



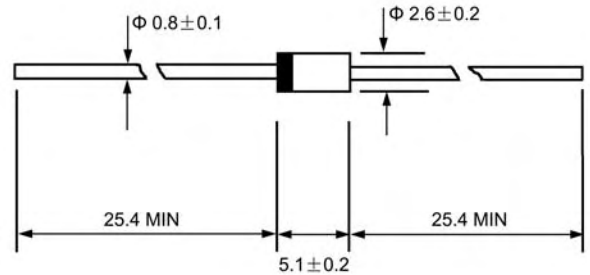
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## Features

- 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-41, molded plastic
- Polarity: Color band denotes cathode
- Weight: 0.012 ounces, 0.34 grams
- Mounting position: Any



Dimensions in millimeters

## 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%.

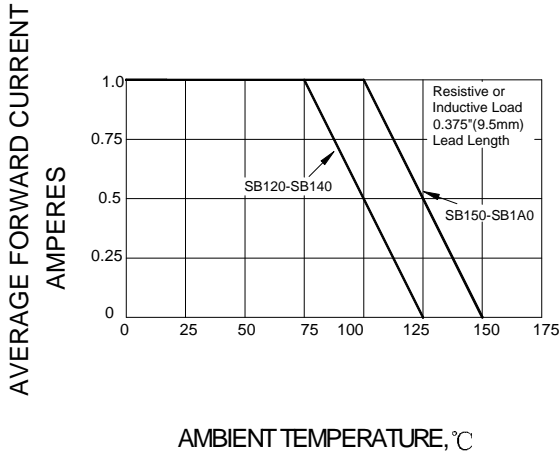
		SB 120	SB 130	SB 140	SB 150	SB 160	SB 170	SB 180	SB 190	SB 1A0	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	20	30	40	50	60	70	80	90	100	V
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	49	56	63	70	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	70	80	90	100	V
Maximum average forward rectified current 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 @ $T_J=125$	$I_{FSM}$	40.0									A
Maximum instantaneous forward voltage @ 1.0A	$V_F$	0.5			0.7		0.85			V	
Maximum reverse current @ $T_A=25$ at rated DC blocking voltage @ $T_A=100$	$I_R$	0.5									mA
		10.0			5.0						
Typical junction capacitance (Note1)	$C_J$	110			80						pF
Typical thermal resistance (Note2)	$R_{\theta JA}$	50									/W
Operating junction temperature range	$T_J$	- 55 --- + 125			- 55 --- + 150						
Storage temperature range	$T_{STG}$	- 55 --- + 150									

NOTE: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

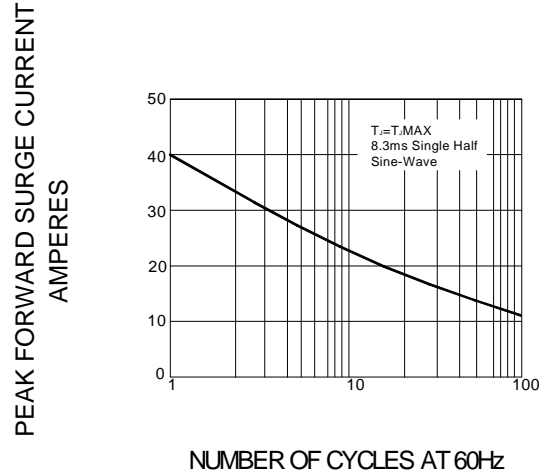
2. Thermal resistance junction to ambient

## Ratings AND Characteristic Curves

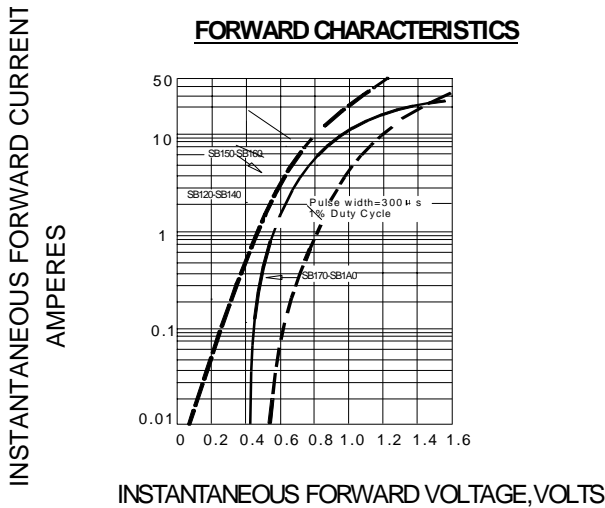
**FIG.1 – FORWARD CURRENT DERATING CURVE**



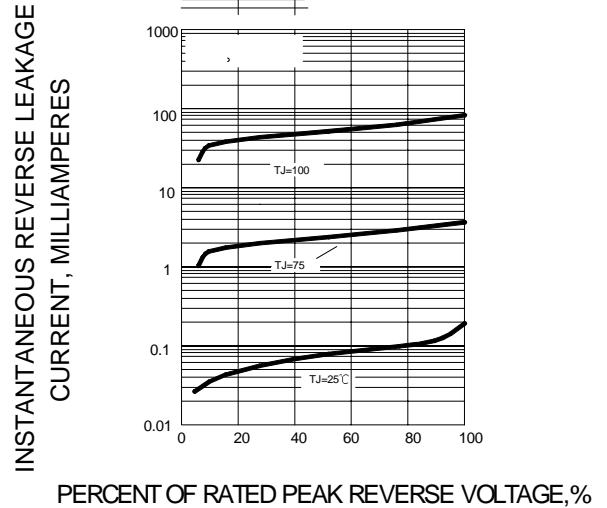
**FIG.2 –MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



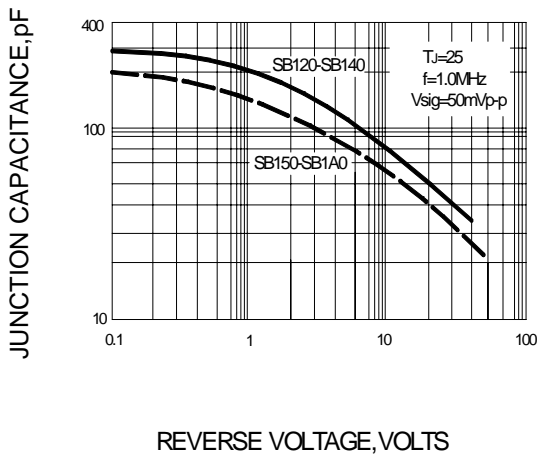
**FIG.3 –TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG.4-TYPICAL REVERSE CHARACTERISTICS**



**FIG.5-TYPICAL JUNCTION CAPACITANCE**



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

