

Vishay General Semiconductor

Schottky Barrier Rectifier



PRIMARY CHARACTERISTICS					
I _{F(AV)}	3.0 A				
V _{RRM}	20 V to 60 V				
I _{FSM}	120 A				
V _F	0.49 V, 0.68 V				
T _J max.	125 °C, 150 °C				

FEATURES





· Extremely fast switching

Low forward voltage drop

• High forward surge capability

• High frequency operation

• Solder dip 275 °C max. 10 s, per JESD 22-B106

 Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, freewheeling, dc-to-dc converters, and polarity protection applications.

MECHANICAL DATA

Case: DO-201AD

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 1A whisker test **Polarity:** Color band denotes the cathode end

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	SB320	SB330	SB340	SB350	SB360	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	V	
Maximum RMS voltage	V _{RMS}	14	21	28	35	42	٧	
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	V	
Maximum average forward rectified current at 0.375" (9.5 mm) lead length (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}	120					А	
Operating junction temperature range	TJ	- 65 to + 125 - 65 to + 150				°C		
Storage temperature range	T _{STG}	- 65 to + 150					°C	

ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER	TEST CONDITIONS	SYMBOL	SB320	SB330	SB340	SB350	SB360	UNIT
Maximum instantaneous forward voltage	3.0 A	V _F ⁽¹⁾	0.49		0.68		V	
Maximum instantaneous reverse current	Maximum instantaneous reverse current T _A = 25 °C		0.5				m A	
at rated DC blocking voltage	T _A = 100 °C	I _R ⁽¹⁾	20			1	0	mA

Note

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

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THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	SB320	SB330	SB340	SB350	SB360	UNIT
Turical they made vaciation as	R _{0JA} (1)	30					°C/W
Typical thermal resistance	R ₀ JL (1)	10					C/VV

Note

(1) Thermal resistance from junction to lead vertical P.C.B. mounting, 0.500" (12.7 mm) lead length with 2.5" x 2.5" (63.5 mm x 63.5 mm) copper pad

ORDERING INFORMATION (Example)								
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE				
SB340-E3/54	1.08	54	1400	13" diameter paper tape and reel				
SB340-E3/73	1.08	73	1000	Ammo pack packaging				

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

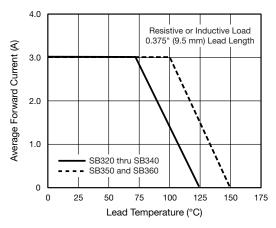
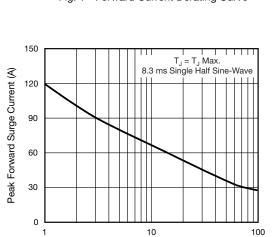


Fig. 1 - Forward Current Derating Curve



Number of Cycles at 60 Hz Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

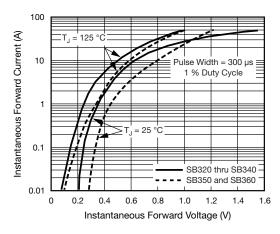


Fig. 3 - Typical Instantaneous Forward Characteristics

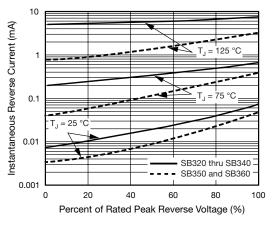


Fig. 4 - Typical Reverse Characteristics



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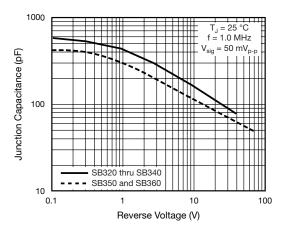


Fig. 5 - Typical Junction Capacitance

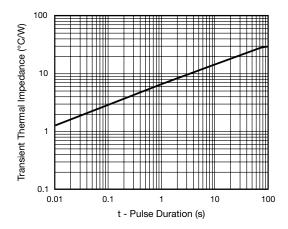
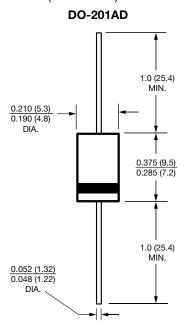


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)







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