

# SB2020FCT SERIES

## SCHOTTKY BARRIER RECTIFIERS

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

### FEATURES

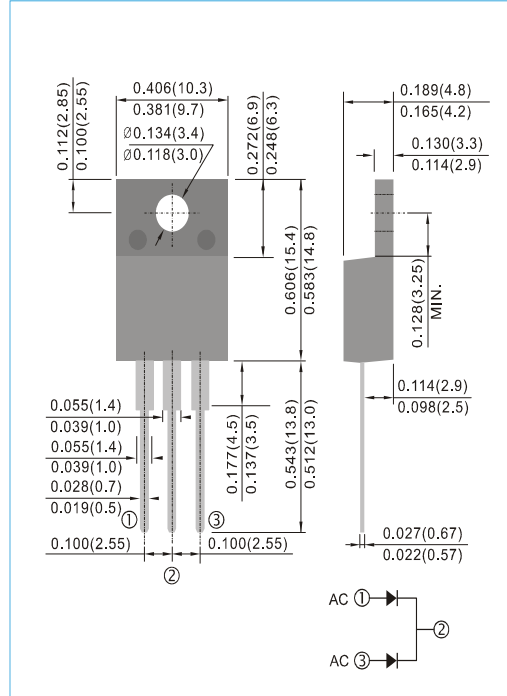
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O. Flame Retardant Epoxy Molding Compound.
- Low power loss, high efficiency.
- Low forward voltage, high current capability
- High surge capacity.
- For use in low voltage,high frequency inverters free wheeling , and polarity 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: ITO-220AB full Molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Standard packaging: Any
- Weight: 0.056 ounces, 1.6 grams

### ITO-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             | SB2020FCT   | SB2030FCT | SB2040FCT   | SB2045FCT | SB2050FCT | SB2060FCT | UNITS  |
|--------------------------------------------------------------------------------------------------------------|--------------------|-------------|-----------|-------------|-----------|-----------|-----------|--------|
| Maximum Recurrent Peak Reverse Voltage                                                                       | V <sub>RRM</sub>   | 20          | 30        | 40          | 45        | 50        | 60        | V      |
| Maximum RMS Voltage                                                                                          | V <sub>RMS</sub>   | 14          | 21        | 28          | 31        | 35        | 42        | V      |
| Maximum DC Blocking Voltage                                                                                  | V <sub>DC</sub>    | 20          | 30        | 40          | 45        | 50        | 60        | V      |
| Maximum Average Forward Current at<br>T <sub>C</sub> =75 °C                                                  | I <sub>F(AV)</sub> | 20          |           |             |           |           |           | A      |
| Peak Forward Surge Current :8.3ms single half<br>sine-wave superimposed on rated load                        | I <sub>FSM</sub>   | 200         |           |             |           |           |           | A      |
| Maximum Forward Voltage at 10A per leg                                                                       | V <sub>F</sub>     | 0.55        |           |             |           | 0.75      |           | V      |
| Maximum DC Reverse Current at<br>Rated DC Blocking Voltage<br>T <sub>J</sub> =25 °C<br>T <sub>J</sub> =100°C | I <sub>R</sub>     | 0.2<br>50   |           |             |           |           |           | mA     |
| Typical Thermal Resistance per diode                                                                         | R <sub>θJC</sub>   | 2           |           |             |           |           |           | °C / W |
| Operating Junction Temperature Range                                                                         | T <sub>J</sub>     | -55 to +125 |           | -55 to +150 |           |           |           | °C     |
| Storage Temperature Range                                                                                    | T <sub>STG</sub>   | -55 to +150 |           |             |           |           |           | °C     |

Note:

Both Bonding and Chip structure are available.

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### RATING AND CHARACTERISTIC CURVES

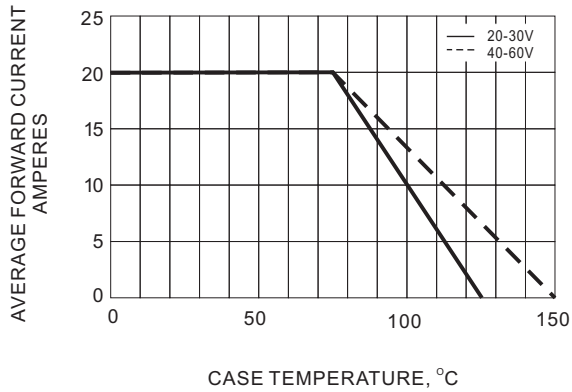


Fig.1- FORWARD CURRENT DERATING CURVE

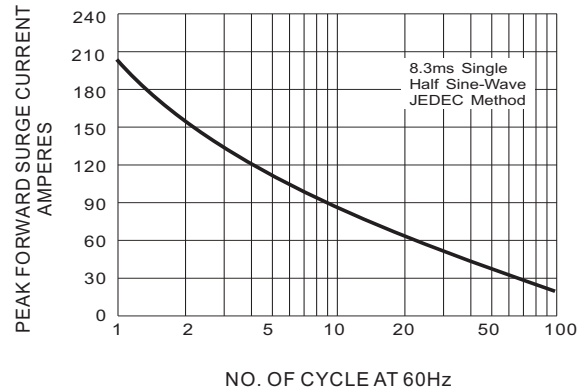


Fig.2- MAXIMUM NON - REPETITIVE SURGE CURRENT

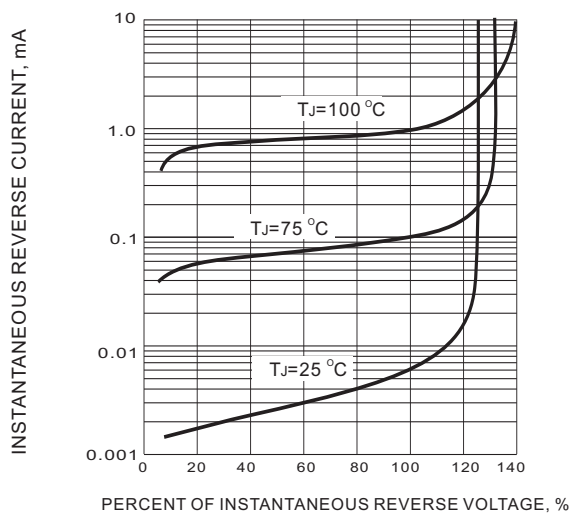


Fig.3- TYPICAL REVERSE CHARACTERISTIC

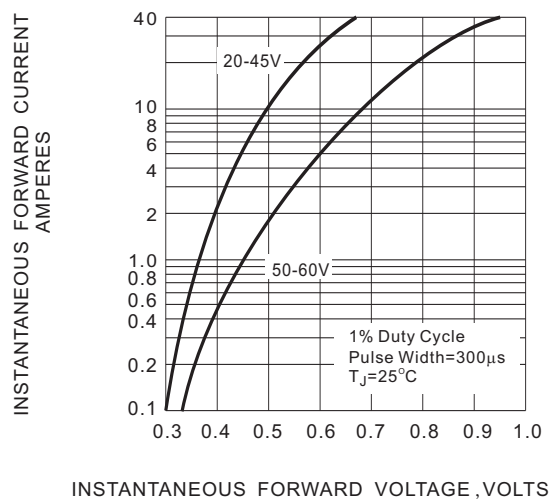


Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

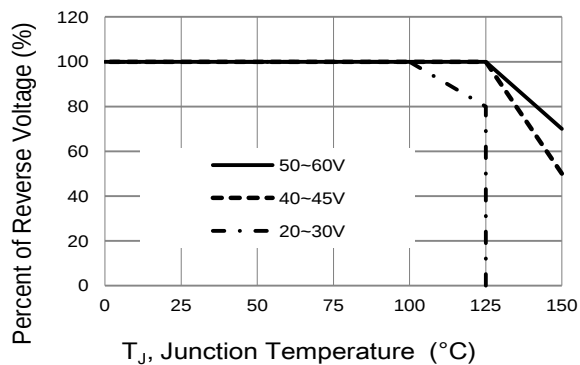


Fig.5 Operating Temperature Derating Curve

## SB2020FCT SERIES

Part No\_packing code\_Version

SB2020FCT\_T0\_00001

For example :

RB500V-40\_R2\_00001

Part No.

Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

| Packing Code XX                      |                      |                                  |                      | Version Code XXXXX |                      |                                       |
|--------------------------------------|----------------------|----------------------------------|----------------------|--------------------|----------------------|---------------------------------------|
| Packing type                         | 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)        | A                    | N/A                              | 0                    | HF                 | 0                    | serial number                         |
| Tape and Reel (T/R)                  | R                    | 7"                               | 1                    | RoHS               | 1                    | serial number                         |
| Bulk Packing (B/P)                   | B                    | 13"                              | 2                    |                    |                      |                                       |
| Tube Packing (T/P)                   | T                    | 26mm                             | X                    |                    |                      |                                       |
| Tape and Reel (Right Oriented) (TRR) | S                    | 52mm                             | Y                    |                    |                      |                                       |
| Tape and Reel (Left Oriented) (TRL)  | L                    | PANASERT T/B CATHODE UP (PBCU)   | U                    |                    |                      |                                       |
| FORMING                              | F                    | PANASERT T/B CATHODE DOWN (PBCD) | D                    |                    |                      |                                       |



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