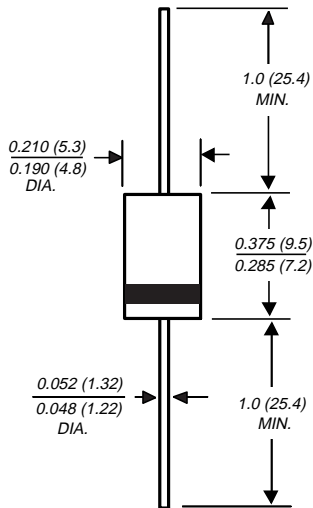


# SB320 THRU SB360

## MEDIUM CURRENT SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 60 Volts    Forward Current - 3.0 Amperes

### DO-201AD



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Metal to silicon rectifier, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High current capability, low  $V_F$
- ◆ High surge capacity
- ◆ Epitaxial construction
- ◆ Guardring for transient protection
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆ High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3 kg) tension



### MECHANICAL DATA

**Case:** JEDEC DO-201AD molded plastic body

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

**Polarity:** Color band denotes cathode

**Mounting Position:** Any

**Weight:** 0.04 ounces, 1.12 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	SB320	SB330	SB340	SB350	SB360	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	Volts
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	Volts
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	Volts
Maximum average forward rectified current at 0.375" (9.5mm) lead length (SEE FIG. 1)	$I_{(AV)}$	3.0					Amps
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	80.0					Amps
Maximum instantaneous forward voltage at 3.0A (NOTE 1)	$V_F$	0.50			0.74		Volts
Maximum instantaneous reverse current at rated DC blocking voltage (NOTE 1) $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	$I_R$	0.5					mA
		20.0			10.0		
Typical thermal resistance (NOTE 1)	$R_{\theta JA}$	40.0					°C/W
	$R_{\theta JL}$	10.0					
Operating junction temperature range	$T_J$	-65 to +125			-65 to +150		°C
Storage temperature range	$T_{STG}$	-65 to +150					°C

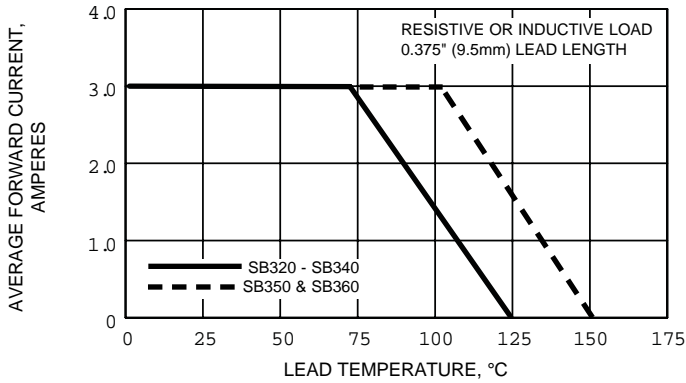
#### NOTES:

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

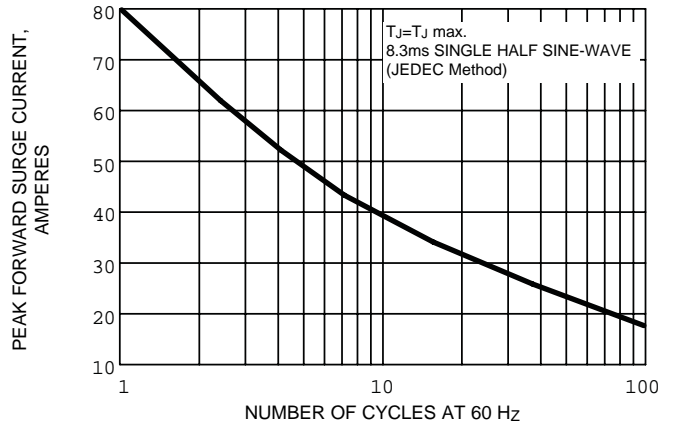
(2) Thermal resistance from junction to lead vertical P.C.B. mounting, 0.500" (12.7mm) lead length with 2.5 x 2.5" (63.5 x 63.5mm) copper pad

# RATINGS AND CHARACTERISTIC CURVES SB320 THRU SB360

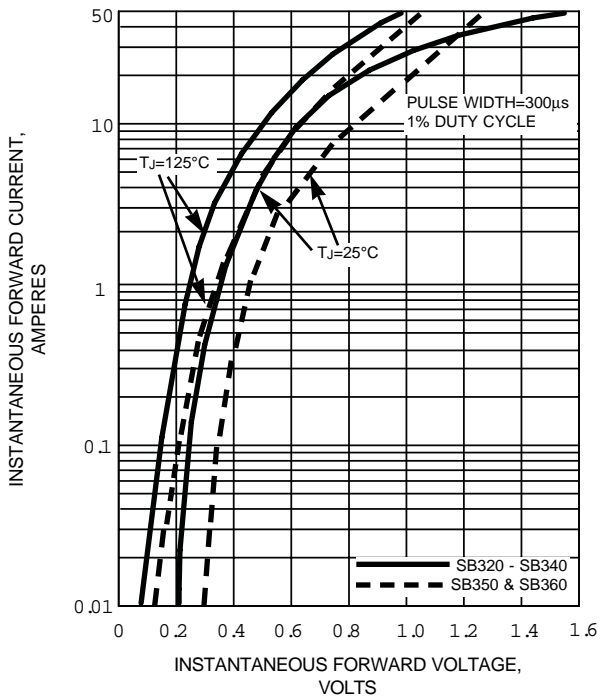
**FIG. 1 - FORWARD CURRENT DERATING CURVE**



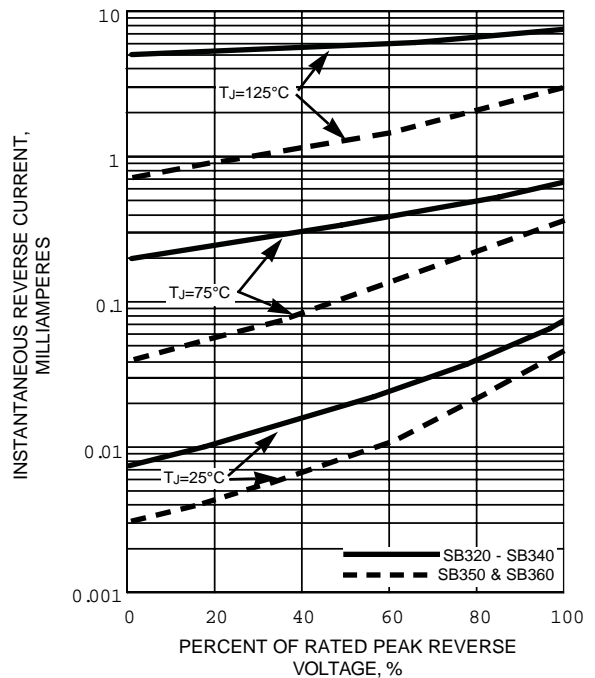
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



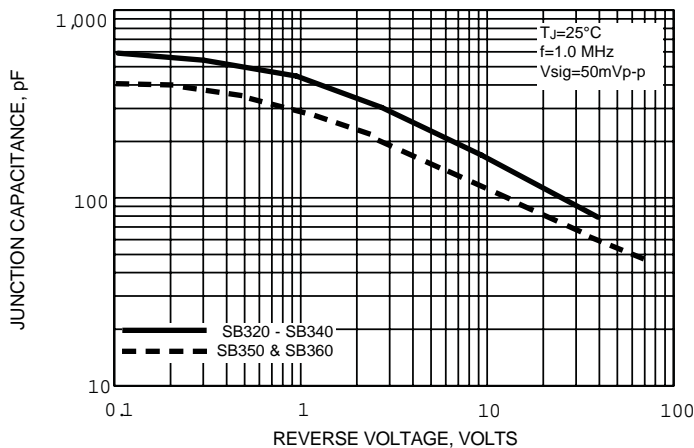
**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**



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

