Vishay General Semiconductor

High-Current Density Surface Mount Schottky Rectifier



DO-214AC (SMA)

DO-214AC (SMA)

3.0 A

30 V. 40 V

65 A

0.50 V, 0.55 V

150 °C

Single die

PRIMARY CHARACTERISTICS

Package

I_{F(AV)}

V_{RRM}

I_{FSM}

 V_{F}

T_J max.

Diode variations

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 <u>www.vishay.com/doc?99912</u>

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 ($T_A = 25 \text{ °C}$ unless otherwise noted)						
PARAMETER	SYMBOL	B330LA B340A		UNIT		
Device marking code		B33	B34			
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)}	3.0		А		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	65		А		
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		

ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS		SYMBOL	B330LA	B340A	UNIT	
Maximum instantaneous forward voltage	3.0 A	T _J = 25 °C	V _F ⁽¹⁾	0.5	0.55	V	
Maximum reverse current at rated V_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

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HALOGEN

FREE





B330LA-M3, B340A-M3

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THERMAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)						
PARAMETER	SYMBOL	B330LA	B340A	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	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE		
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_A = 25 °C unless otherwise noted)

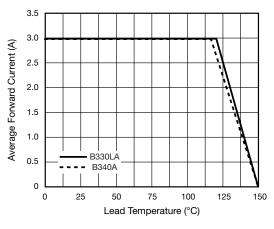


Fig. 1 - Forward Current Derating Curve

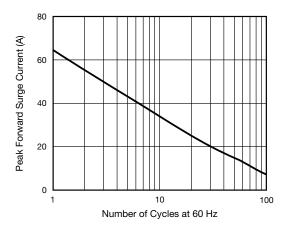
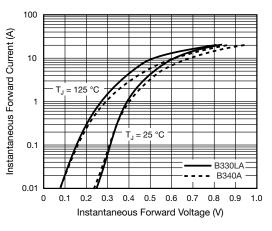
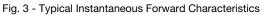


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current





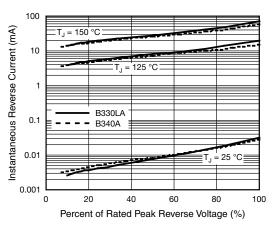


Fig. 4 - Typical Reverse Characteristics

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B330LA-M3, B340A-M3

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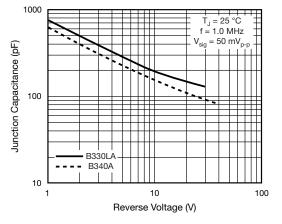
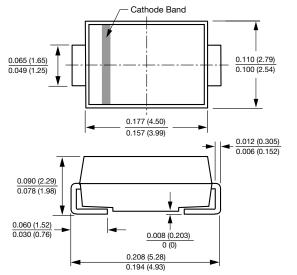
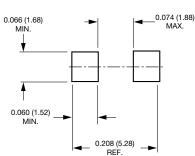


Fig. 5 - Typical Junction Capacitance







Mounting Pad Layout

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