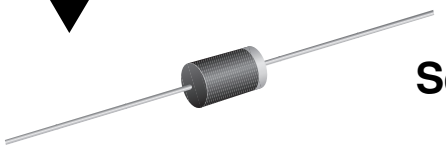
SB120 thru SB160

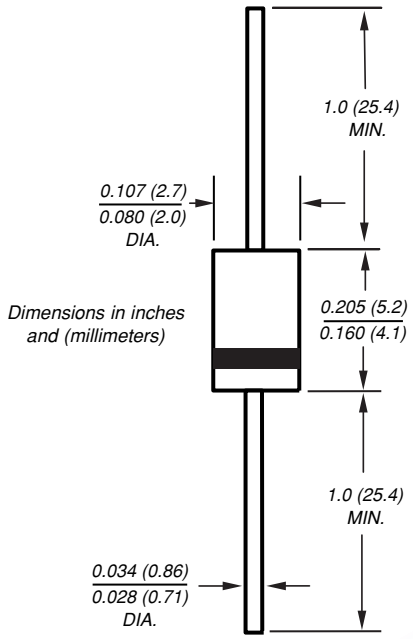
Vishay Semiconductors
formerly General Semiconductor



Schottky Barrier Rectifier

Reverse Voltage 20 to 60V
Forward Current 1.0A

DO-204AL (DO-41)



Dimensions in inches and (millimeters)

Features

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

Mechanical Data

Case: JEDEC DO-204AL molded plastic body
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
High temperature soldering guaranteed: 250°C/10 seconds 0.375" (9.5mm) lead length, 5lbs. (2.3kg) tension
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.012 ounce, 0.34 gram

Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

Parameter	Symbol	SB120	SB130	SB140	SB150	SB160	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" (9.5mm) lead length (See Fig. 1)	$I_{F(AV)}$	1.0					A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	50					A
Typical thermal resistance (1)	$R_{\theta JA}$ $R_{\theta JL}$	50 15					°C/W
Operating junction temperature range	T_J	−65 to +125			−65 to +150		°C
Storage temperature range	T_{STG}	−65 to +150					°C

Electrical Characteristics (T_A = 25°C unless otherwise noted)

Maximum instantaneous forward voltage at 1.0A (2)		V_F	0.48	0.65	V
Maximum instantaneous reverse current at rated DC blocking voltage (2)	T_A = 25°C	I_R	0.5		mA
	T_A = 100°C		10	5.0	

Notes: (1) Thermal resistance junction to lead P.C.B. mounted 0.375" (9.5mm) lead length
(2) Pulse test: 300µs pulse width, 1% duty cycle

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

Fig. 1 - Forward Current Derating Curve

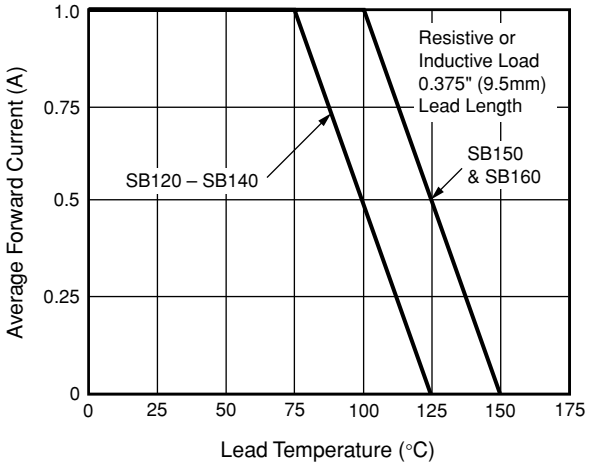


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

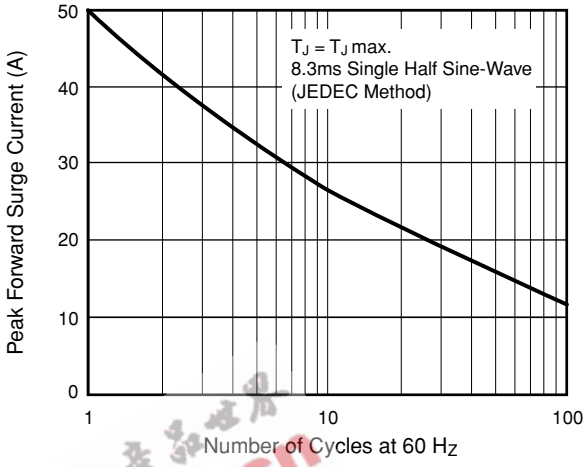


Fig. 3 - Typical Instantaneous Forward Characteristics

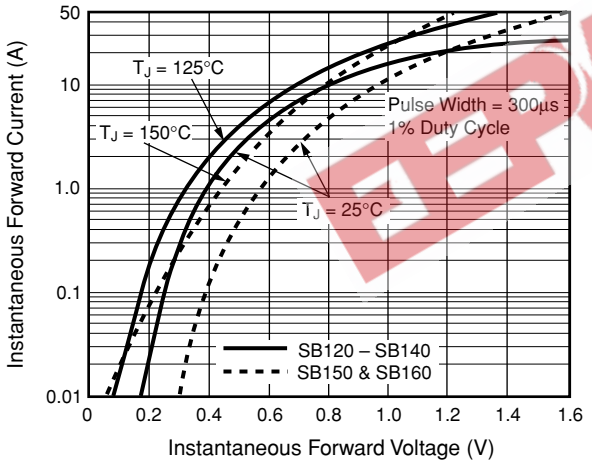


Fig. 4 - Typical Reverse Characteristics

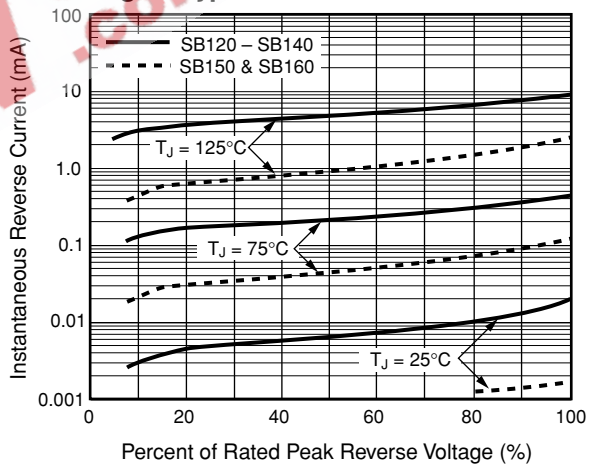


Fig. 5 - Typical Junction Capacitance

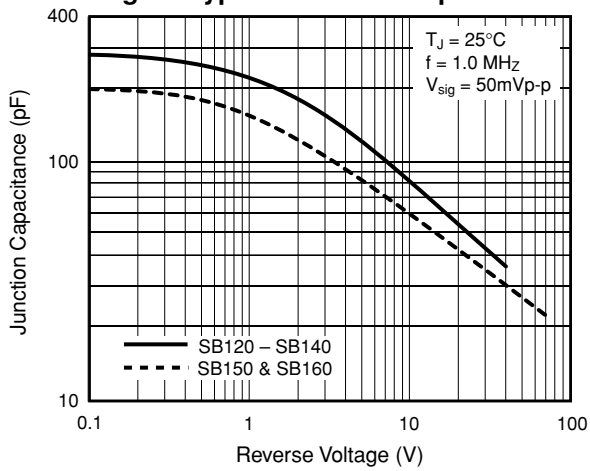


Fig. 6 - Typical Transient Thermal Impedance