

SCHOTTKY BARRIER RECTIFIERS

VOLTAGE RANGE: 20 --- 40 V
CURRENT: 0.6 A

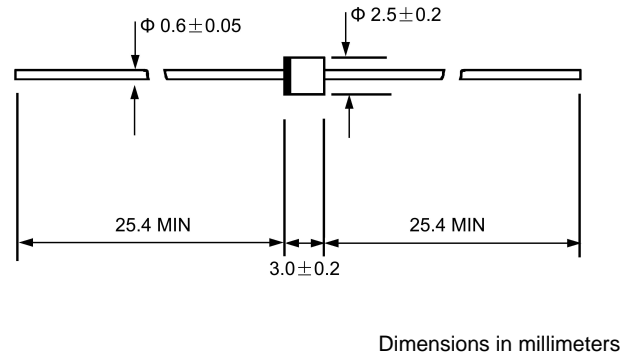
FEATURES

- ◇ 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 R-1, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.007 ounces, 0.20 grams
- ◇ Mounting position: Any

R - 1



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%.

		SB020	SB030	SB040	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 9.5mm lead length, @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	0.6			A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load	I_{FSM}	20.0			A
Maximum instantaneous forward voltage @ 0.6 A (Note 1)	V_F	0.55			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	60			pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	20			°C/W
Operating junction temperature range	T_J	- 55 ---- + 125			°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 CURRENT DERATING CURVE

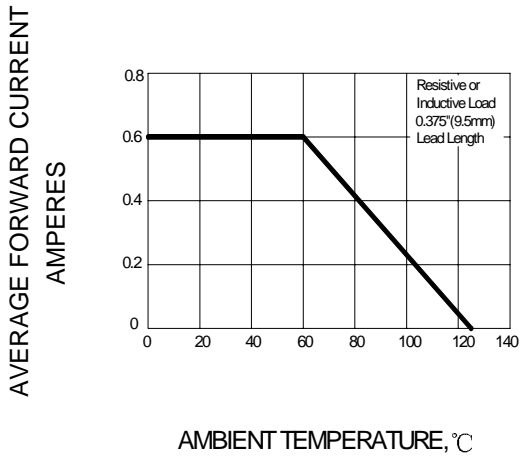


FIG.2 –MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

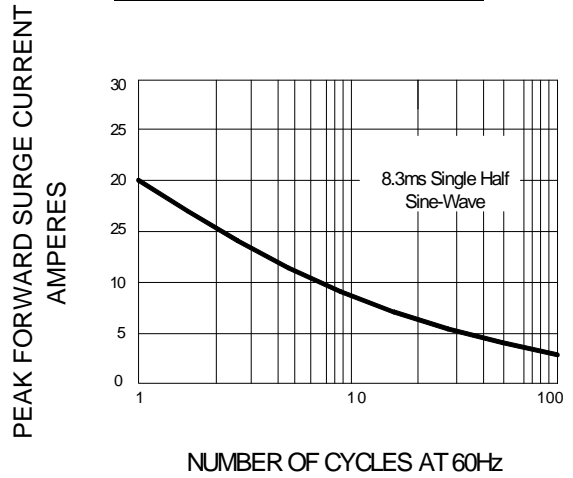


FIG.3 –TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

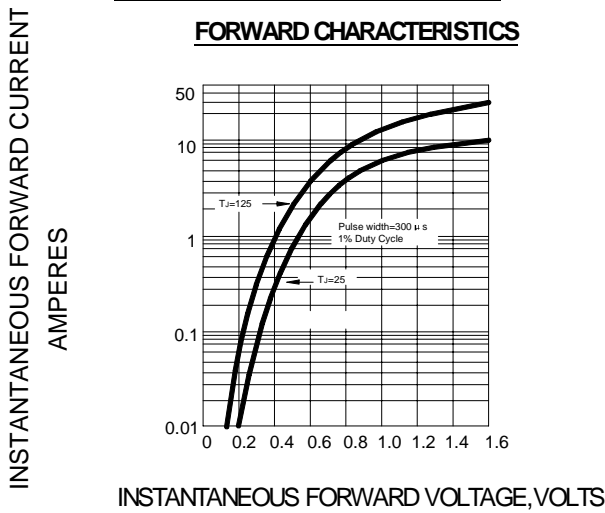


FIG.4–TYPICAL REVERSE CHARACTERISTICS

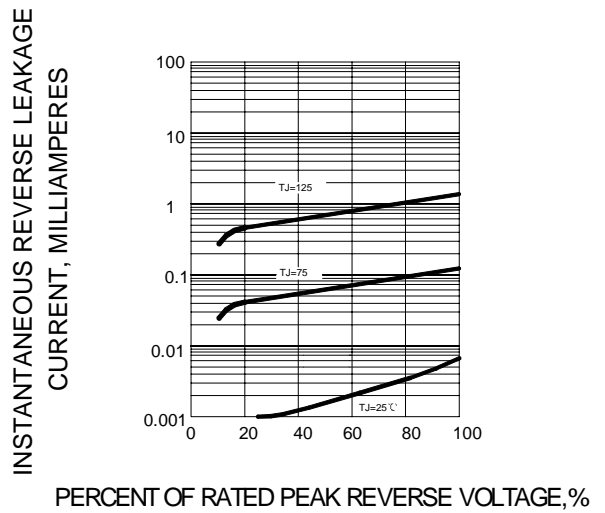


FIG.5–TYPICAL JUNCTION CAPACITANCE

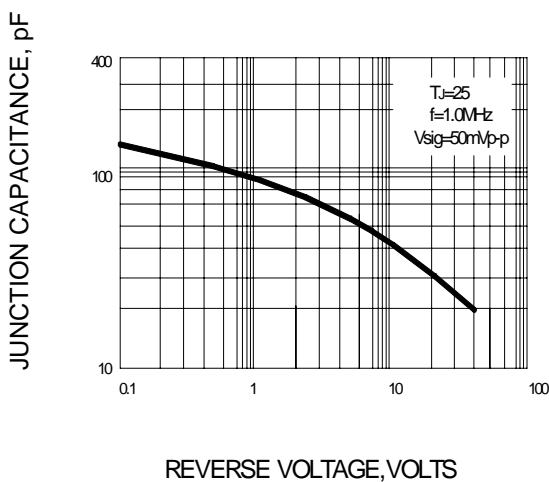


FIG.6–TYPICAL TRANSIENT THERMAL IMPEDANCE

