



# SB220 THRU SB2100

## SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 100 Volts      Forward Current - 2.0 Ampere

### FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- High forward surge current capability
- High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

### MECHANICAL DATA

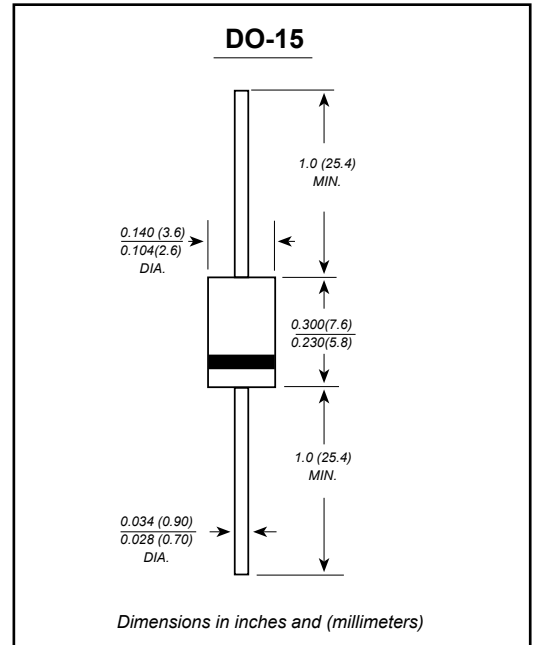
**Case:** JEDEC DO-15 molded plastic body

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.014 ounce, 0.40 grams



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Characteristic	SYMBOLS	SB 220	SB 230	SB 240	SB 250	SB 260	SB 270	SB 280	SB 290	SB 2100	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	70	80	90	100	V
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	49	56	63	70	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	70	80	90	100	V
Maximum average forward rectified current 0.375" (9.5mm) lead length (see fig. 1)	$I_{(AV)}$	2.0									A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	60.0									A
Maximum instantaneous forward voltage at 2.0A	$V_F$	0.55		0.70		0.85				V	
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	0.5									mA
		10.0									
Typical junction capacitance (NOTE 1)	$C_J$	220			80					pF	
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	50.0									°C/W
Operating junction temperature range	$T_J$	-65 to +125			-65 to +150					°C	
Storage temperature range	$T_{STG}$	-65 to +150									°C

**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

2. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

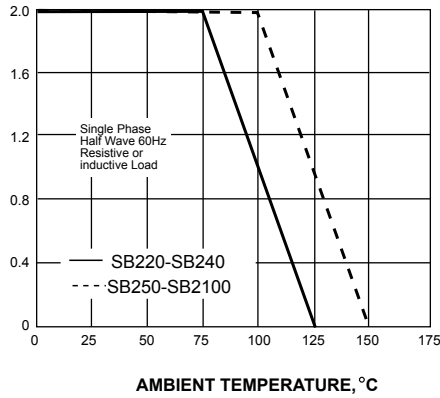


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## RATINGS AND CHARACTERISTIC CURVES

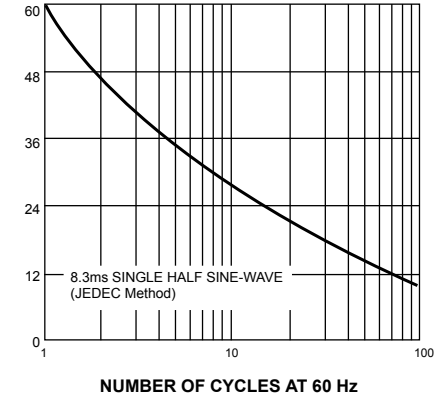
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

**FIG. 1- FORWARD CURRENT DERATING CURVE**



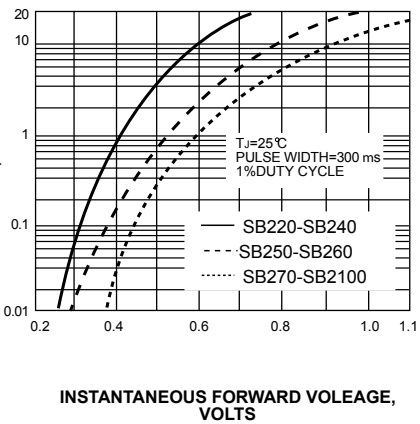
PEAK FORWARD SURGE CURRENT, AMPERES

**FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



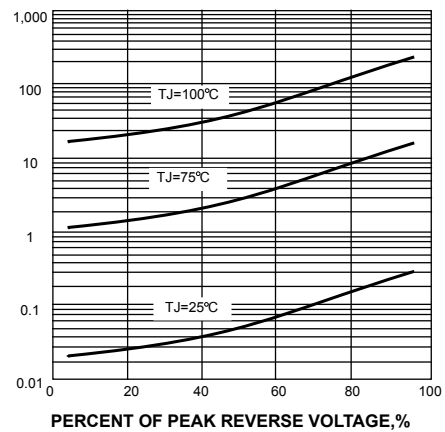
INSTANTANEOUS FORWARD CURRENT, AMPERES

**FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



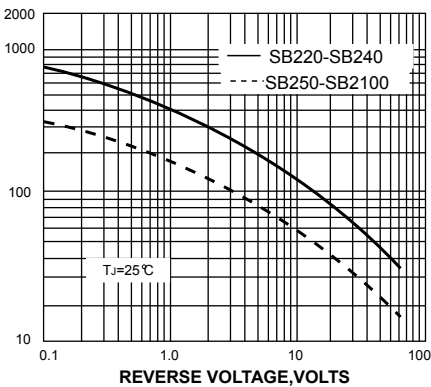
INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

**FIG. 4-TYPICAL REVERSE CHARACTERISTICS**



JUNCTION CAPACITANCE, pF

**FIG. 5-TYPICAL JUNCTION CAPACITANCE**



TRANSIENT THERMAL IMPEDANCE, °C/W

**FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE**

