

SCHOTTKY BARRIER RECTIFIERS

VOLTAGE RANGE: 20 --- 100 V

CURRENT: 1.0 A

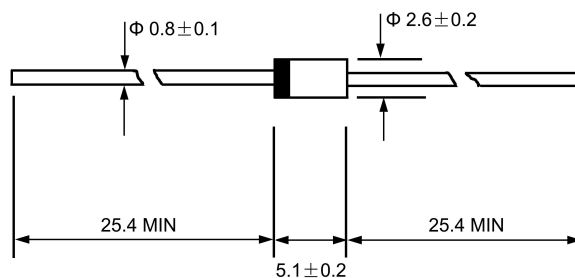
FEATURES

- ◇ 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-41, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.012 ounces, 0.34 grams
- ◇ Mounting position: Any

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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°C	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°C at rated DC blocking voltage @T _A =100°C	I _R	0.5									mA
		10.0			5.0						
Typical junction capacitance (Note1)	C _J	110			80			pF			
Typical thermal resistance (Note2)	R _{θJA}	50									°C/W
Operating junction temperature range	T _J	- 55 --- + 125			- 55 --- + 150			°C			
Storage temperature range	T _{STG}	- 55 --- + 150									°C

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

2. Thermal resistance junction to ambient

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FIG.1 – FORWARD CURRENT DERATING CURVE

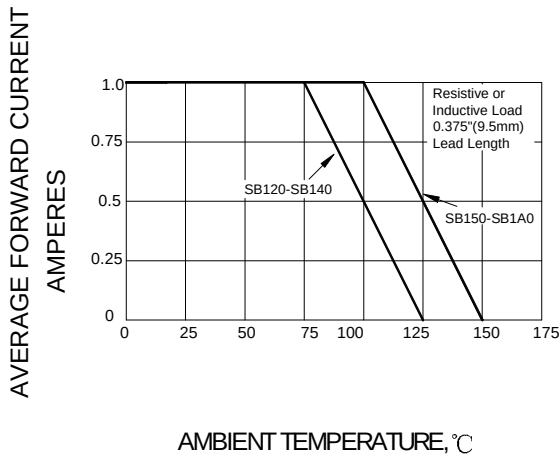


FIG.2 –MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

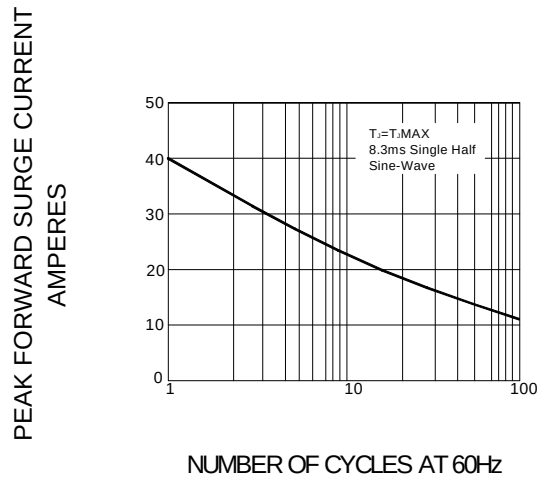


FIG.3 –TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

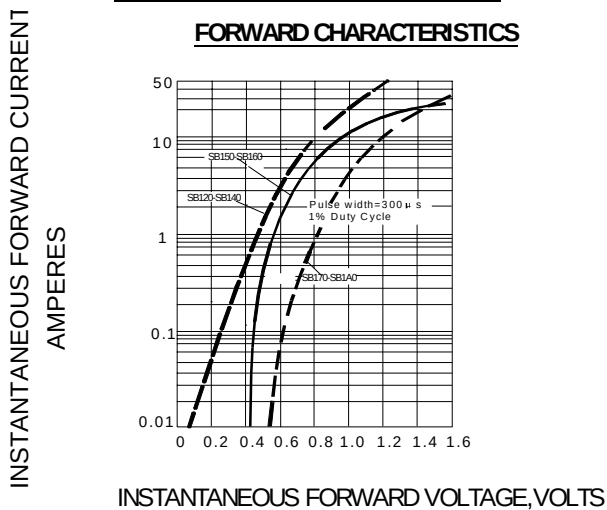


FIG.4–TYPICAL REVERSE CHARACTERISTICS

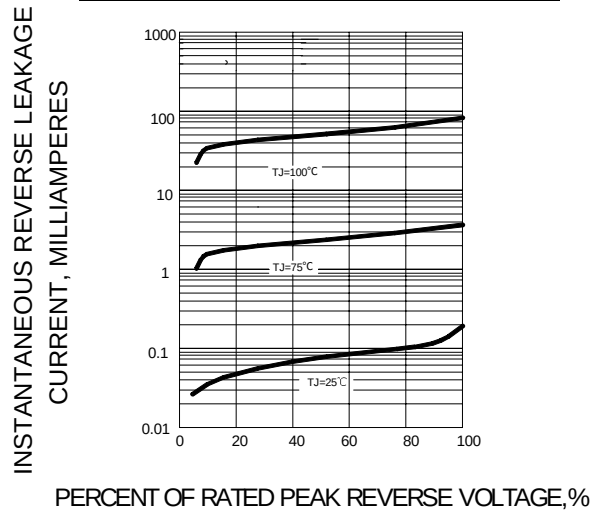


FIG.5–TYPICAL JUNCTION CAPACITANCE

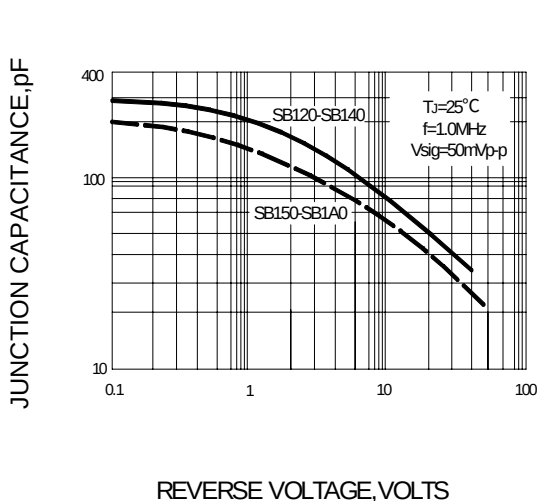


FIG.6–TYPICAL TRANSIENT THERMAL IMPEDANCE

