

Surface Mount Schottky Barrier Rectifier



DO-214AB (SMC)

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-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	
$I_{F(AV)}$	3.0 A
V_{RRM}	20 V to 60 V
I_{FSM}	100 A
E_{AS}	20 mJ
V_F	0.5 V, 0.75 V
$T_j \text{ max.}$	125 °C, 150 °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-214AB (SMC)

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 ($T_A = 25\text{ °C}$ unless otherwise noted)							
PARAMETER	SYMBOL	SS32	SS33	SS34	SS35	SS36	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
Maximum average forward rectified current at T_L (see Fig. 1)	$I_{F(AV)}$	3.0					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	100					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
Voltage rate of change (rated V_R)	dv/dt	10000					V/ μ s
Operating junction temperature range	T_J	- 55 to + 125			- 55 to + 150		°C
Storage temperature range	T_{STG}	- 55 to + 150					°C

ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	TEST CONDITIONS	SYMBOL	SS32	SS33	SS34	SS35	SS36	UNIT	
Maximum instantaneous forward voltage ⁽¹⁾	at 3.0 A	V _F	0.5			0.75		V	
Maximum DC reverse current at rated DC blocking voltage ⁽¹⁾	T _A = 25 °C	I _R	0.5						mA
	T _A = 100 °C		20		10				

Note:

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

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	SS32	SS33	SS34	SS35	SS36	UNIT	
Typical thermal resistance ⁽¹⁾	R _{θJA}	55					°C/W	
	R _{θJL}	17						

Note:

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

ORDERING INFORMATION				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SS34-E3/57T	0.235	57T	850	7" Diameter Plastic Tape & Reel
SS34-E3/9AT	0.235	9AT	3500	13" Diameter Plastic Tape & Reel

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

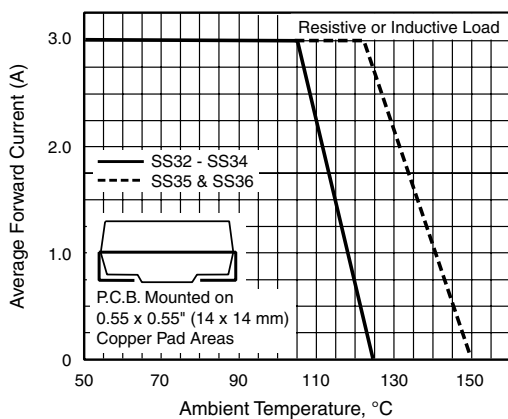


Figure 1. Forward Current Derating Curve

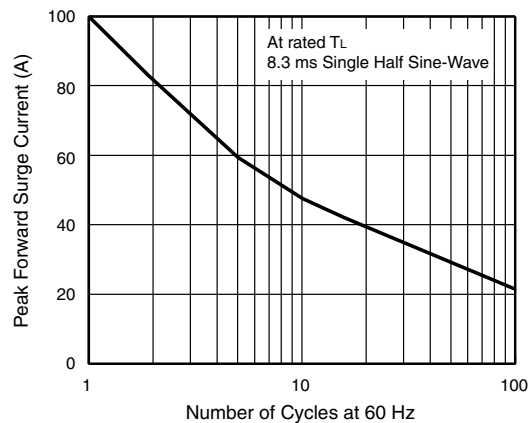


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

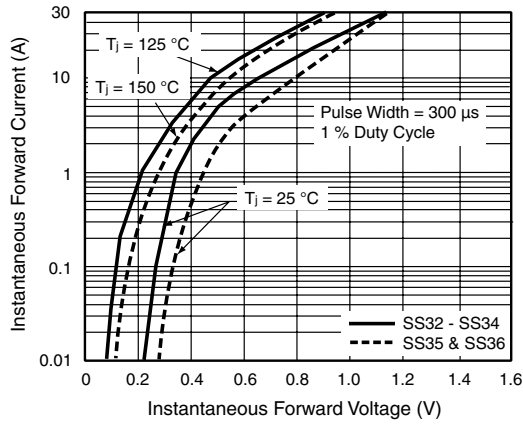


Figure 3. Typical Instantaneous Forward Characteristics

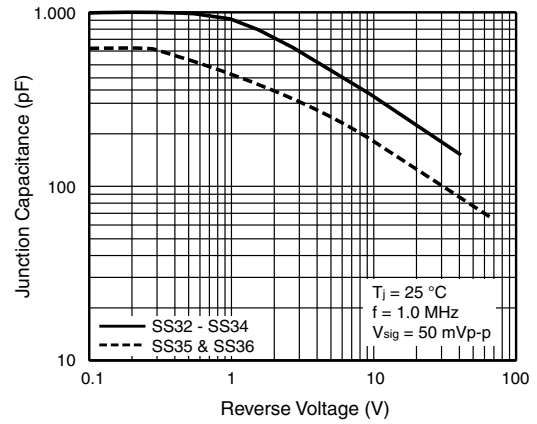


Figure 5. Typical Junction Capacitance

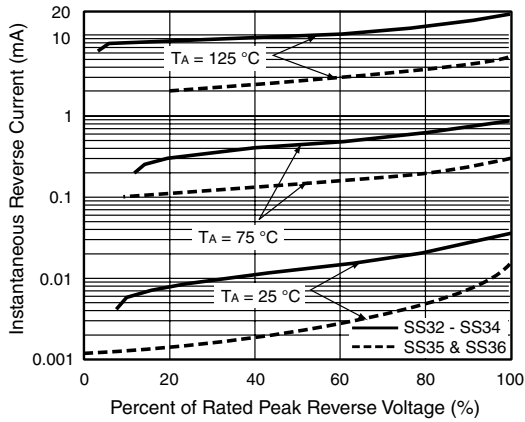


Figure 4. Typical Reverse Current Characteristics

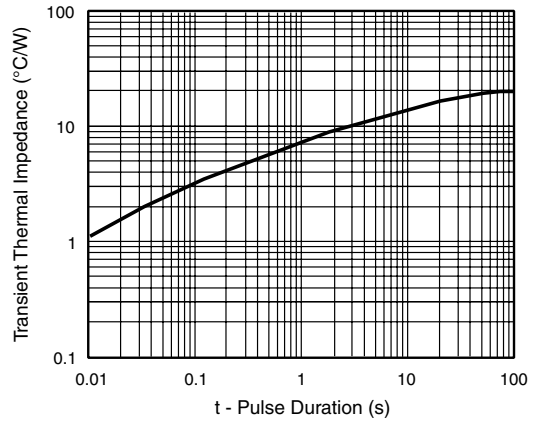
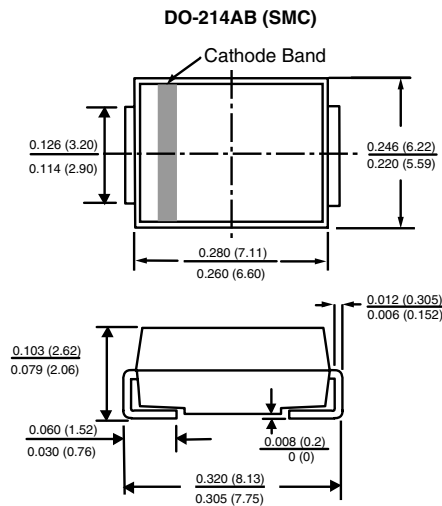
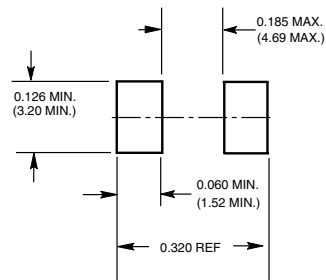


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



Mounting Pad Layout





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