Not for New Design - End of Life - Last Available Purchase Date is 31-May-2011



SB320A thru SB360A

Vishay General Semiconductor

Schottky Barrier Rectifier



3.0 A

20 V to 60 V

80 A

0.50 V, 0.70 V

150 °C

PRIMARY CHARACTERISTICS

I_{F(AV)} V_{RRM}

I_{FSM}

 V_{F}

T_J max.

FEATURES

- Guardring for overvoltage protection
- Very small conduction losses
- Extremely fast switching
- Low forward voltage drop
- High frequency operation
- 20 kV ESD capability
- 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 ($T_A = 25 \text{ °C}$ unless otherwise noted)							
PARAMETER	SYMBOL	SB320A	SB330A	SB340A	SB350A	SB360A	UNIT
Maximum repetitive peak reverse voltage	V _{RRM}	V _{RRM} 20 30 40 50 60				60	V
Maximum RMS voltage	V _{RMS}	14 21 28 35 42				42	V
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}	80					А
Electrostatic discharge capacitor voltage human body model air discharge: C = 100 pF, R = 1.5 k Ω	V _C	20					kV
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



SB320A thru SB360A





ELECTRICAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)									
PARAMETER	TEST C	ONDITIONS	SYMBOL	SB320A SB330A SB340A		SB350A	SB360A	UNIT	
Maximum instantaneous forward voltage	3.0 A		V _F ⁽¹⁾	0.50			0.70		V
Maximum reverse current at rated V _B		T _A = 25 °C	I _B ⁽²⁾	0.5			mA		
Maximum reverse current at rated v _R		T _A = 100 °C	'R (=/		20		1	0	ШA

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	30L SB320A SB330A SB340A SB350A SB				SB360A	UNIT	
Typical thermal resistance	$R_{\theta JA}$ ⁽¹⁾	40					°C/W	
	$R_{\theta JL}^{(1)}$	12					0/11	

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				
SB340A-E3/54	1.077	54	1400	13" diameter paper tape and reel				
SB340A-E3/73	1.077	73	1000	Ammo pack packaging				

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

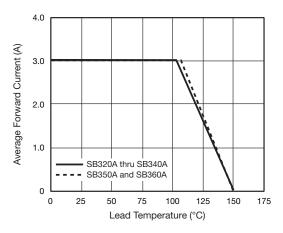


Fig. 1 - Forward Current Derating Curve

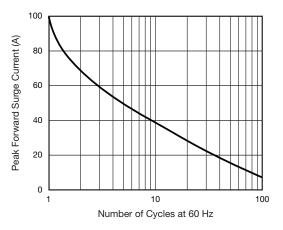


Fig. 2 - Forward Current Derating Curve

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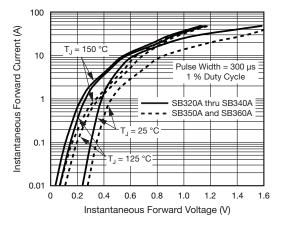


Fig. 3 - Typical Instantaneous Forward Characteristics

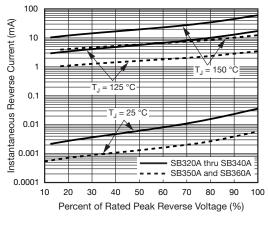


Fig. 4 - Typical Reverse Characteristics

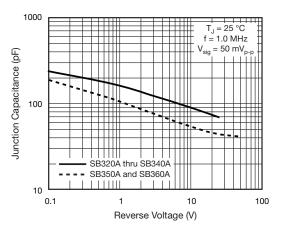
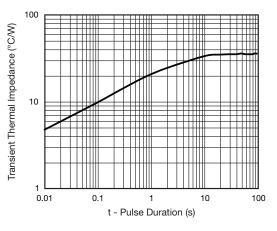
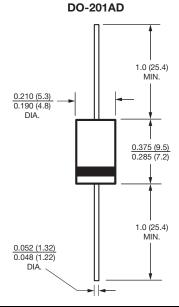


Fig. 5 - Typical Junction Capacitance





PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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