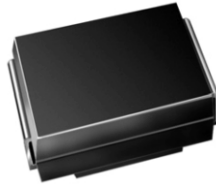


## High-Current Density Surface Mount Schottky Rectifier



DO-214AA (SMB)

### FEATURES

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- Very 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

$I_{F(AV)}$	4.0 A
$V_{RRM}$	30 V, 40 V
$I_{FSM}$	100 A
$V_F$	0.38 V, 0.42 V
$T_j \text{ max.}$	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-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 ( $T_A = 25\text{ °C}$ unless otherwise noted)

PARAMETER	SYMBOL	SSB43L	SSB44	UNIT
Device marking code		43L	S44	
Maximum repetitive peak reverse voltage	$V_{RRM}$	30	40	V
Maximum RMS voltage	$V_{RMS}$	21	28	V
Maximum DC blocking voltage	$V_{DC}$	30	40	V
Max. average forward rectified current at $T_L$ (see Fig. 1)	$I_{F(AV)}$	4.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	100		A
Voltage rate of change (rated $V_R$ )	dv/dt	10000		V/ $\mu$ s
Operating junction temperature range	$T_J$	- 65 to + 150		°C
Storage temperature range	$T_{STG}$	- 65 to + 150		C

ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)								
PARAMETER	TEST CONDITIONS	SYMBOL	TYP.	MAX.	TYP.	MAX.	UNIT	
Maximum instantaneous forward voltage <sup>(1)</sup>	at 4.0 A	T <sub>j</sub> = 25 °C T <sub>j</sub> = 125 °C	V <sub>F</sub>	0.43 0.33	0.45 0.38	0.45 0.37	0.49 0.42	V
Maximum DC reverse current at rated DC blocking voltage <sup>(1)</sup>		T <sub>j</sub> = 25 °C T <sub>j</sub> = 125 °C	I <sub>R</sub>	- 35	0.6 45	- 25	0.4 40	mA

**Note:**

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

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)				
PARAMETER	SYMBOL	SSB43L	SSB44	UNIT
Typical thermal resistance <sup>(1)</sup>	R <sub>θJA</sub> R <sub>θJL</sub>		70 23	°C/W

**Note:**

(1) Aluminum substrate mounted

ORDERING INFORMATION				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SSB43L-E3/52T	0.096	52T	750	7" Diameter Plastic Tape & Reel
SSB43L-E3/5BT	0.096	5BT	3200	13" Diameter Plastic Tape & Reel

## RATINGS AND CHARACTERISTICS CURVES

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

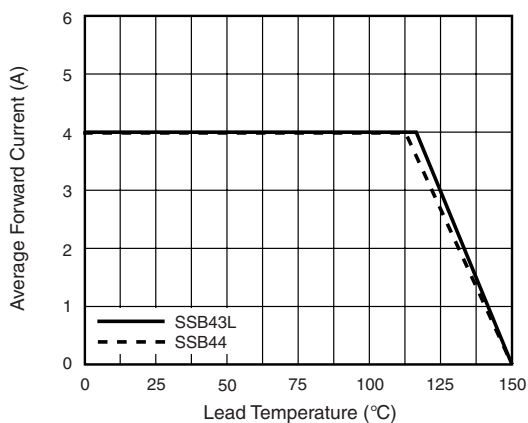


Figure 1. Forward Current Derating Curve

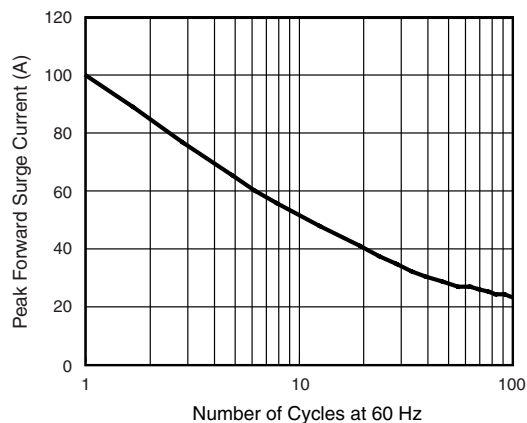


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

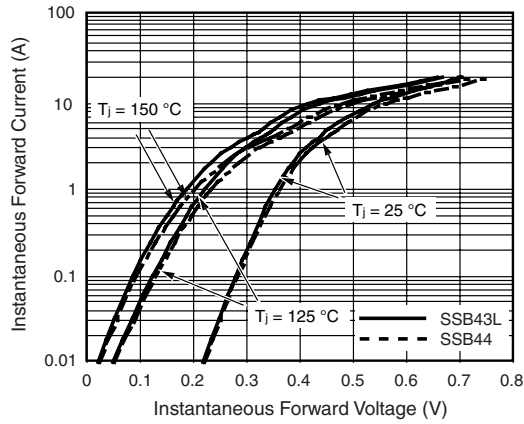


Figure 3. Typical Instantaneous Forward Characteristics

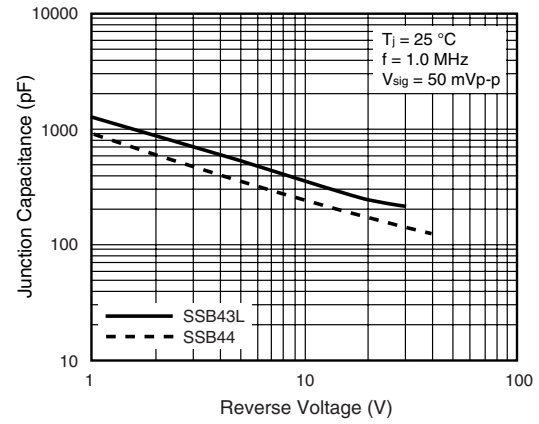


Figure 5. Typical Junction Capacitance

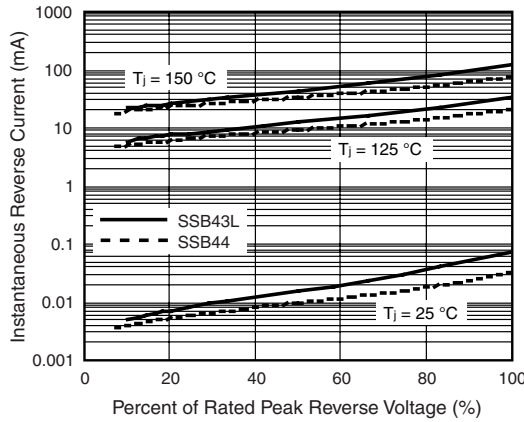
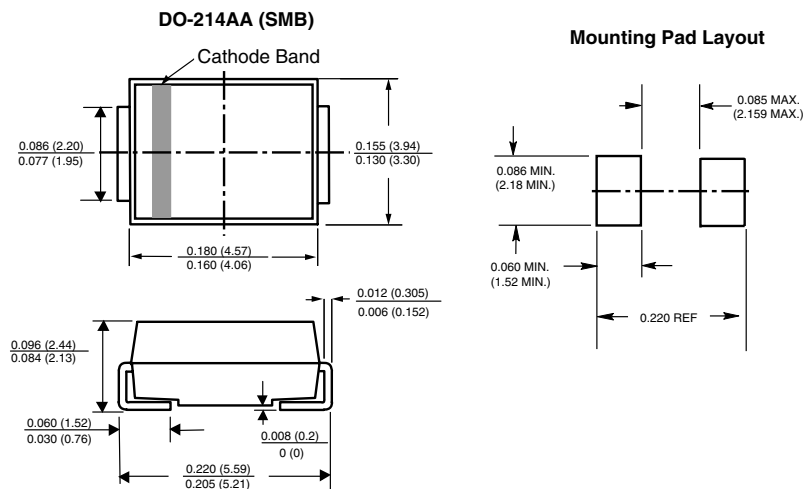


Figure 4. Typical Reverse Characteristics

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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