HALOGEN

FREE



### Vishay General Semiconductor

### **Surface Mount Schottky Barrier Rectifier**



**DO-214AC (SMA)** 

PRIMARY CHARACTERISTICS				
I <sub>F(AV)</sub>	3.0 A			
V <sub>RRM</sub>	50 V, 60 V			
I <sub>FSM</sub>	50 A			
$V_F$ at $I_F = 3.0 \text{ A}$	0.55 V			
T <sub>J</sub> max.	150 °C			

#### **FEATURES**

- · Low profile package
- · Ideal for automated placement
- Low forward voltage drop, low power losses
- · High efficifieency
- · High surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition

#### **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

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	B350A	B360A	UNIT
Device marking code		B35	B36	
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	60	V
Maximum average forward rectified current (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>	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>	- 55 to + 150		°C

### **B350A, B360A**

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<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>A</sub> = 25 °C	V <sub>F</sub> <sup>(1)</sup>	0.64	0.72	V	
		T <sub>A</sub> = 125 °C		0.55	0.62		
Maximum reverse current	Rated V <sub>R</sub>	Detect \/	T <sub>A</sub> = 25 °C	I <sub>R</sub> <sup>(2)</sup>	-	200	μΑ
		T <sub>A</sub> = 125 °C	'R '-'	2.9	10	mA	
Typical junction capacitance	4.0 V, 1 MHz		CJ	145	-	pF	

#### **Notes**

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

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

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)				
PARAMETER	SYMBOL	B350A	B360A	UNIT
Typical thermal resistance	R <sub>0JA</sub> (1)	72		°C/W
	R <sub>0</sub> JL (1)	12		

#### Note

 $^{(1)}$  PCB mounted with 0.32" x 0.32" (8 mm x 8 mm) copper pad areas. T<sub>L</sub> measured at lead terminal mount.

ORDERING INFORMATION (Example)						
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE		
B360A-M3/61T	0.064	61T	1800	7" diameter plastic tape and reel		
B360A-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)

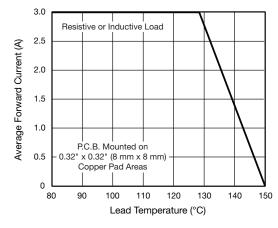


Fig. 1 - Forward Current Derating Curve

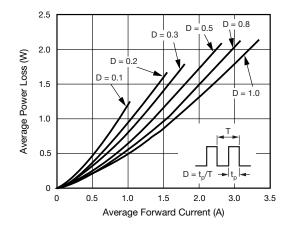


Fig. 2 - Forward Power Loss Characteristics



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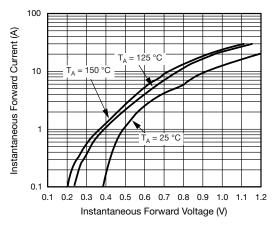


Fig. 3 - Typical Instantaneous Forward Characteristics

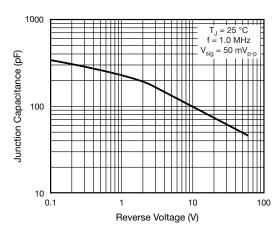


Fig. 5 - Typical Junction Capacitance

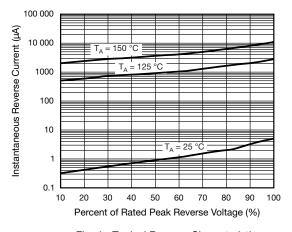
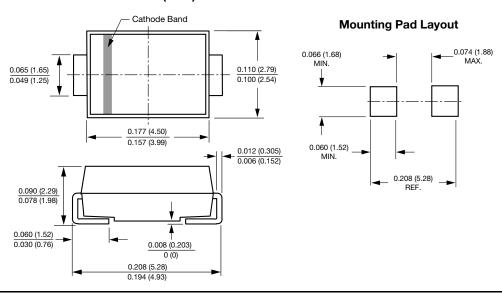


Fig. 4 - Typical Reverse Characteristics

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



Document Number: 89414 Revision: 20-Apr-11 For technical questions within your region, please contact one of the following: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com





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Document Number: 91000 www.vishay.com Revision: 11-Mar-11