

SCHOTTKY BARRIER RECTIFIER

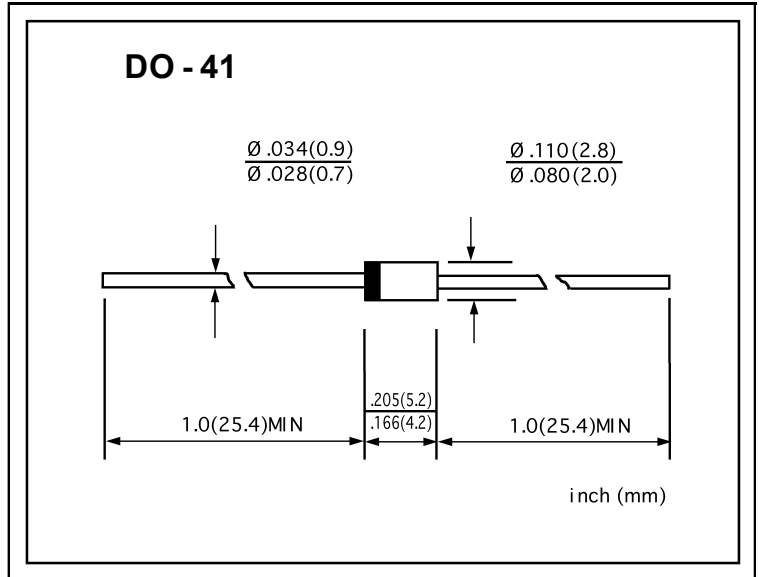
VOLTAGE RANGE: 20 --- 100 V
CURRENT: 1.0A

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



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%.

		SB120	SB130	SB140	SB150	SB160	SB180	SB1A0	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	20	30	40	50	60	80	100	V
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	56	70	V
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	80	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 @ $T_J=125^\circ\text{C}$	I_{FSM}	40.0							A
Maximum instantaneous forward voltage @ 1.0A (Note 1)	V_F	0.55		0.7		0.75	0.83	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	110							pF
Typical thermal resistance (Note3)	R_{JA}	50							°C
Operating junction temperature range	T_J	- 55 ---- + 125			- 55 ---- + 150				°C
Storage temperature range	T_{STG}	- 55 ---- + 150							°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

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FIG.1 -- FORWARD DERATING CURVE

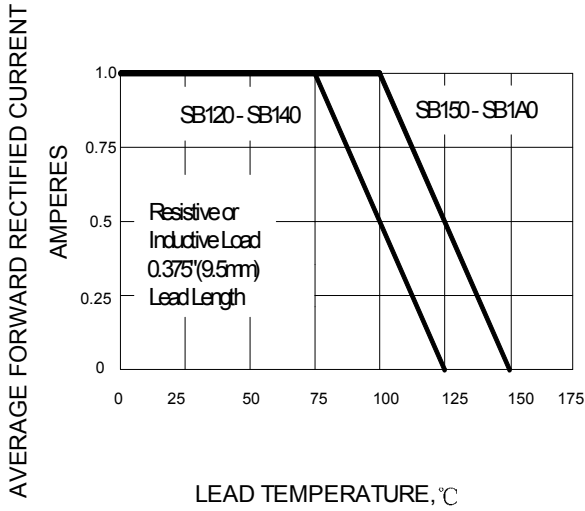


FIG.2 -- PEAK FORWARD SURGE CURRENT

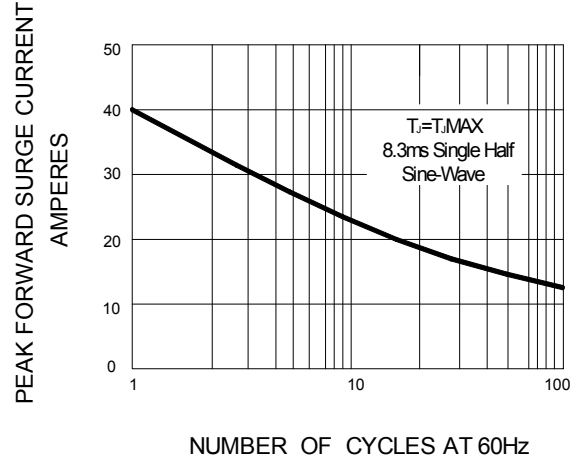


FIG.3 -- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

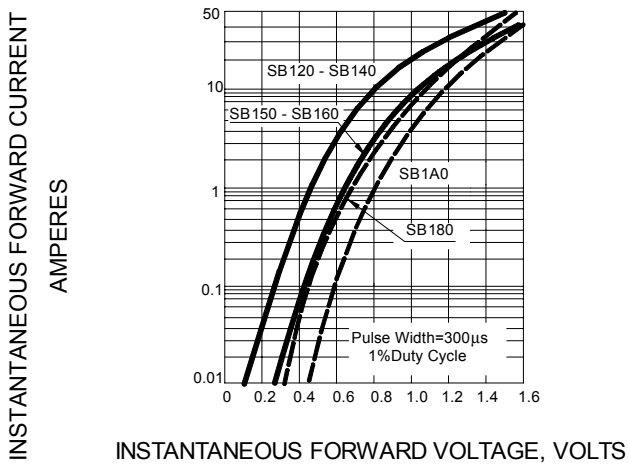


FIG.4 -- TYPICAL JUNCTION CAPACITANCE

