

# SB120A THRU SB160A

## SCHOTTKY BARRIER RECTIFIER

Reverse Voltage – 20 to 60 V

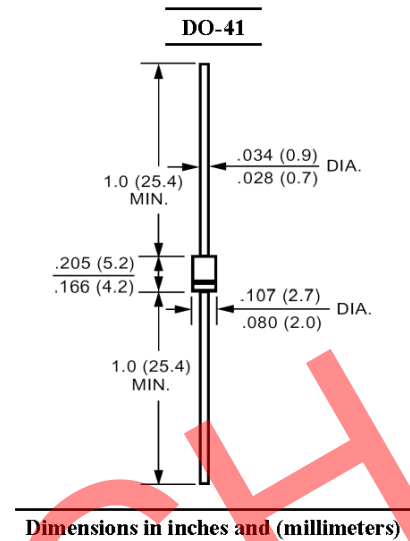
Forward Current – 1 A

### Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Low power loss, high efficiency
- Guardring for overvoltage protection
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications

### Mechanical Data

- Case: Molded plastic, DO-41
- Terminals: Plated axial leads, solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any

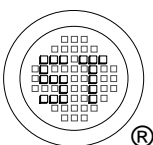


### Absolute Maximum Ratings and Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

Parameter	Symbols	SB120A	SB130A	SB140A	SB150A	SB160A	Units
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	20	30	40	50	60	V
Maximum RMS Voltage	V <sub>RMS</sub>	14	21	28	35	42	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	20	30	40	50	60	V
Maximum Average Forward Rectified Current 0.375" (9.5 mm) Lead Length	I <sub>(AV)</sub>	1					A
Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I <sub>FSM</sub>	35					A
Maximum Forward Voltage at 1 A <sup>2)</sup>	V <sub>F</sub>	0.5		0.7		V	
Maximum Reverse Current T <sub>A</sub> = 25 °C at Rated DC Blocking Voltage <sup>2)</sup> T <sub>A</sub> = 100 °C	I <sub>R</sub>	0.5		5		mA	
Voltage rate of change (rated V <sub>R</sub> )	dv/dt	1000					V/μs
Typical Thermal Resistance <sup>1)</sup>	R <sub>θJA</sub> R <sub>θJL</sub>	100 30					°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-65 to +125			-65 to +150		°C
Storage Temperature Range	T <sub>Stg</sub>	-65 to +150					°C

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

<sup>2)</sup> Pulse test: 300 μs pulse width, 1% duty cycle



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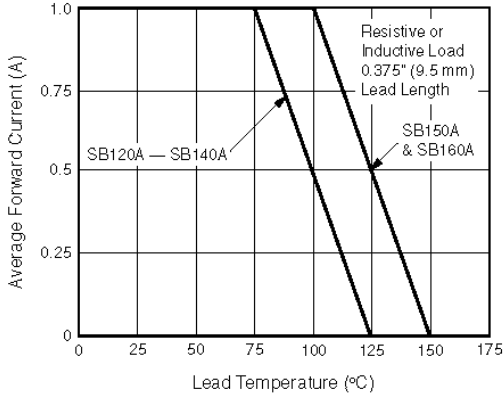


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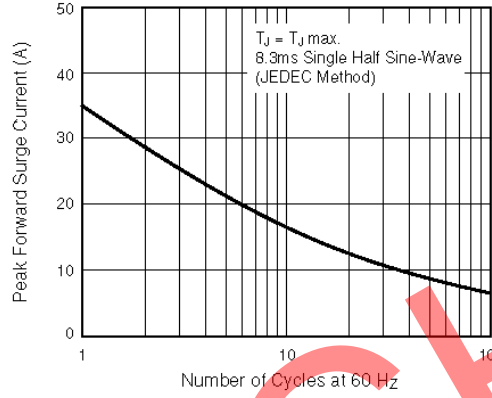
# SB120A THRU SB160A

## Ratings and Characteristic Curves (T<sub>A</sub> = 25°C unless otherwise noted)

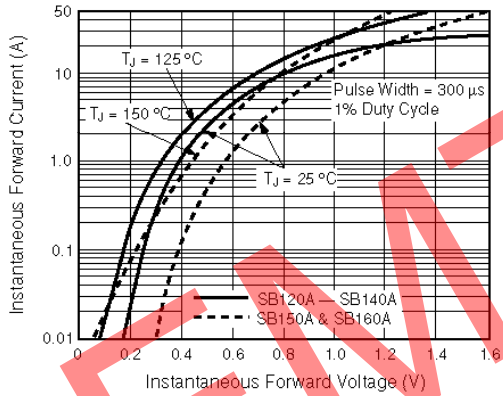
**Fig. 1 - Forward Current Derating Curve**



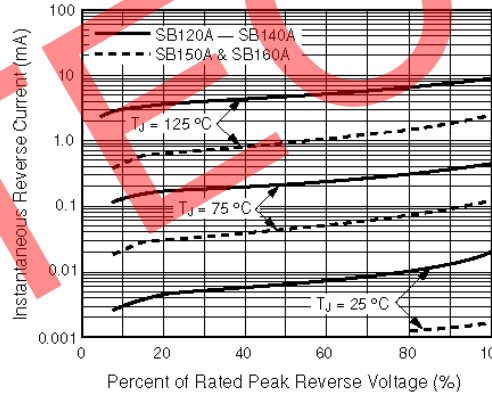
**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current**



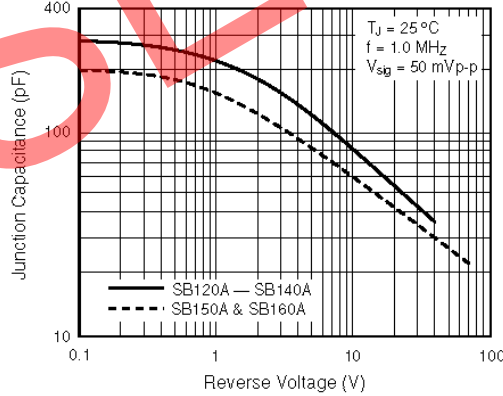
**Fig. 3 - Typical Instantaneous Forward Characteristics**



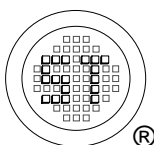
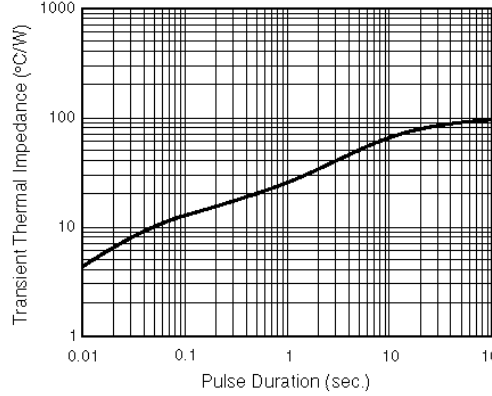
**Fig. 4 - Typical Reverse Characteristics**



**Fig. 5 - Typical Junction Capacitance**



**Fig. 6 - Typical Transient Thermal Impedance**



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