

## 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
$T_j$ 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 <sub>RRM</sub>	20	30	40	50	60	V
Maximum RMS voltage	V <sub>RMS</sub>	14	21	28	35	42	V
Maximum DC blocking voltage	V <sub>DC</sub>	20	30	40	50	60	V
Maximum average forward rectified current at T <sub>L</sub> (see Fig. 1)	I <sub>F(AV)</sub>	3.0					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	100					A
Non-repetitive avalanche energy at T <sub>A</sub> = 25 °C, I <sub>AS</sub> = 2.0 A, L = 10 mH	E <sub>AS</sub>	20					mJ
Voltage rate of change (rated V <sub>R</sub> )	dv/dt	10000					V/μs
Operating junction temperature range	T <sub>J</sub>	- 55 to + 125			- 55 to + 150		°C
Storage temperature range	T <sub>STG</sub>	- 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>	at 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  $\mu\text{s}$  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>	55					°C/W
	R <sub>θJL</sub>	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

( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

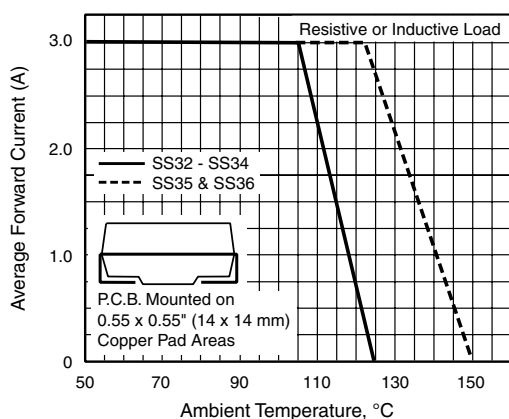


Figure 1. Forward Current Derating Curve

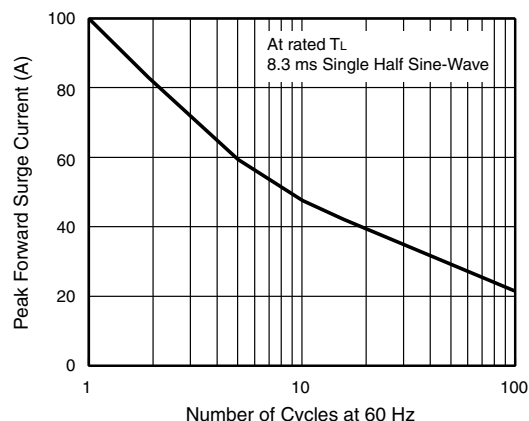


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

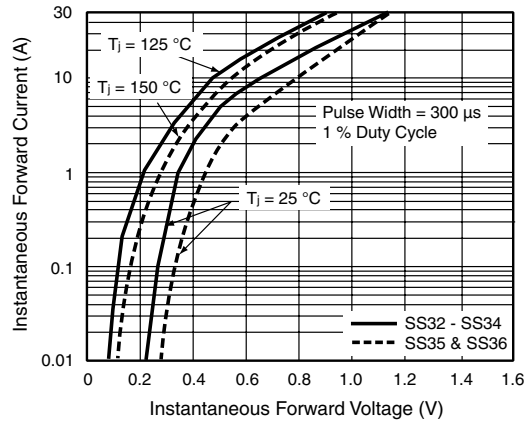


Figure 3. Typical Instantaneous Forward Characteristics

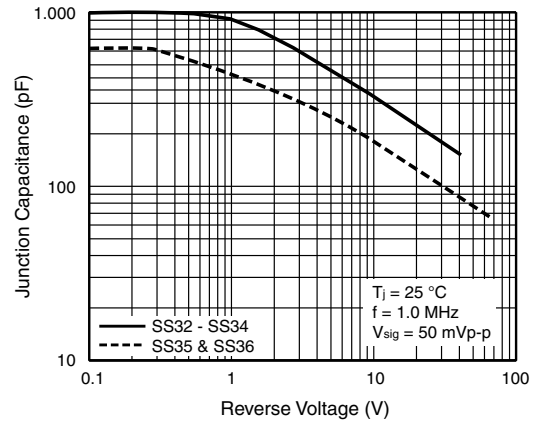


Figure 5. Typical Junction Capacitance

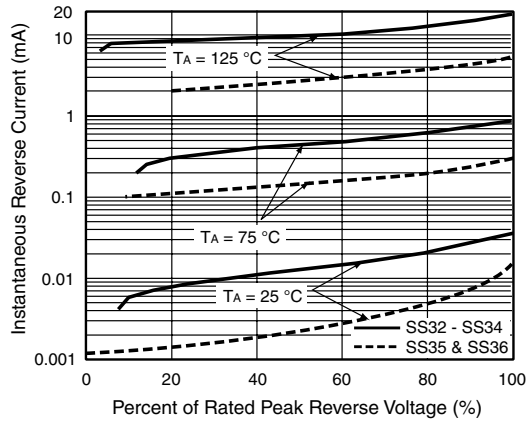


Figure 4. Typical Reverse Current Characteristics

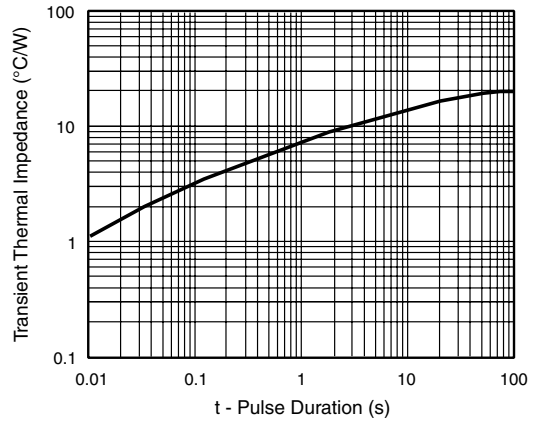
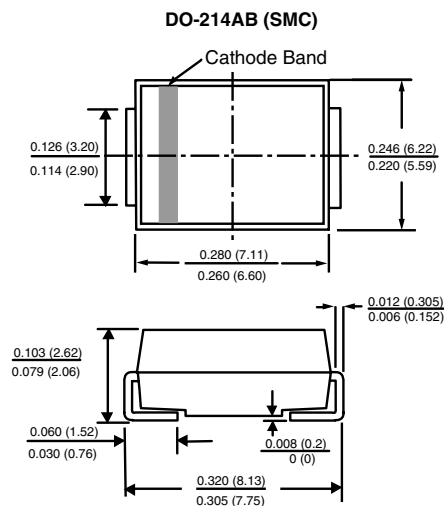
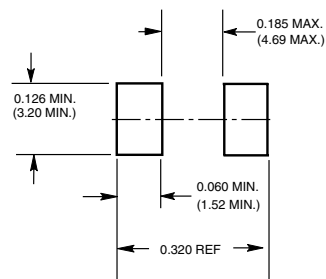


Figure 6. Typical Transient Thermal Impedance

### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



### Mounting Pad Layout





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