



# SB1020CT~SB1060CT

## SCHOTTKY BARRIER RECTIFIERS

**VOLTAGE** 20 to 60 Volt **CURRENT** 10 Ampere

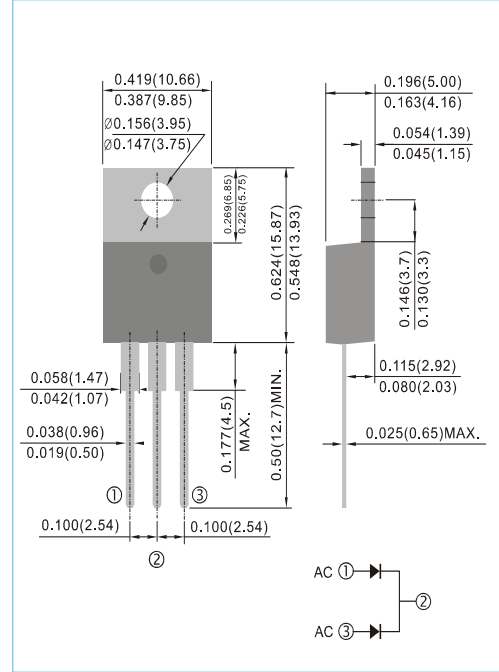
### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O. Flame Retardant Epoxy Molding Compound.
- 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.
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. (Halogen Free)

### MECHANICAL DATA

- Case: TO-220AB Molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Standard packaging: Any
- Weight: 0.067 ounces, 1.89 grams

**TO-220AB** Unit : inch(mm)



### 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>0.375"(9.5mm) lead length at $T_C=100^{\circ}C$              | $I_{F(AV)}$     | 10          |          |          |          |           |          | A               |
| Peak Forward Surge Current : 8.3ms single<br>half sine-wave superimposed on rated load          | $I_{FSM}$       | 150         |          |          |          |           |          | A               |
| Maximum Forward Voltage at 5A per leg   | $V_F$           | 0.55        |          |          |          | 0.75      |          | V               |
| Maximum DC Reverse Current at $T_A=25^{\circ}C$<br>Rated DC Blocking Voltage $T_A=100^{\circ}C$ | $I_R$           |             |          |          |          | 0.2<br>50 |          | mA              |
| Typical Thermal Resistance  | $R_{\theta JC}$ | 3.0         |          |          |          |           |          | $^{\circ}C / W$ |
| Operating Junction and Storage Temperature<br>Range   | $T_J, T_{STG}$  | -50 to +125 |          |          |          |           |          | $^{\circ}C$     |

NOTE:

Both Bonding and Chip structure are available.



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## RATING AND CHARACTERISTIC CURVES

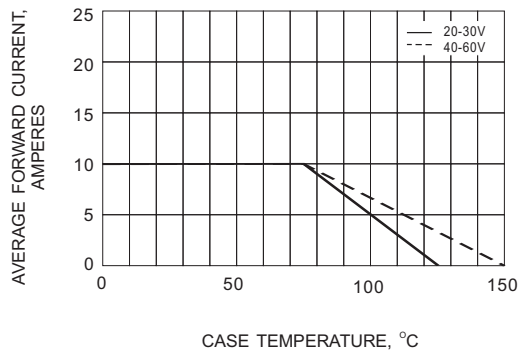


Fig.1- FORWARD CURRENT DERATING CURVE

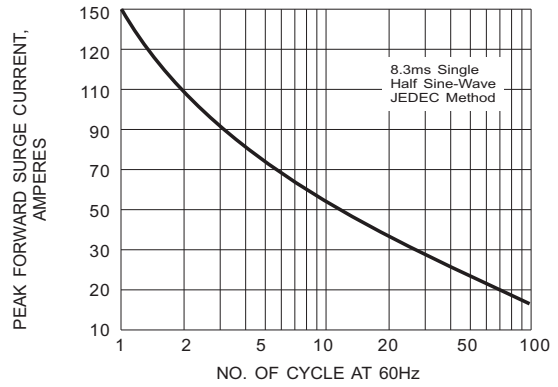


Fig.2- MAXIMUM NON - REPETITIVE SURGE CURRENT

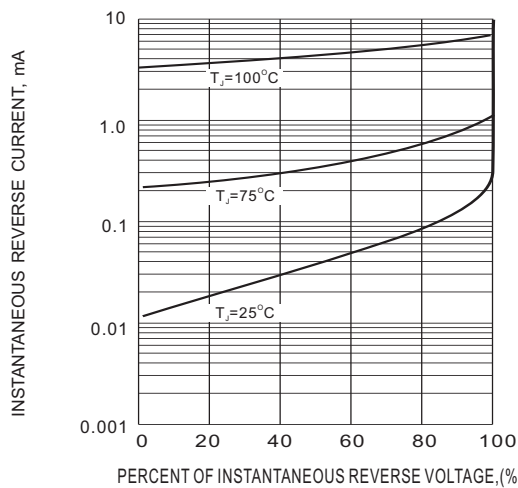


Fig.3- TYPICAL REVERSE CHARACTERISTIC

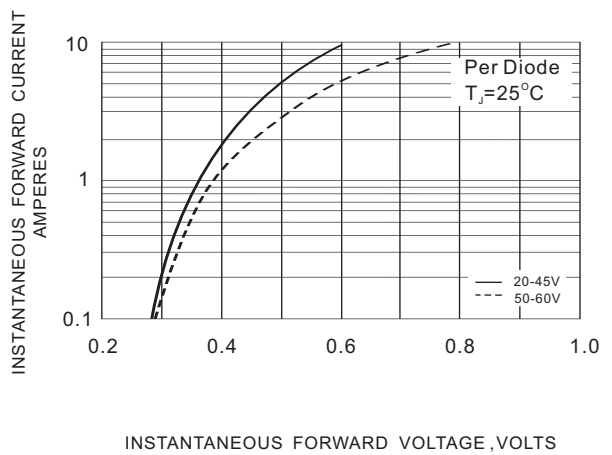


Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

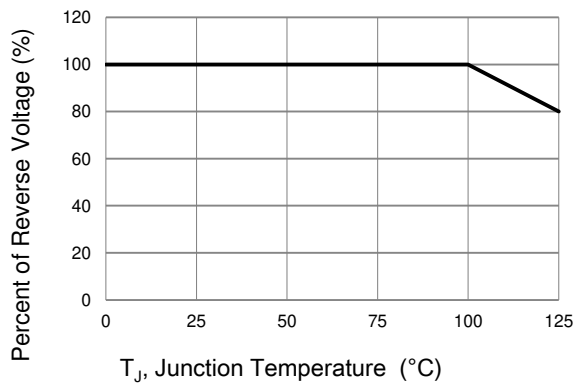


Fig.5 Operating Temperature Derating Curve



## SB1020CT~SB1060CT

Part No\_packing code\_Version

SB1020CT\_T0\_00001

For example :

**RB500V-40** **R2** **00001**



| Packing type                         | Packing Code <b>XX</b> |                                  |                      | Version Code <b>XXXXX</b> |                      |                                       |
|--------------------------------------|------------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
|                                      | 1 <sup>st</sup> Code   | Packing size code                | 2 <sup>nd</sup> Code | HF or RoHS                | 1 <sup>st</sup> Code | 2 <sup>nd</sup> ~5 <sup>th</sup> Code |
| Tape and Ammunition Box (T/B)        | <b>A</b>               | N/A                              | <b>0</b>             | <b>HF</b>                 | <b>0</b>             | serial number                         |
| Tape and Reel (T/R)                  | <b>R</b>               | 7"                               | <b>1</b>             | <b>RoHS</b>               | <b>1</b>             | serial number                         |
| Bulk Packing (B/P)                   | <b>B</b>               | 13"                              | <b>2</b>             |                           |                      |                                       |
| Tube Packing (T/P)                   | <b>T</b>               | 26mm                             | <b>X</b>             |                           |                      |                                       |
| Tape and Reel (Right Oriented) (TRR) | <b>S</b>               | 52mm                             | <b>Y</b>             |                           |                      |                                       |
| Tape and Reel (Left Oriented) (TRL)  | <b>L</b>               | PANASERT T/B CATHODE UP (PBCU)   | <b>U</b>             |                           |                      |                                       |
| FORMING                              | <b>F</b>               | PANASERT T/B CATHODE DOWN (PBCD) | <b>D</b>             |                           |                      |                                       |



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