COMPLIANT

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## Vishay General Semiconductor

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



DO-214AC (SMA)

PRIMARY CHARACTERISTICS					
I <sub>F(AV)</sub>	2.0 A				
$V_{RRM}$	30 V, 40 V				
I <sub>FSM</sub>	50 A				
V <sub>F</sub>	0.50 V, 0.55 V				
T <sub>J</sub> max.	150 °C				
Package	DO-214AC (SMA)				
Diode variation	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 2 whisker test **Polarity:** Color band denotes the cathode end

<b>MAXIMUM RATINGS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	B230LA	B240A	UNIT	
Device marking code		B23	B24		
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>	2.0		А	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	50		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		



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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	B230LA	B240A	UNIT
Maximum instantaneous forward voltage	2.0 A	T <sub>J</sub> = 25 °C	$V_F$ <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> <sup>(2)</sup>	0.5	0.5	mA

#### **Notes**

 $^{(1)}\,$  Pulse test: 300  $\mu s$  pulse width, 1 % duty cycle

(2) Pulse test: Pulse width ≤ 40 ms

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	B230LA	B240A	UNIT	
Typical thermal resistance	R <sub>0JA</sub> (1)	110		°C/W	
	R <sub>0JL</sub> (1)	28			

#### Note

(1) Aluminum substrate mounted

ORDERING INFORMATION (Example)							
PREFERRED P/N	D P/N UNIT WEIGHT (g) PREFERRED PACKAGE CODE		BASE QUANTITY	DELIVERY MODE			
B230LA-M3/61T	0.064	61T	1800	7" diameter plastic tape and reel			
B230LA-M3/5AT	0.064	5AT	7500	13" diameter plastic tape and reel			

## **RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25$ °C unless otherwise noted)

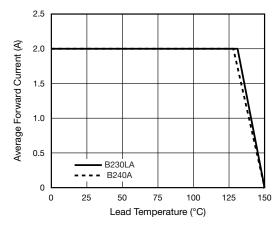


Fig. 1 - Forward Current Derating Curve

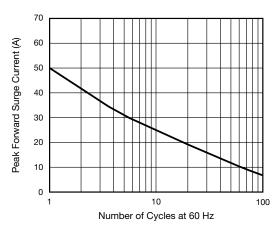


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current



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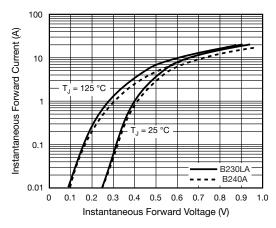


Fig. 3 - Typical Instantaneous Forward Characteristics

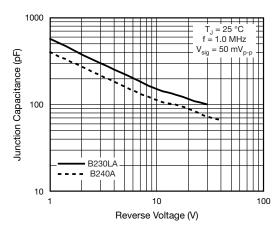


Fig. 5 - Typical Junction Capacitance

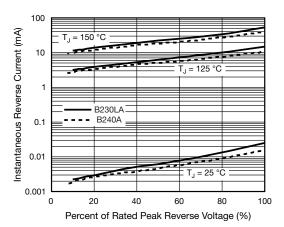
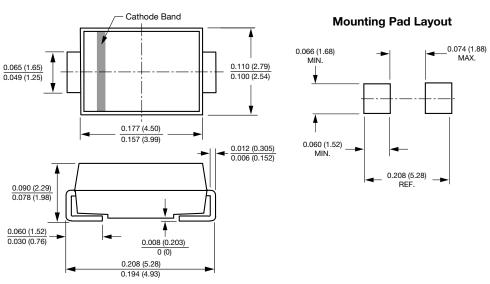


Fig. 4 - Typical Reverse Characteristics

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





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