

SB220S, SB230S, SB240S, SB250S, SB260S

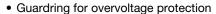
Vishay General Semiconductor

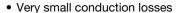
Schottky Barrier Plastic Rectifier



PRIMARY CHARACTERISTICS							
I _{F(AV)} 2.0 A							
V_{RRM}	20 V, 30 V, 40 V, 50 V, 60 V						
I _{FSM}	50 A						
V _F	0.55 V, 0.70 V						
T _J max.	125 °C, 150 °C						
Package	DO-204AL						
Diode variations	Single						

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

 Material categorization: For definitions of compliance please see <u>www.vishay.com/doc?99912</u>

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: DO-204AL (DO-41)

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	SB220S	SB230S	SB240S	SB250S	SB260S	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	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)}	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/µs				V/µs		
Operating junction temperature range	T_J	- 65 to + 125 - 65 to + 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	MBOL SB220S SB230S SB240S		SB250S	SB260S	UNIT	
Maximum instantaneous forward voltage	2.0 A		V _F ⁽¹⁾	0.55		0.70		V	
Maximum reverse current at rated V _R		T _J = 25 °C	I _R ⁽²⁾	0.50			mA		
iviaximum reverse current at rated v _R		T _J = 125 °C	¹R ^(−)	25		1	5	IIIA	

Notes

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

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

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THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	SB220S	SB230S	SB240S	SB250S	SB260S	UNIT
Typical thormal resistance	R ₀ JA (1)	75					°C/W
Typical thermal resistance	R _{0JL} (1)	25				C/VV	

Note

⁽¹⁾ Thermal resistance from 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)

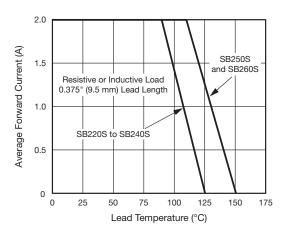


Fig. 1 - Forward Current Derating Curve

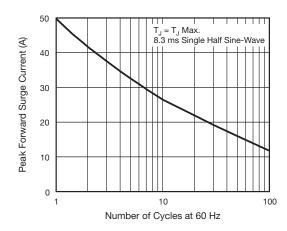


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

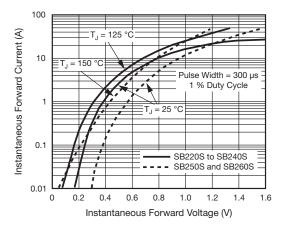


Fig. 3 - Typical Instantaneous Forward Characteristics

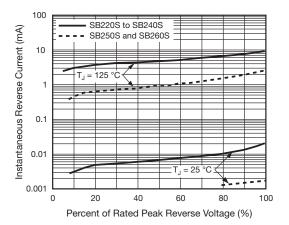


Fig. 4 - Typical Reverse Characteristics

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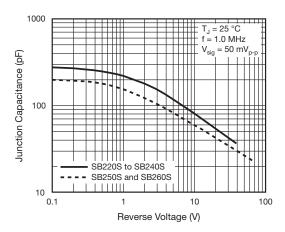


Fig. 5 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

0.107 (2.7) 0.080 (2.0) DIA. 0.034 (0.86) 0.028 (0.71) DIA.



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