

## 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-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-214AB (SMC)

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 the cathode end

PRIMARY 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
$T_J$ max.	125 °C, 150 °C

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 $T_L$ (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 $V_R$ )	$dv/dt$	10 000						V/ $\mu$ 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 <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	TEST CONDITIONS		SYMBOL	SS32	SS33	SS34	SS35	SS36	UNIT
Maximum instantaneous forward voltage <sup>(1)</sup>	3.0 A		V <sub>F</sub>	0.5			0.75		V
Maximum DC reverse current at rated DC blocking voltage <sup>(1)</sup>	T <sub>A</sub> = 25 °C		I <sub>R</sub>	0.5					mA
	T <sub>A</sub> = 100 °C			20		10			

**Note:**

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

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	SS32	SS33	SS34	SS35	SS36	UNIT		
Typical thermal resistance <sup>(1)</sup>	R <sub>θJA</sub> R <sub>θJL</sub>	55				17		°C/W	

**Note:**

(1) P.C.B. mounted 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
SS34-E3/57T	0.235	57T	850	7" diameter plastic tape and reel
SS34-E3/9AT	0.235	9AT	3500	13" diameter plastic tape and reel
SS34HE3/57T <sup>(1)</sup>	0.235	57T	850	7" diameter plastic tape and reel
SS34HE3/9AT <sup>(1)</sup>	0.235	9AT	3500	13" diameter plastic tape and reel

**Note:**

(1) Automotive grade AEC Q101 qualified

### RATINGS AND CHARACTERISTICS CURVES

(T<sub>A</sub> = 25 °C unless otherwise noted)

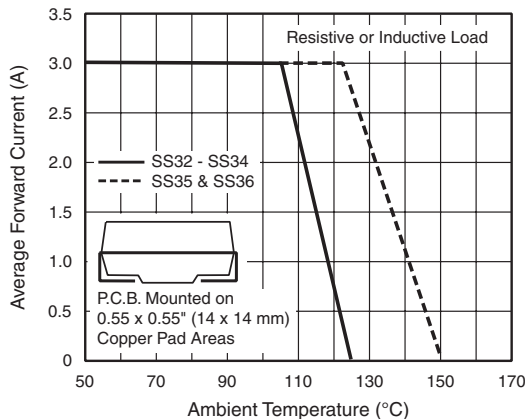


Figure 1. Forward Current Derating Curve

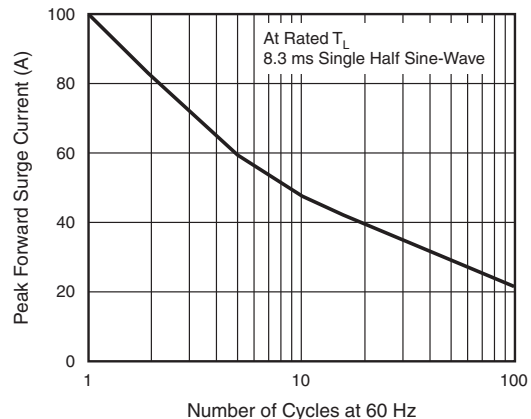


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

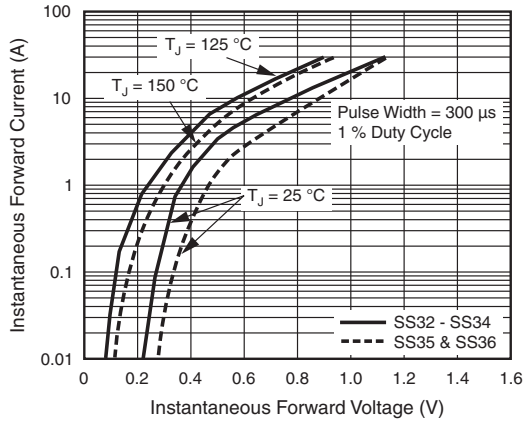


Figure 3. Typical Instantaneous Forward Characteristics

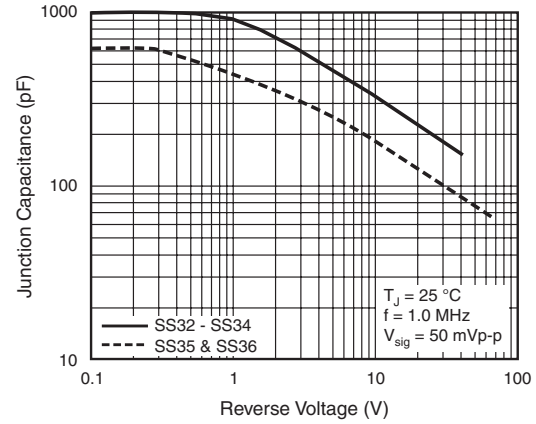


Figure 5. Typical Junction Capacitance

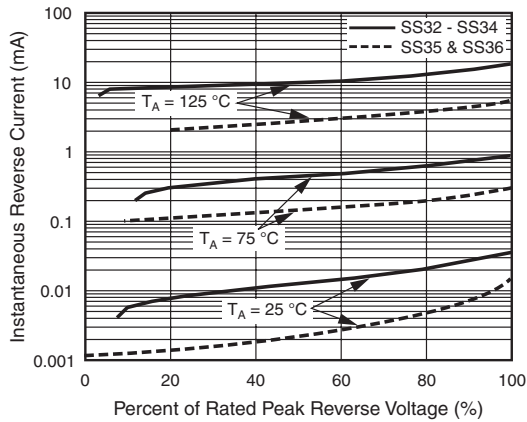


Figure 4. Typical Reverse Current Characteristics

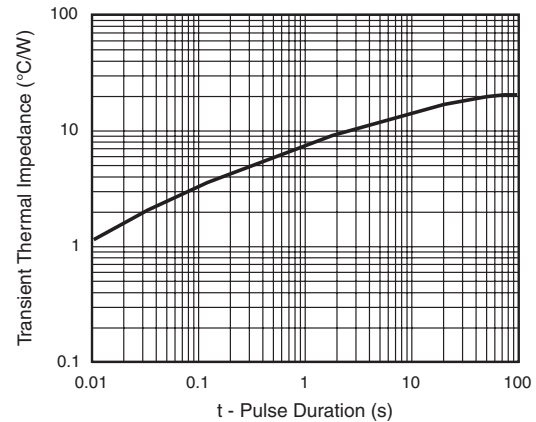
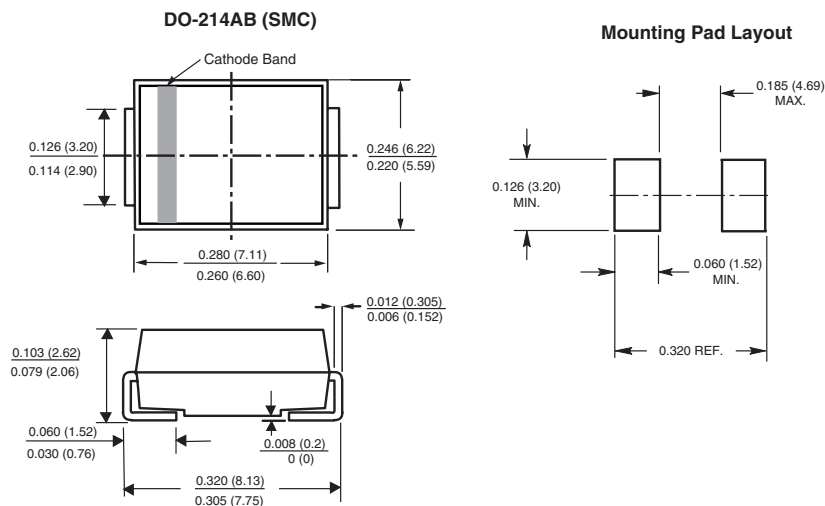


Figure 6. Typical Transient Thermal Impedance

### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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