

SB520-SB5A0

Schottky Barrier Rectifiers

VOLTAGE RANGE: 20 --- 100 V

CURRENT: 5.0A

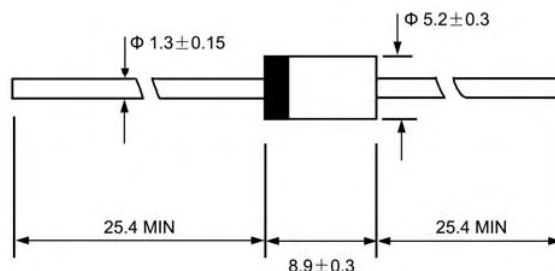
DO - 27

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-750, Method 2026
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.041 ounces, 1.15 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%.

		SB520	SB530	SB540	SB550	SB560	SB570	SB580	SB590	SB5A0	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)	$I_{F(AV)}$	5.0									A	
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	I_{FSM}	150.0									A	
Maximum instantaneous forward voltage @ 5.0A (Note 1)	V_F	0.55			0.7		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	2.5									mA	
		50.0			25.0							
Typical junction capacitance (Note2)	C_J	500			400						pF	
Typical thermal resistance (Note3)	$R_{\theta JA}$	25									$^\circ\text{C/W}$	
Operating junction temperature range	T_J	- 55 ---- + 125				- 55 ---- + 150						$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ---- + 150									$^\circ\text{C}$	

NOTE: 1. Pulse test: 300us 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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Ratings AND Characteristic Curves

FIG.1 – FORWARD CURRENT DERATING CURVE

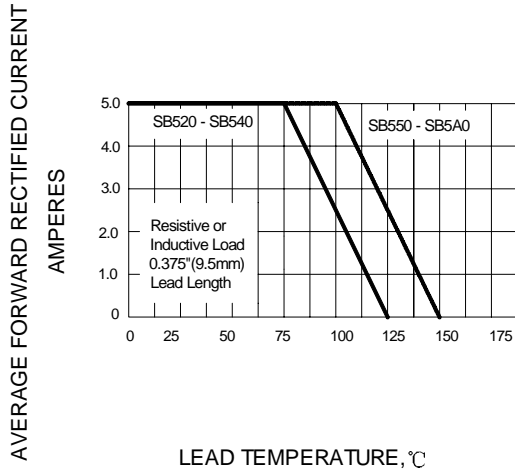


FIG.2 – PEAK FORWARD SURGE CURRENT

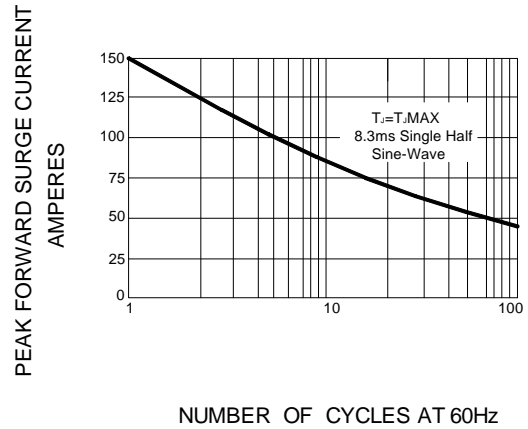


FIG.3 -- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

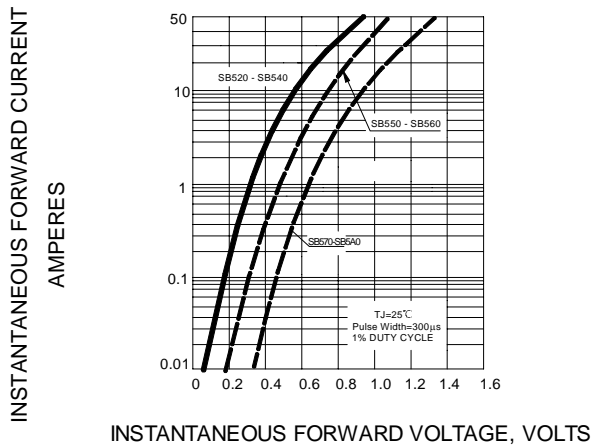


FIG.4 -- TYPICAL JUNCTION CAPACITANCE

