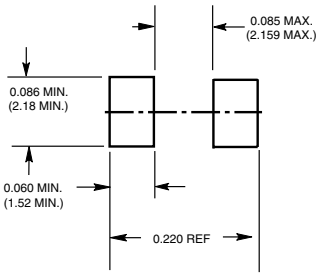
Figure 6. Typical Transient Thermal Impedance Per Leg

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-214AA (SMB)



Mounting Pad Layout



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