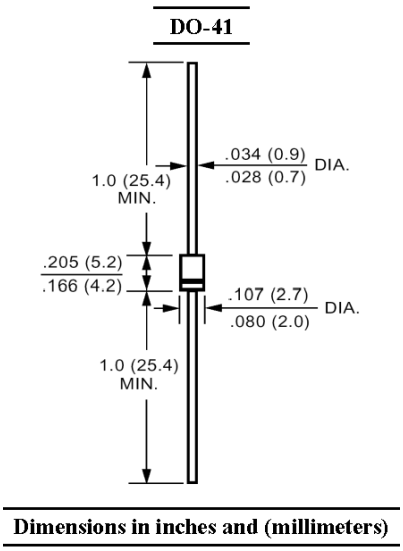
SB120A THRU SB160A

SCHOTTKY BARRIER RECTIFIER
Reverse Voltage – 20 to 60 V
Forward Current – 1 A



Dimensions in inches and (millimeters)

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_A = 25 °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	I_R	0.5					mA
at Rated DC Blocking Voltage [2] T_A = 100 °C		10			5		
Voltage rate of change (rated V_R)	dv/dt	1000					V/µs
Typical Thermal Resistance [1]	$R_{\theta JA}$	100					°C/W
	$R_{\theta JL}$	30					
Operating Junction Temperature Range	T_J	-65 to +125			-65 to +150		°C
Storage Temperature Range	T_{Stg}	-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

Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

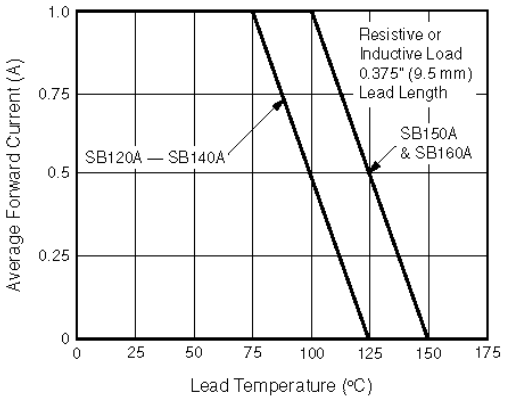


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

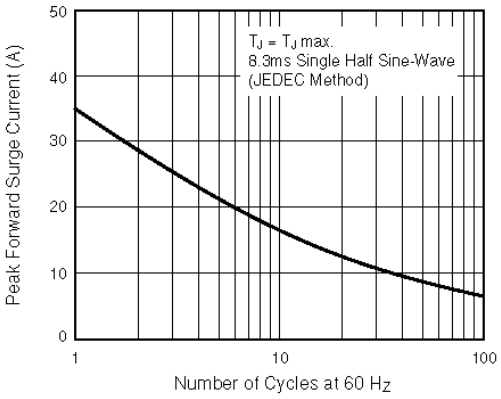


Fig. 3 - Typical Instantaneous Forward Characteristics

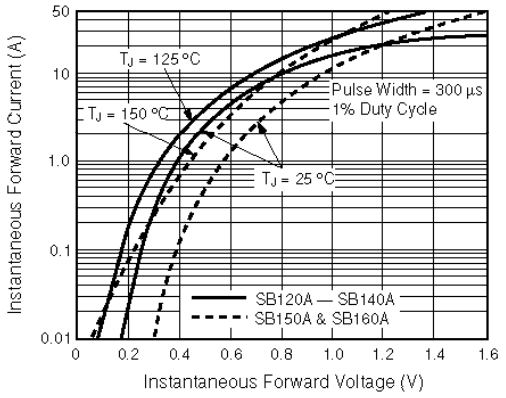


Fig. 4 - Typical Reverse Characteristics

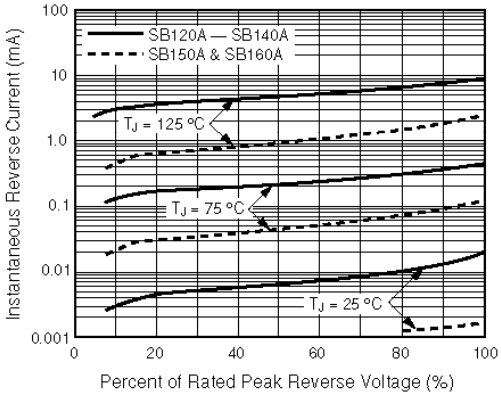


Fig. 5 - Typical Junction Capacitance

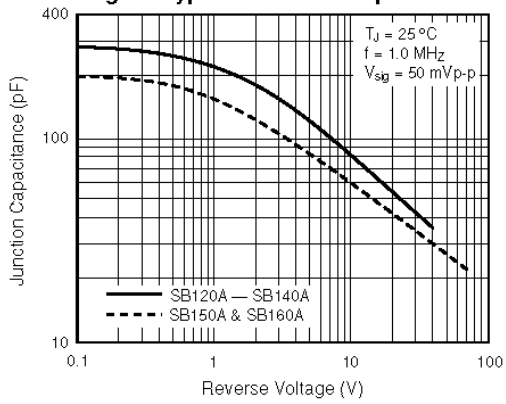


Fig. 6 - Typical Transient Thermal Impedance