

SB120A THRU SB160A

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SCHOTTKY BARRIER RECTIFIER

Reverse Voltage – 20 to 60 V

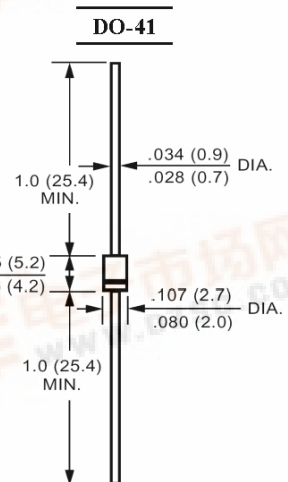
Forward Current – 1 A

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



Dimensions in inches and (millimeters)

Absolute Maximum Ratings and Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbols	SB120A	SB130A	SB140A	SB150A	SB160A	Units
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 0.375" (9.5 mm) Lead Length	I _(AV)	1					A
Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	35					A
Maximum Forward Voltage at 1 A ²⁾	V _F	0.5			0.7		V
Maximum Reverse Current T _A = 25 °C at Rated DC Blocking Voltage ²⁾ T _A = 100 °C	I _R	0.5					mA
		10			5		
Voltage rate of change (rated V _R)	dv/dt	1000					V/μs
Typical Thermal Resistance ¹⁾	R _{θJA}	100					°C/W
	R _{θJL}	30					
Operating Junction Temperature Range	T _J	-65 to +125			-65 to +150		°C
Storage Temperature Range	T _S	-65 to +150					°C

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

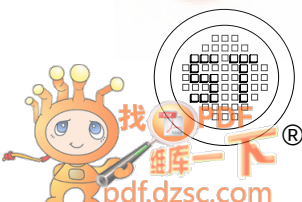
²⁾ Pulse test: 300 μs pulse width, 1% duty cycle

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Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

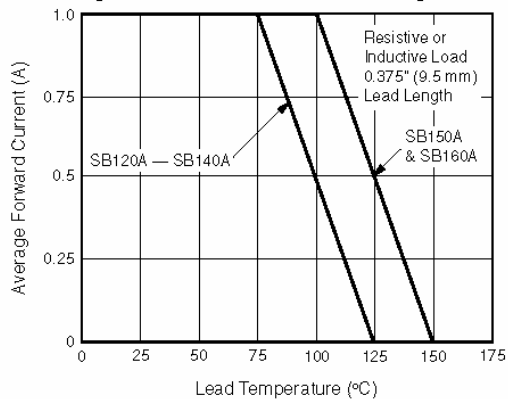


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

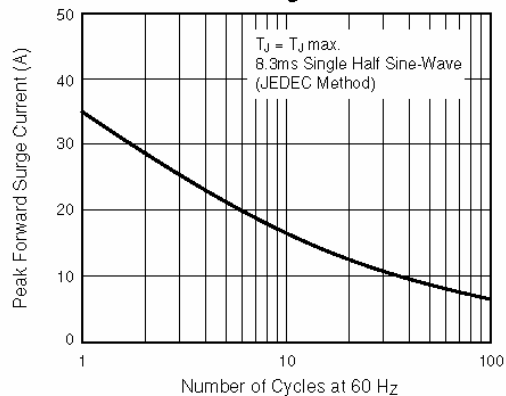


Fig. 3 - Typical Instantaneous Forward Characteristics

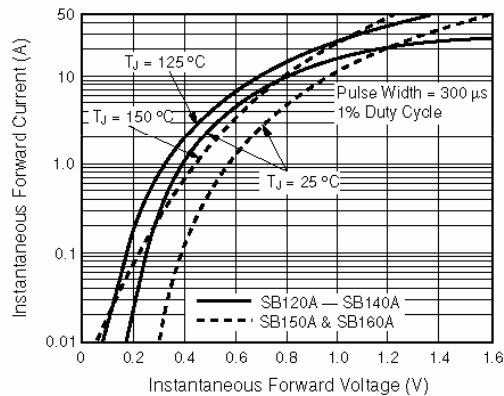


Fig. 4 - Typical Reverse Characteristics

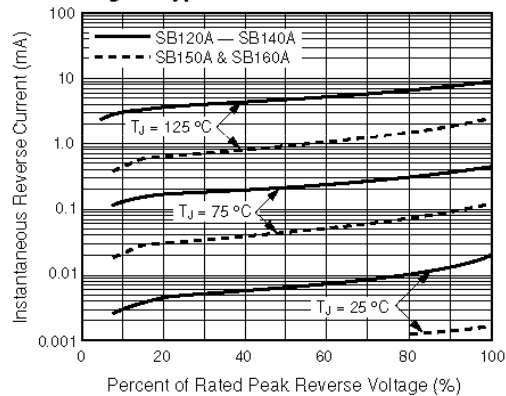


Fig. 5 - Typical Junction Capacitance

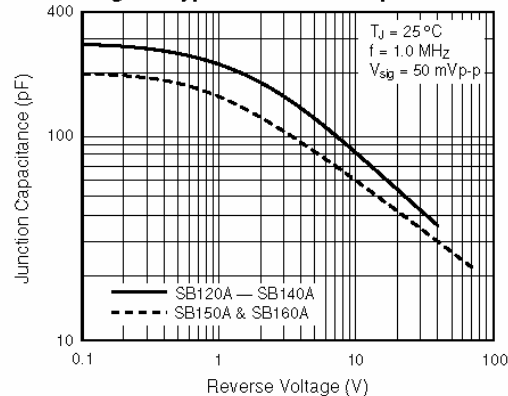
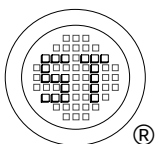
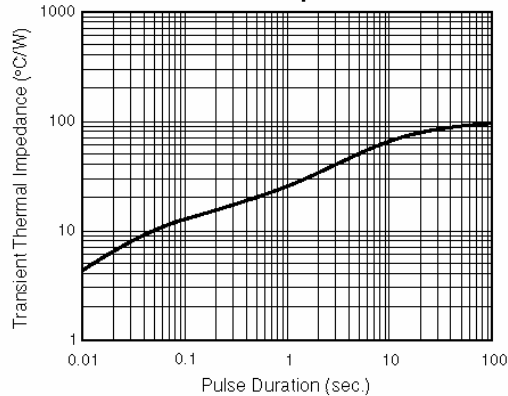


Fig. 6 - Typical Transient Thermal Impedance



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ISO/TS 16949 : 2002
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