



# SB1020CT~SB1060CT

## SCHOTTKY BARRIER RECTIFIERS

**VOLTAGE** 20 to 60 Volts **CURRENT** 10 Amperes

**TO-220AB**

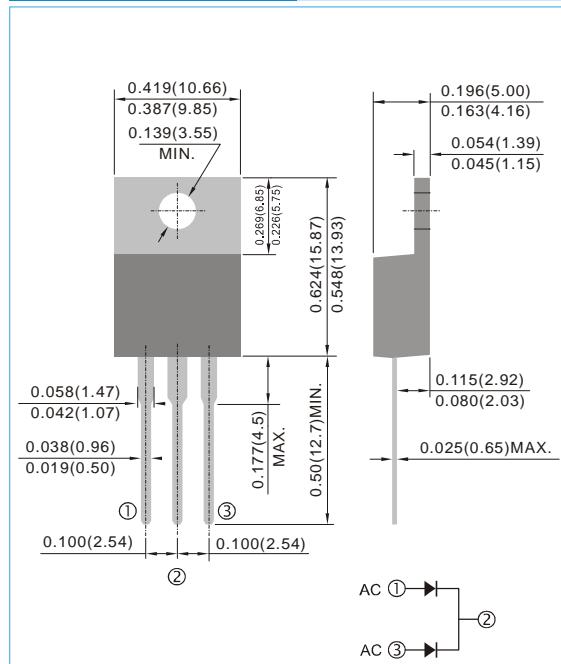
Unit : inch(mm)

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O.
- Flame Retardant Epoxy Molding Compound.
- Exceeds environmental standards of MIL-S-19500/228
- Low power loss, high efficiency.
- Low forward voltage, high current capability
- High surge capacity.
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications.
- In compliance with EU RoHS 2002/95/EC directives

### MECHANICAL DATA

- Case: TO-220AB Molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Standard packaging: Any
- Weight: 0.0655 ounces, 1.859 grams.



### 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 current by 20%

| PARAMETER                                                                                          | SYMBOL         | SB1020CT    | SB1030CT | SB1040CT | SB1045CT | SB1050CT | SB1060CT | UNITS  |
|----------------------------------------------------------------------------------------------------|----------------|-------------|----------|----------|----------|----------|----------|--------|
| Maximum Recurrent Peak Reverse Voltage                                                             | $V_{RRM}$      | 20          | 30       | 40       | 45       | 50       | 60       | V      |
| Maximum RMS Voltage                                                                                | $V_{RMS}$      | 14          | 21       | 28       | 31.5     | 35       | 42       | V      |
| Maximum DC Blocking Voltage                                                                        | $V_{DC}$       | 20          | 30       | 40       | 45       | 50       | 60       | V      |
| Maximum Average Forward Current<br>.375"(9.5mm) lead length at $T_c=75^\circ C$                    | $I_{F(AV)}$    | 10          |          |          |          |          |          | A      |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$      | 150         |          |          |          |          |          | A      |
| Maximum Forward Voltage at 5A per leg                                                              | $V_F$          | 0.55        |          |          |          | 0.75     |          |        |
| Maximum DC Reverse Current at $T_A=25^\circ C$<br>Rated DC Blocking Voltage                        | $I_R$          | 0.2<br>50   |          |          |          |          |          | mA     |
| Typical Thermal Resistance                                                                         | $R_{eJC}$      | 3.0         |          |          |          |          |          | °C / W |
| Operating Junction and Storage Temperature Range                                                   | $T_J, T_{STG}$ | -50 to +125 |          |          |          |          |          | °C     |

NOTE:

Both Bonding and Chip structure are available.



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### RATING AND CHARACTERISTIC CURVES

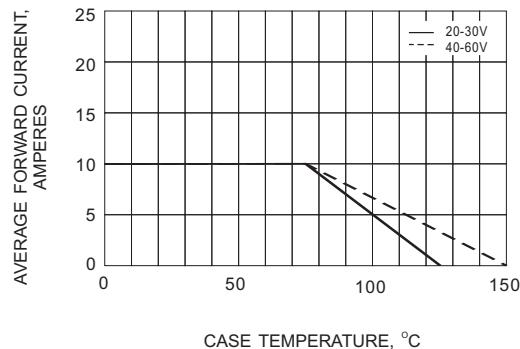


Fig.1- FORWARD CURRENT DERATING CURVE

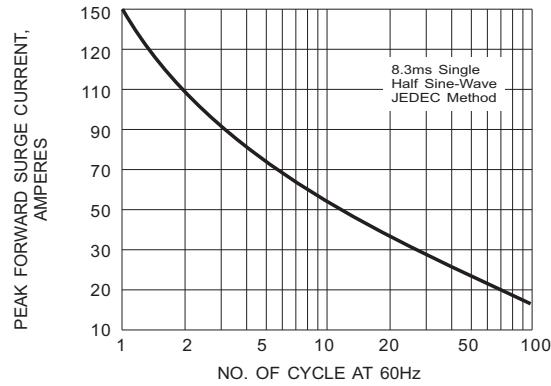


Fig.2- MAXIMUM NON - REPETITIVE SURGE CURRENT

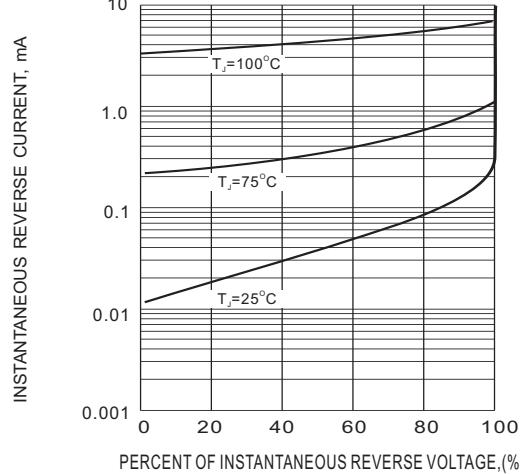


Fig.3- TYPICAL REVERSE CHARACTERISTIC

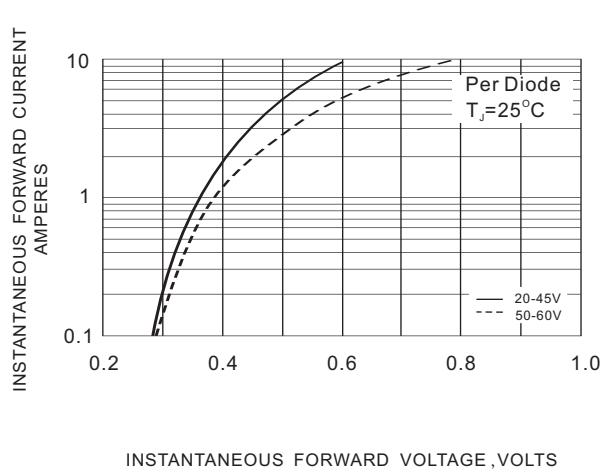


Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC