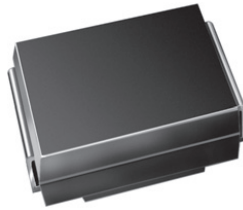


Surface Mount Schottky Barrier Rectifier



DO-214AA (SMB)

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2.0 A
V_{RRM}	20 V to 60 V
I_{FSM}	75 A
V_F	0.50 V, 0.70 V
T_J max.	125 °C, 150 °C

FEATURES

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- Low forward voltage drop
- High surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC


RoHS
COMPLIANT

TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, freewheeling, 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-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

MAXIMUM RATINGS ($T_A = 25\text{ °C}$ unless otherwise noted)								
PARAMETER	SYMBOL	SS22	SS23	SS24	SS25	SS26	UNIT	
Device marking code		S2	S3	S4	S5	S6		
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	V	
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	V	
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	V	
Max. average forward rectified current at T_L (Fig. 1)	$I_{F(AV)}$	2.0						A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	75						A
Non-repetitive avalanche energy at $T_A = 25\text{ °C}$, $I_{AS} = 2.0\text{ A}$, $L = 10\text{ mH}$	E_{AS}	20						mJ
Electrostatic discharge capacitor voltage Human body model: $C = 100\text{ pF}$, $R = 1.5\text{ k}\Omega$	VC	8.0						KV
Voltage rate of change (rated V_R)	dV/dt	10 000						V/ μ s
Operating junction temperature range	T_J	- 65 to + 125			- 65 to + 150			°C
Storage temperature range	T_{STG}	- 65 to + 150						°C



ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER	TEST CONDITIONS	SYMBOL	SS22	SS23	SS24	SS25	SS26	UNIT
Maximum instantaneous forward voltage ⁽¹⁾	2.0 A	V _F	0.5			0.7		V
Maximum DC reverse current at rated DC blocking voltage ⁽¹⁾	T _A = 25 °C T _A = 100 °C	I _R	0.4			10		mA

Note:

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

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	SS22	SS23	SS24	SS25	SS26	UNIT	
Typical thermal resistance ⁽¹⁾	R _{θJA} R _{θJL}	75			17		°C/W	

Note:

(1) P.C.B. mounted with 0.55 x 0.55" (14 x 14 mm) copper pad areas

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SS24-E3/52T	0.096	52T	750	7" diameter plastic tape and reel
SS24-E3/5BT	0.096	5BT	3200	13" diameter plastic tape and reel
SS24HE3/52T ⁽¹⁾	0.096	52T	750	7" diameter plastic tape and reel
SS24HE3/5BT ⁽¹⁾	0.096	5BT	3200	13" diameter plastic tape and reel

Note:

(1) Automotive grade AEC Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

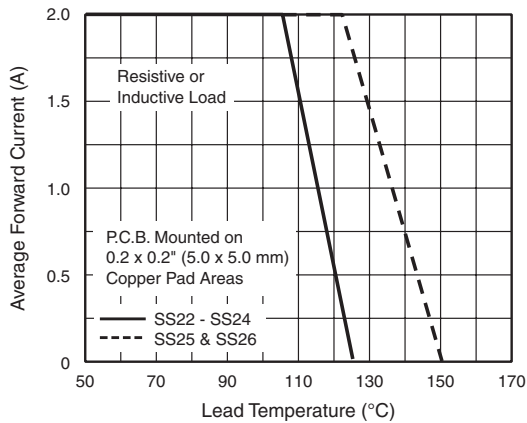


Figure 1. Forward Current Derating Curve

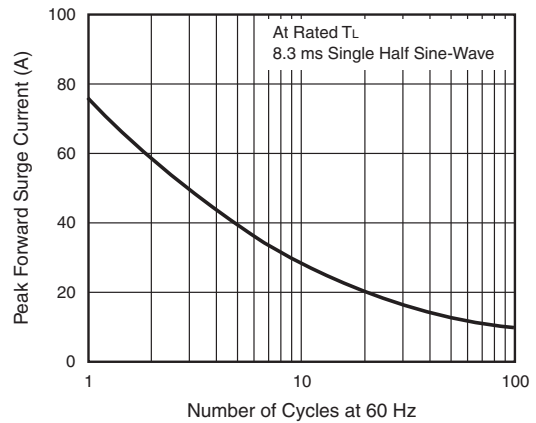


Figure 2. Maximum Non-Repetitive Surge Current

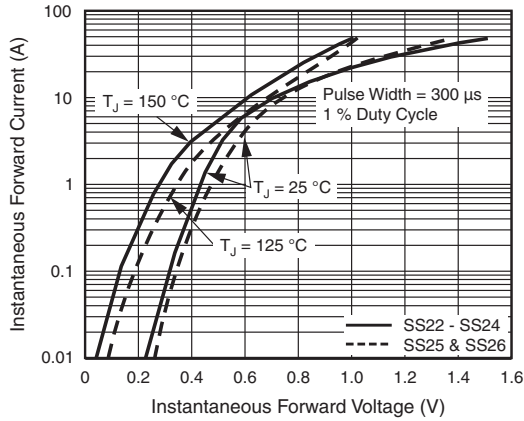


Figure 3. Typical Instantaneous Forward Characteristics

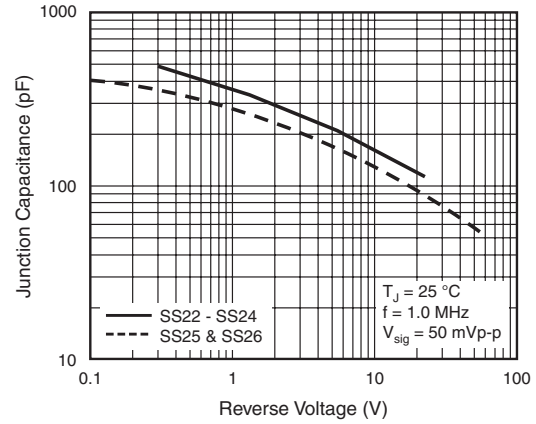


Figure 5. Typical Junction Capacitance

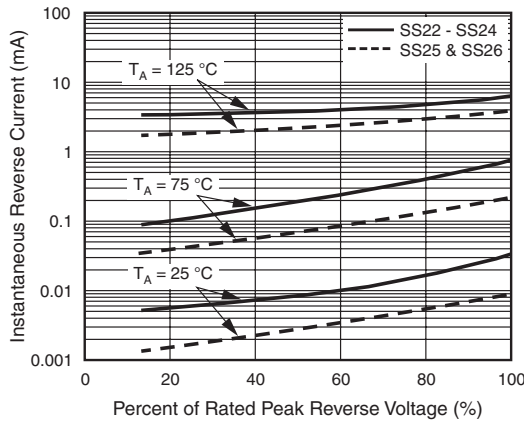


Figure 4. Typical Reverse Current Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

