

Vishay General Semiconductor

High Current Density Surface Mount Schottky Rectifier



DO-214AC (SMA)

PRIMARY CHARACTERISTICS					
I _{F(AV)}	2.0 A				
V _{RRM}	30 V, 40 V				
I _{FSM}	50 A				
V _F	0.50 V, 0.55 V				
T _J max.	150 °C				
Package	DO-214AC				
t _{rr}	< 10 ns				
Diode variations	Single				

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 www.vishay.com/doc?99912

TYPICAL APPLICATIONS

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

Note

These devices are not AEC-Q101 gualified

MECHANICAL DATA

Case: DO-214AC (SMA) Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 2 whisker test

Polarity: Color band denotes the cathode end

MAXIMUM RATINGS ($T_A = 25 \text{ °C}$ unless otherwise noted)						
PARAMETER	SYMBOL	B230LA	B240A	UNIT		
Device marking code		B23	B24			
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 (fig. 1)	I _{F(AV)}	2.0		A		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	50		A		
Voltage rate of change (rated V _R)	dV/dt	10 000		V/µs		
Operating junction and storage temperature range	T _J , T _{STG}	- 65 to + 150		°C		

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ELECTRICAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	B230LA	B240A	UNIT
Maximum instantaneous forward voltage	2.0 A	T _J = 25 °C	V _F ⁽¹⁾	0.5	0.55	V
Maximum reverse current at rated $\ensuremath{V}_{\ensuremath{R}}$		T _J = 25 °C	I _R ⁽²⁾	0.5	0.5	mA

Notes

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

⁽²⁾ Pulse test: Pulse width \leq 40 ms

THERMAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)					
PARAMETER	SYMBOL	B230LA	B240A	UNIT	
Typical thermal resistance	R _{0JA} ⁽¹⁾	110		°C/W	
	R _{0JL} ⁽¹⁾	28			

Note

⁽¹⁾ Aluminum substrate mounted

ORDERING INFORMATION (Example)						
PREFERRED P/N	RRED P/N UNIT WEIGHT (g) PREFERRED PACKAGE CODE		BASE QUANTITY	DELIVERY MODE		
B230LA-E3/61T	0.064	61T	1800	7" diameter plastic tape and reel		
B230LA-E3/5AT	0.064	5AT	7500	13" diameter plastic tape and ree		

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

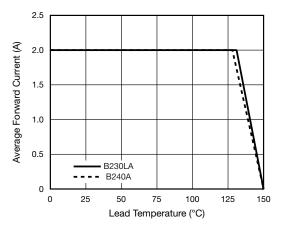


Fig. 1 - Forward Current Derating Curve

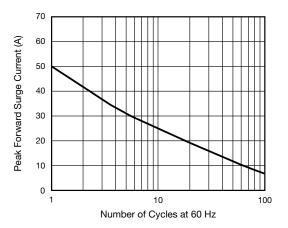
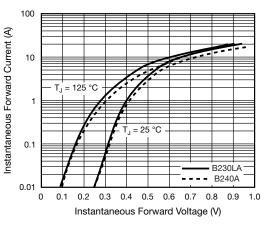


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

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Fig. 3 - Typical Instantaneous Forward Characteristics

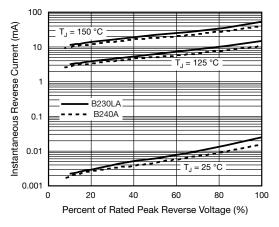
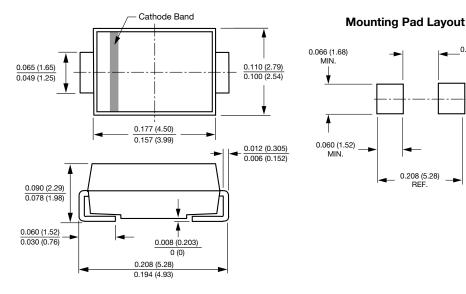


Fig. 4 - Typical Reverse Characteristics

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



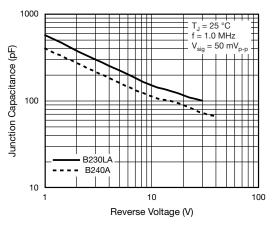


Fig. 5 - Typical Junction Capacitance

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0.074 (1.88)

MAX.

0.208 (5.28) REF.

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