



S5820B-S5822B

Surface Mount Schottky Barrier Rectifiers

VOLTAGE RANGE: 20 --- 40 V
CURRENT: 3.0 A

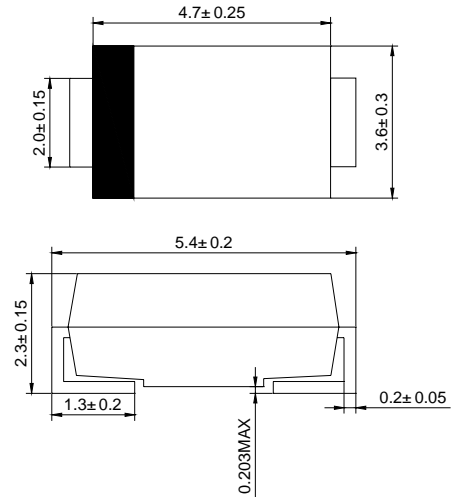
SMB(DO-214AA)

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 SMB, molded plastic
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.003 ounces, 0.093 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%.

		S5820B	S5821B	S5822B	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	20	30	40	V
Maximum RMS voltage	V_{RMS}	14	21	28	V
Maximum DC blocking voltage	V_{DC}	20	30	40	V
Maximum average forward rectified current @ $T_L=90^\circ\text{C}$	$I_{F(AV)}$	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 @ 3.0A (Note 1) @ 9.4A	V_F	0.475 0.85	0.50 0.90	0.525 0.95	V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	I_R	2.0 20.0			mA
Typical junction capacitance (Note2)	C_J	250			pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	20			$^\circ\text{C/W}$
Operating junction temperature range	T_J	- 55 ---- + 125			$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ---- + 150			$^\circ\text{C}$

NOTE: 1. Pulse test : 300 μ 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

Ratings AND Characteristic Curves

FIG.1 – FORWARD DERATING CURVE

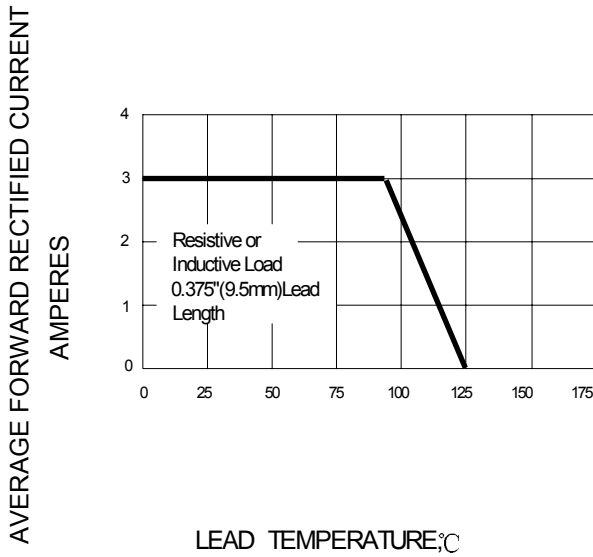


FIG.2 – PEAK FORWARD SURGE CURRENT

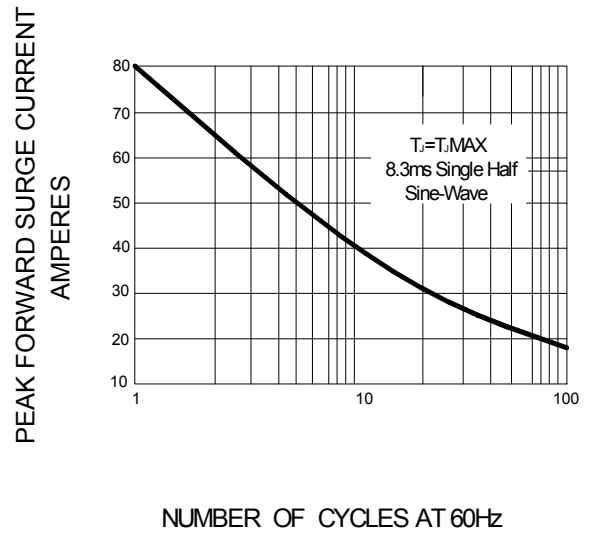


FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

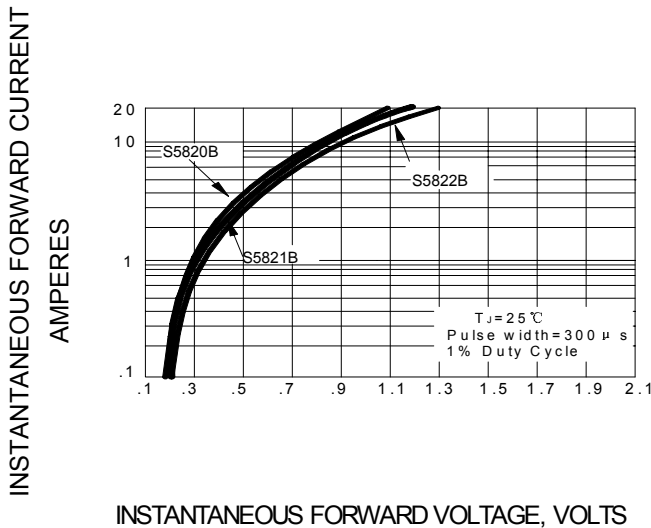


FIG.4 – TYPICAL JUNCTION CAPACITANCE

