

### SCHOTTKY BARRIER RECTIFIER

VOLTAGE RANGE: 80 --- 100 V  
CURRENT: 3.0 A

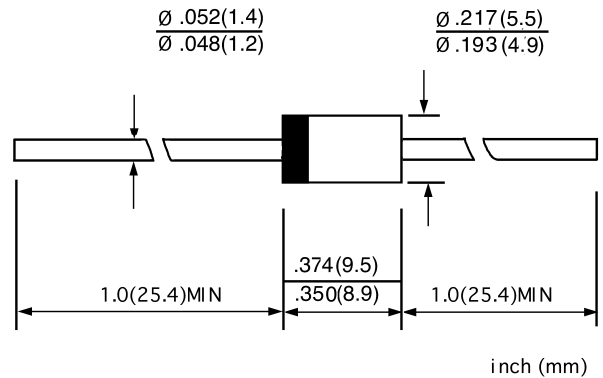
#### FEATURES

- ◇ Metal-Semiconductor junction with guard ring
- ◇ Epitaxial construction
- ◇ Low forward voltage drop, low switching losses
- ◇ High surge capability
- ◇ For use in low voltage, high frequency inverters free wheeling, and polarity protection applications
- ◇ The plastic material carries U/L recognition 94V-0

#### MECHANICAL DATA

- ◇ Case: JEDEC DO-27, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.041 ounces, 1.15 grams
- ◇ Mounting position: Any

#### DO - 27



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

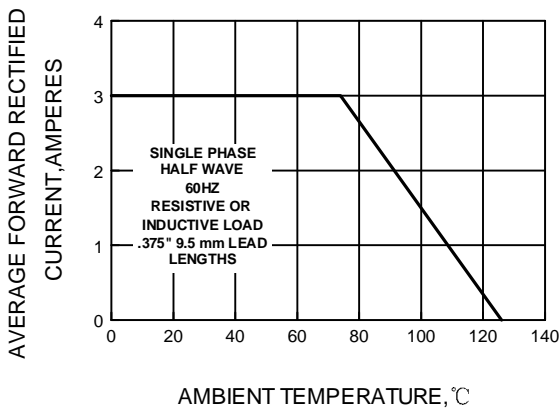
Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

		SB380	SB390	SB3A0	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	80	90	100	V
Maximum RMS voltage	$V_{RMS}$	56	63	70	V
Maximum DC blocking voltage	$V_{DC}$	80	90	100	V
Maximum average forward rectified current 9.5mm lead length, (see fig.1)	$I_{F(AV)}$	3.0			A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	$I_{FSM}$	80.0			A
Maximum instantaneous forward voltage @ 3.0 A (Note 1)	$V_F$	0.85			V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	$I_R$	0.5 10.0			mA
Typical junction capacitance (Note2)	$C_J$	180			pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	40			°C/W
Operating junction temperature range	$T_J$	-55 --- +125			°C
Storage temperature range	$T_{STG}$	-55 --- +150			°C

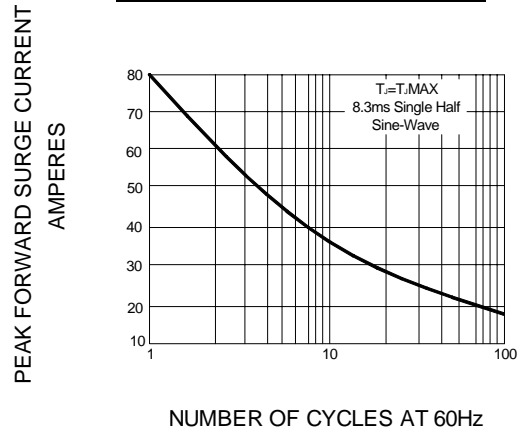
NOTE: 1. Pulse test : 300  $\mu$ s pulse width, 1% duty cycle.  
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.  
3. Thermal resistance junction to ambient

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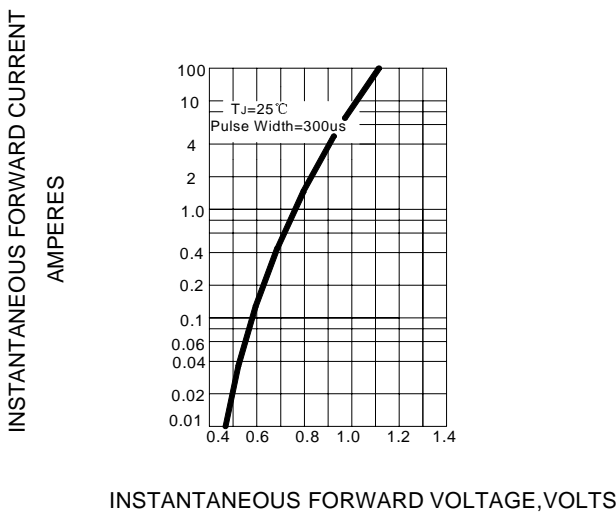
**FIG.1 -- FORWARD CURRENT DERATING CURVE**



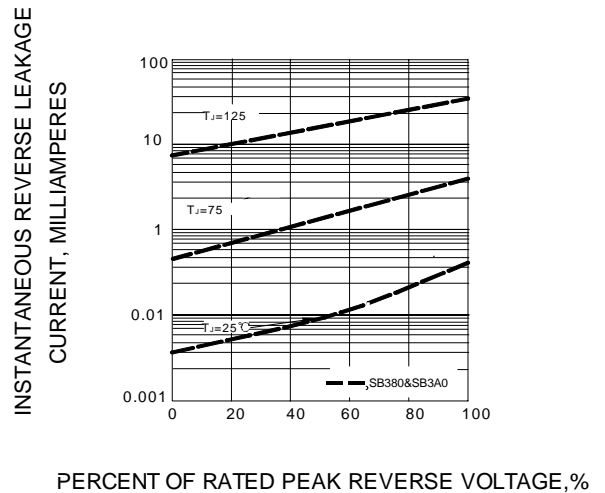
**FIG.2 --MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



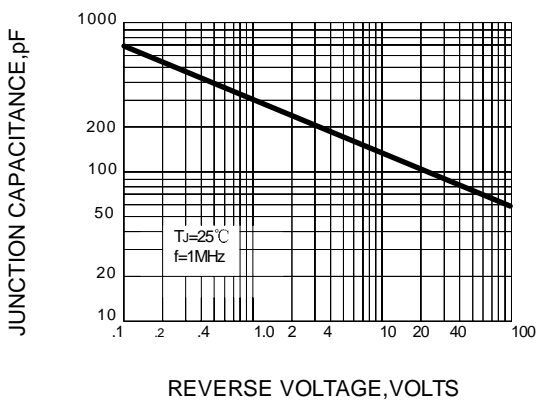
**FIG.3 --TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG.4--TYPICAL REVERSE CHARACTERISTICS**



**FIG.5--TYPICAL JUNCTION CAPACITANCE**



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

