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## Vishay General Semiconductor

# **High-Current Density Surface Mount Schottky Rectifier**



**DO-214AC (SMA)** 

PRIMARY CHARACTERISTICS					
Package	DO-214AC (SMA)				
I <sub>F(AV)</sub>	3.0 A				
$V_{RRM}$	30 V, 40 V				
I <sub>FSM</sub>	65 A				
$V_{F}$	0.50 V, 0.55 V				
T <sub>J</sub> max.	150 °C				
Diode variations	Single die				

#### **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
- Material categorization: For definitions of compliance please see <a href="https://www.vishay.com/doc?99912">www.vishay.com/doc?99912</a>

## **TYPICAL APPLICATIONS**

For use in low voltage, high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

#### **MECHANICAL DATA**

Case: DO-214AC (SMA)

Molding compound meets UL 94 V-0 flammability rating Base P/N-M3 - halogen-free, RoHS compliant, and

commercial grade

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD 22-B102

M3 suffix meets JESD 201 class 1A whisker test **Polarity:** Color band denotes the cathode end

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	B330LA	B340A	UNIT		
Device marking code		B33	B34			
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	30	40	V		
Maximum RMS voltage	V <sub>RMS</sub>	21	28	V		
Maximum DC blocking voltage	V <sub>DC</sub>	30	40	V		
Maximum average forward rectified current at T <sub>L</sub> (fig. 1)	I <sub>F(AV)</sub>	3.0		А		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	65		А		
Voltage rate of change (rated V <sub>R</sub> )	dV/dt	10 000		V/µs		
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	- 65 to	°C			

<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	B330LA	B340A	UNIT
Maximum instantaneous forward voltage	3.0 A	T <sub>J</sub> = 25 °C	V <sub>F</sub> <sup>(1)</sup>	0.5	0.55	V
Maximum reverse current at rated V <sub>R</sub>		T <sub>J</sub> = 25 °C	I <sub>R</sub> (2)	0.5	0.5	mA

#### Notes

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

(2) Pulse test: Pulse width ≤ 40 ms



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THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	B330LA	B340A	UNIT	
Typical thermal resistance	R <sub>0JA</sub> (1)	110		°C/W	
Typical thermal resistance	R <sub>0</sub> JL (1)	28		C/ VV	

#### Note

(1) Aluminum substrate mounted

ORDERING INFORMATION (Example)						
PREFERRED P/N	REFERRED P/N UNIT WEIGHT (g) PREFERRED PACKAGE CODE		E BASE QUANTITY DELIVERY MOD			
B330LA-M3/61T	0.064	61T	1800	7" diameter plastic tape and reel		
B330LA-M3/5AT	0.064	5AT	7500	13" diameter plastic tape and reel		

### **RATINGS AND CHARACTERISTICS CURVES**

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

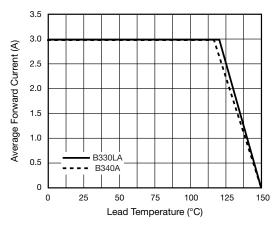


Fig. 1 - Forward Current Derating Curve

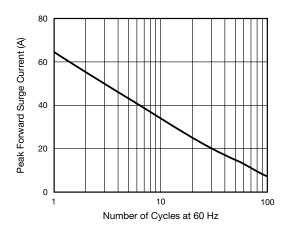


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

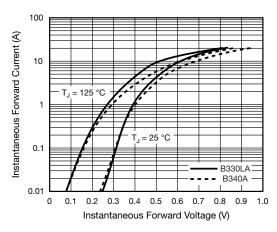


Fig. 3 - Typical Instantaneous Forward Characteristics

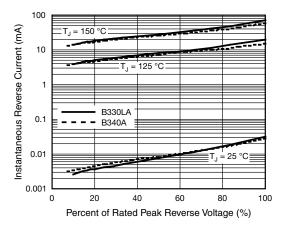


Fig. 4 - Typical Reverse Characteristics



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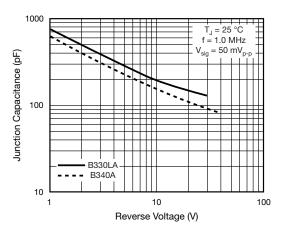
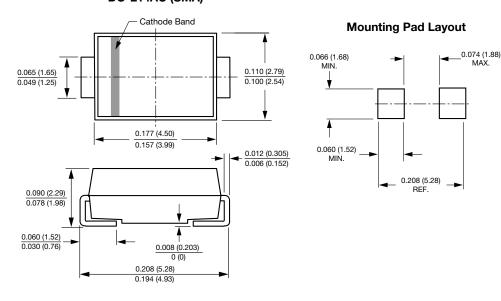


Fig. 5 - Typical Junction Capacitance

# **PACKAGE OUTLINE DIMENSIONS** in inches (millimeters) DO-214AC (SMA)





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