

Vishay General Semiconductor

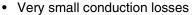
Schottky Barrier Rectifier



PRIMARY CHARACTERISTICS						
I _{F(AV)}	2.0 A					
V _{RRM}	20 V to 60 V					
I _{FSM}	50 A					
V_{F}	0.55 V, 0.70 V					
T⊥max.	125 °C. 150 °C					

FEATURES





· Extremely fast switching

· Low forward voltage drop

High forward surge capability

· High frequency operation

Solder dip 260 °C, 40 s

 Component in accordance to RoHS 2002/95/EC and 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-204AL (DO-41)

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class

1A whisker test

Polarity: Color band denotes the cathode end

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)								
PARAMETER		SB220S	SB230S	SB240S	SB250S	SB260S	UNIT	
Maximum repetitive peak reverse voltage	V _{RRM} 20 30 40 50 60				60	V		
Maximum average forward rectified current at 0.375" (9.5 mm) lead length (Fig. 1)	I _{F(AV)}	F(AV) 2.0				Α		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	50			Α			
Voltage rate of change (rated V _R)	dV/dt	10 000 V/			V/µs			
Operating junction temperature range	TJ	T _J - 65 to + 125 - 65 to + 150		+ 150	°C			
Storage temperature range	T _{STG}	- 65 to + 150 °C				°C		

ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)										
PARAMETER	TEST	CONDITIONS	SYMBOL	SB220S	SB230S	SB240S	SB250S	SB260S	UNIT	
Maximum instantaneous forward voltage (1)	2.0 A		V _F	0.55		0.70		V		
Maximum reverse current at rated V _R ⁽²⁾	T _J = 25 °C			0.50						
Maximum reverse current at rated \mathbf{v}_{R}	T _J = 125 °C	T _J = 125 °C	^I R		25		1	5	mA	

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

(2) Pulse test: Pulse width ≤ 40 ms







COMPLIANT



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THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	SB220S	SB230S	SB240S	SB250S	SB260S	UNIT
Typical thermal resistance (1)	$R_{ hetaJA} \ R_{ hetaJL}$			75 25			°C/W

Note:

(1) Thermal resistance junction to lead P.C.B. mounted 0.375" (9.5 mm) lead length

ORDERING INFORMATION (Example)									
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE					
SB240S-E3/54	0.346	54	5500	13" diameter paper tape and reel					
SB240S-E3/73	0.346	73	3000	Ammo pack packaging					

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

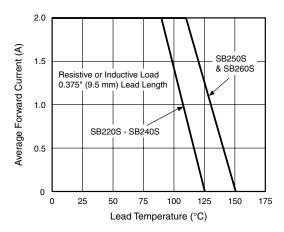


Figure 1. Forward Current Derating Curve

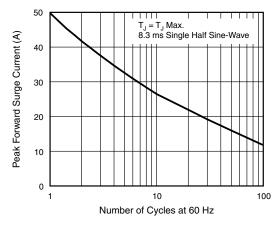


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

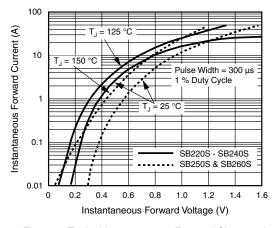


Figure 3. Typical Instantaneous Forward Characteristics

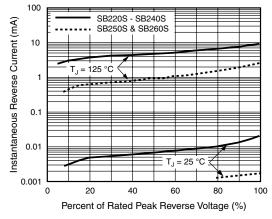


Figure 4. Typical Reverse Characteristics



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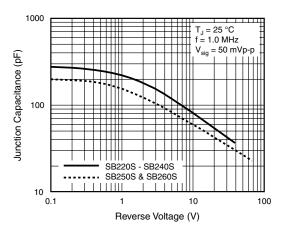


Figure 5. Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AL (DO-41) 1.0 (25.4) MIN. 0.25.4) 0.205 (5.2) 0.160 (4.1) 1.0 (25.4) MIN. 0.205 (5.2) 0.160 (4.1) 0.034 (0.86) 0.028 (0.71) DIA.



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