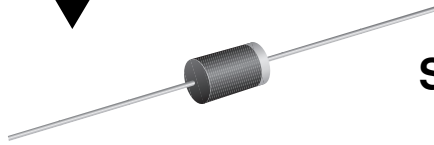




# SB120 thru SB160

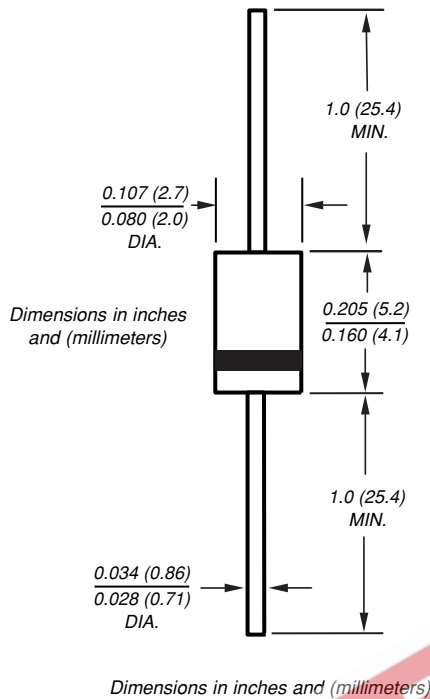
Vishay Semiconductors  
formerly General Semiconductor



## Schottky Barrier Rectifier

Reverse Voltage 20 to 60V  
Forward Current 1.0A

DO-204AL (DO-41)



### 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<sub>A</sub> = 25°C unless otherwise noted)

Parameter	Symbol	SB120	SB130	SB140	SB150	SB160	Unit
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 at 0.375" (9.5mm) lead length (See Fig. 1)	I <sub>F(AV)</sub>	1.0					A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	50					A
Typical thermal resistance <sup>(1)</sup>	R <sub>θJA</sub> R <sub>θJL</sub>	50 15					°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

### Electrical Characteristics (T<sub>A</sub> = 25°C unless otherwise noted)

Maximum instantaneous forward voltage at 1.0A <sup>(2)</sup>	V <sub>F</sub>	0.48		0.65		V	
Maximum instantaneous reverse current at rated DC blocking voltage <sup>(2)</sup>	I <sub>R</sub>	0.5					mA
		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

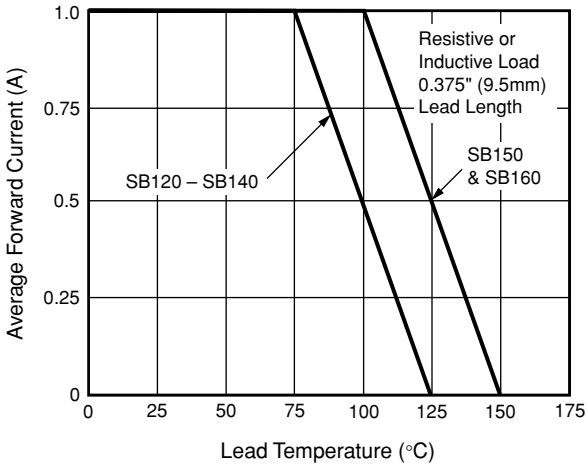
# SB120 thru SB160



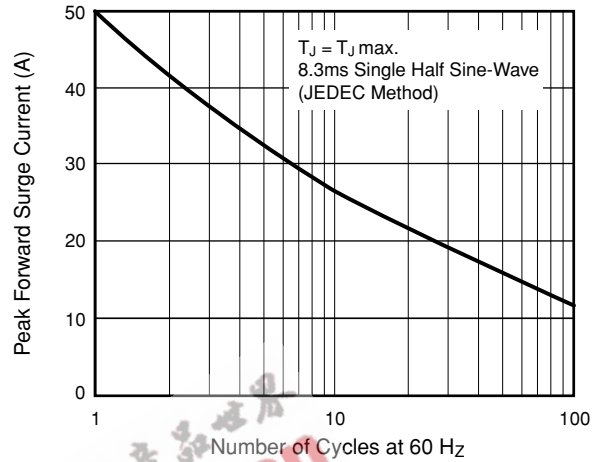
Vishay Semiconductors  
formerly General Semiconductor

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

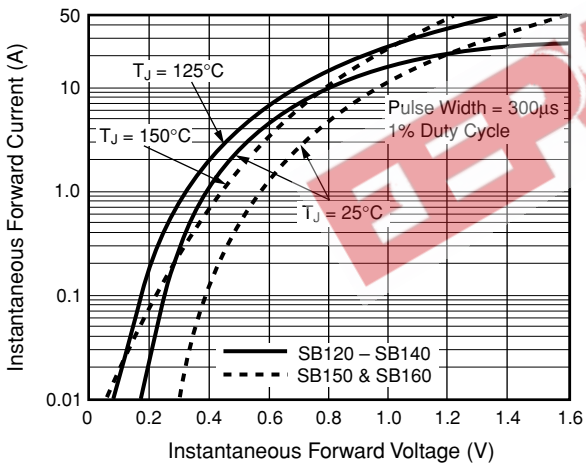
**Fig. 1 - Forward Current Derating Curve**



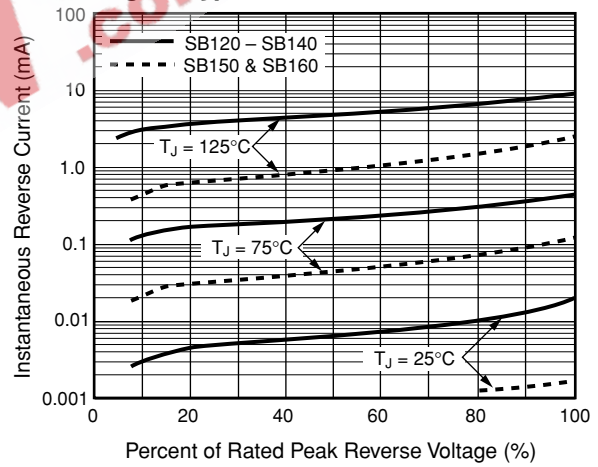
**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current**



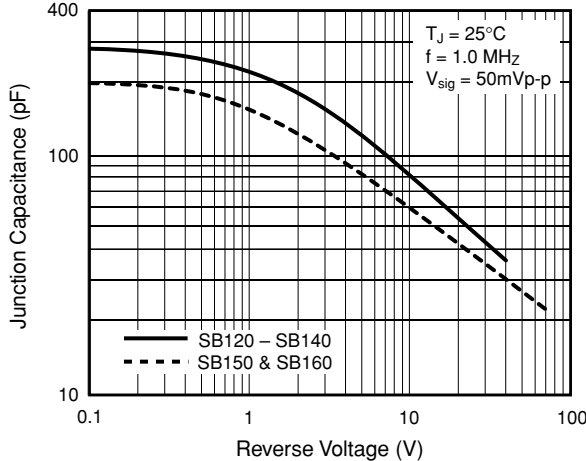
**Fig. 3 - Typical Instantaneous Forward Characteristics**



**Fig. 4 - Typical Reverse Characteristics**



**Fig. 5 - Typical Junction Capacitance**



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

