

## High-Current Density Surface Mount Schottky Rectifier



DO-214AC (SMA)

### 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
$V_{RRM}$	30 V, 40 V
$I_{FSM}$	75 A
$V_F$	0.38 V, 0.42 V
$T_J$ 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-214AC (SMA)

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	SSA33L	SSA34	UNIT
Device marking code		33L	S34	V
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
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	$I_{FSM}$	75		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 3.0 A T <sub>j</sub> = 25 °C T <sub>j</sub> = 125 °C	V <sub>F</sub>	0.43 0.34	0.45 0.38	0.46 0.38	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>	- 20	0.5 35	- 17	0.2 30	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	SSA33L	SSA34	UNIT
Typical thermal resistance <sup>(1)</sup>	R <sub>θJA</sub> R <sub>θJL</sub>		110 28	°C/W

Note:

(1) Aluminum substrate mounted

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SSA33L-E3/61T	0.064	61T	1800	7" Diameter Plastic Tape & Reel
SSA33L-E3/5AT	0.064	5AT	7500	13" Diameter Plastic Tape & Reel
SSA33LHE3/61T <sup>(1)</sup>	0.064	61T	1800	7" Diameter Plastic Tape & Reel
SSA33LHE3/5AT <sup>(1)</sup>	0.064	5AT	7500	13" Diameter Plastic Tape & Reel

Note:

(1) Automotive grade AEC Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

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

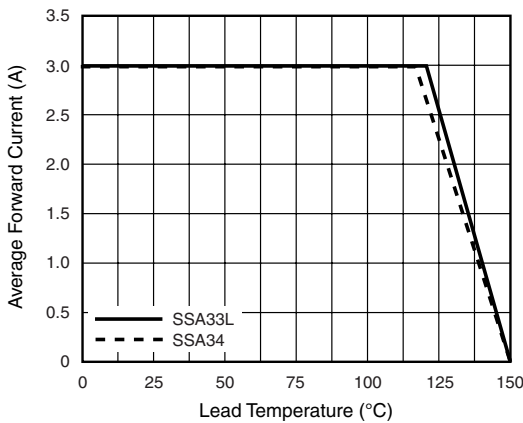


Figure 1. Forward Current Derating Curve

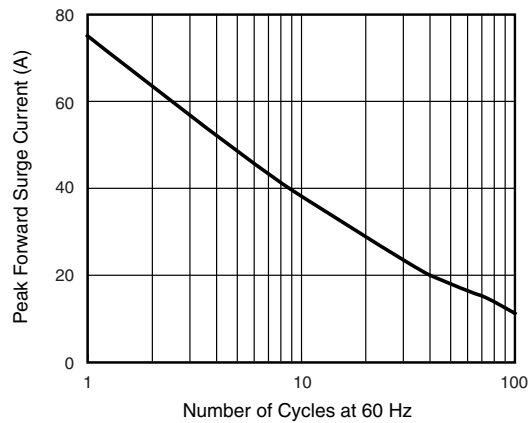


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

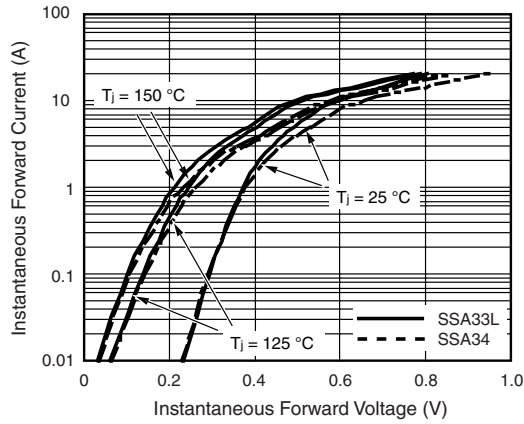


Figure 3. Typical Instantaneous Forward Characteristics

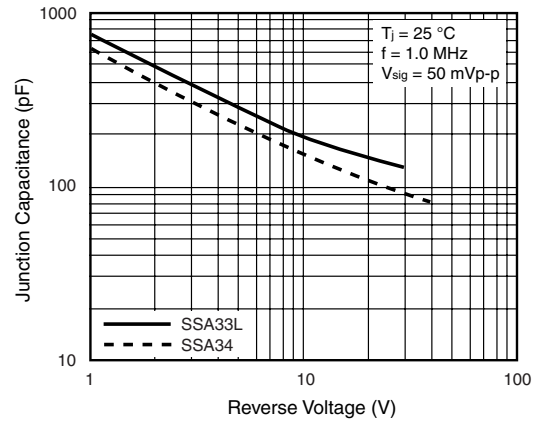


Figure 5. Typical Junction Capacitance

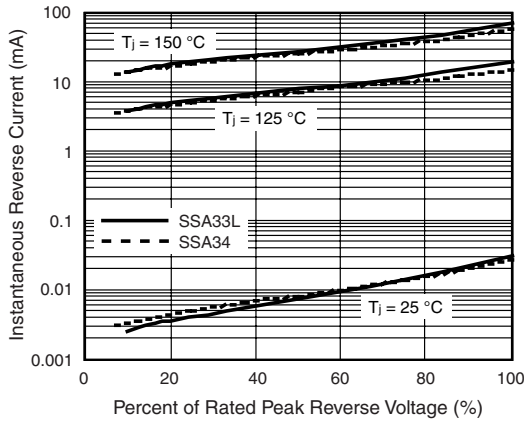
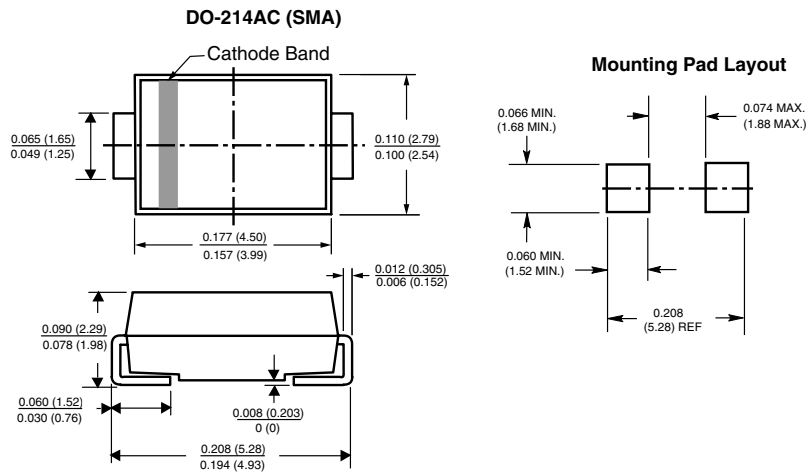


Figure 4. Typical Reverse Characteristics

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)





## Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.