

## Vishay General Semiconductor

# **Surface Mount Schottky Rectifier**



DO-214AA (SMB)

PRIMARY CHARACTERISTICS				
Package	DO-214AA (SMB)			
I <sub>F(AV)</sub>	3.0 A			
V <sub>RRM</sub>	50 V, 60 V			
I <sub>FSM</sub>	60 A			
V <sub>F</sub> at I <sub>F</sub> = 3.0 A	0.51 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"><u>www.vishay.com/doc?99912</u></a>

### TYPICAL APPLICATIONS

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

#### **MECHANICAL DATA**

Case: DO-214AA (SMB)

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 <sub>A</sub> = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	B350B	B360B	UNIT	
Device marking code		B35	B36		
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	60	V	
Maximum average forward rectified current at T <sub>L</sub> (fig. 1)	I <sub>F(AV)</sub>	3.0		Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	60		А	
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150		°C	

<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Maximum instantaneous forward voltage	I <sub>F</sub> = 3.0 A	T <sub>J</sub> = 25 °C	V <sub>F</sub> <sup>(1)</sup>	0.58	0.66	- V
		T <sub>J</sub> = 125 °C		0.51	0.59	
Maximum reverse current	Rated V <sub>R</sub>	T <sub>J</sub> = 25 °C	I <sub>R</sub> <sup>(2)</sup>	-	100	μA
		T <sub>J</sub> = 125 °C		3	10	mA

#### Notes

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

<sup>(2)</sup> Pulse test: Pulse width ≤ 40 ms



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THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	L B350B B360B		UNIT	
Typical thermal resistance	R <sub>0</sub> JA <sup>(1)</sup>	70		°C/W	
	$R_{\theta JM}$ <sup>(1)</sup>	15			

#### Note

(1) PCB. mounted with 0.4" x 0.4" (10 mm x 10 mm) copper pad areas, thermal resistance R<sub>0JA</sub> - junction to ambient, R<sub>0JM</sub> - junction to mount

ORDERING INFORMATION (Example)						
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE		
B360B-E3/52T	0.096	52T	750	7" diameter plastic tape and reel		
B360B-E3/5BT	0.096	5BT	3200	13" diameter plastic tape and reel		

## RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)

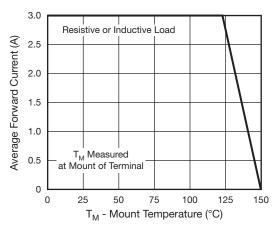


Fig. 1 - Maximum Forward Current Derating Curve

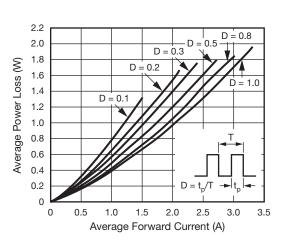


Fig. 2 - Forward Power Loss Characteristics

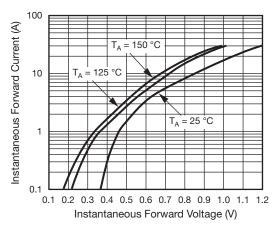


Fig. 3 - Typical Instantaneous Forward Characteristics

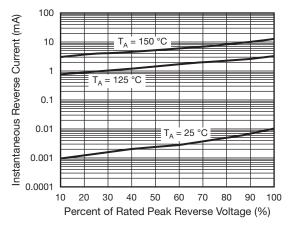


Fig. 4 - Typical Reverse Leakage Characteristics



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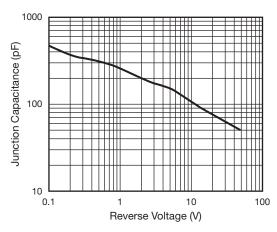
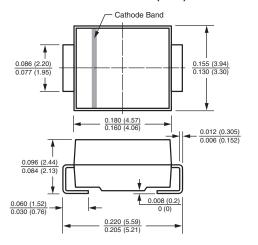


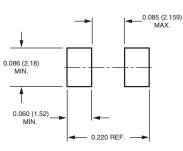
Fig. 5 - Typical Junction Capacitance

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

## DO-214AA (SMB)



### **Mounting Pad Layout**





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