

Vishay General Semiconductor

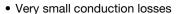
Schottky Barrier Plastic Rectifier



PRIMARY CHARACTERISTICS							
I _{F(AV)} 2.0 A							
V_{RRM}	20 V, 30 V, 40 V, 50 V, 60 V						
I _{FSM}	60 A						
V _F	0.50 V, 0.68 V						
T _J max.	125 °C, 150 °C						
Package	DO-15 (DO-204AC)						
Circuit configuration	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 www.vishay.com/doc?99912

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: DO-15 (DO-204AC)

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

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	SB220	SB230	SB240	SB250	SB260	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	V	
Maximum RMS voltage	V _{RMS}	14	21	28	35	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)}	2.0				Α		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	60				А		
Maximum full load reverse current, full cycle average at T _A = 75 °C	I _{R(AV)}	30					mA	
Voltage rate of change (rated V _R)	dV/dt	10 000					V/µs	
Operating junction temperature range	TJ	-65 to +125 -65 to +150					°C	
Storage temperature range	T _{STG}	-65 to +150				°C		



SB220, SB230, SB240, SB250, SB260

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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	TEST CONDITIONS		SYMBOL	SB220	SB230	SB240	SB250	SB260	UNIT
Maximum instantaneous forward voltage	2.0 A		V _F ⁽¹⁾	0.50		0.68		V	
Maximum instantaneous reverse current		T _A = 25 °C	I _R ⁽¹⁾	0.50				mA	
at rated DC blocking voltage		T _A = 100 °C	IR ' '	15 8.0		.0	IIIA		
Typical junction capacitance			CJ	170			pF		

Note

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

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL SB220 SB230 SB240 SB250 SB260 UN						UNIT
Typical thermal registance	R _{0JA} (1)			45			
Typical thermal resistance	R _{0JL} (1)	14				°C/W	

Note

(1) Thermal resistance junction to lead PCB mounted 0.375" (9.5 mm) lead length

ORDERING INFORMATION (Example)								
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE				
SB240-E3/54	0.398	54	4000	13" diameter paper tape and reel				
SB240-E3/73	0.398	73	2000	Ammo pack packaging				

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RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

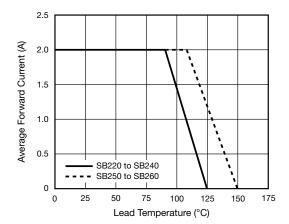


Fig. 1 - Forward Current Derating Curve

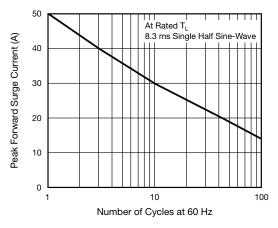


Fig. 2 - Maximum Non-Repetitive Surge Current

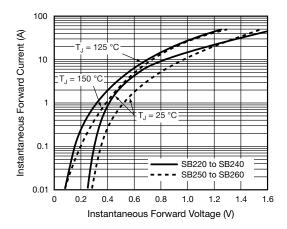


Fig. 3 - Typical Instantaneous Forward Characteristics

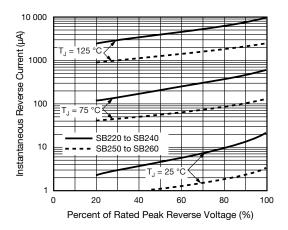


Fig. 4 - Typical Reverse Characteristics

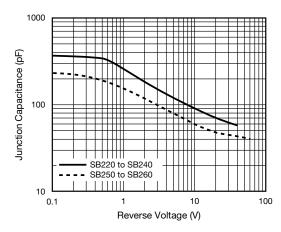


Fig. 5 - Typical Junction Capacitance

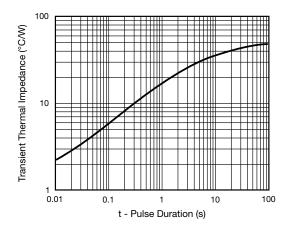


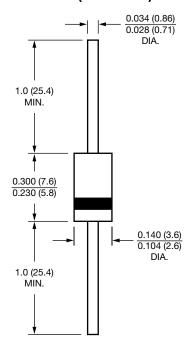
Fig. 6 - Typical Transient Thermal Impedance



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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-15 (DO-204AC)





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