



# SBT40100VCT

## ULTRA LOW VF SCHOTTKY RECTIFIER

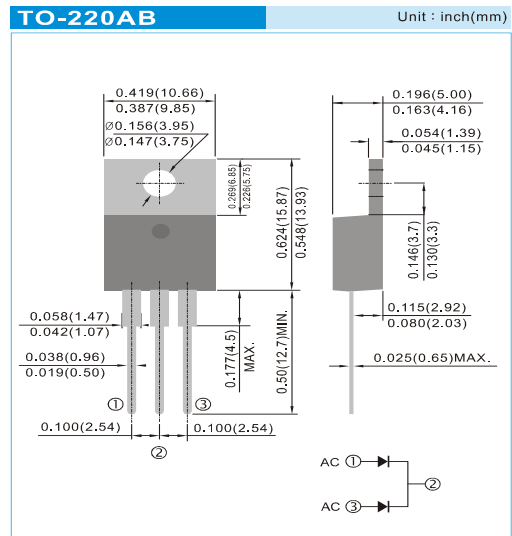
**VOLTAGE** 100 Volt **CURRENT** 40 Ampere

### FEATURES

- Ultra Low forward voltage drop, low power loss
- High efficiency operation
- 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, Plastic
- Terminals : Solderable per MIL-STD-750, Method 2026
- Weight: 0.067 ounces, 1.89 grams



### MAXIMUM RATINGS( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER   | SYMBOL          | VALUE        | UNIT                        |
|---|-----------------|--------------|-----------------------------|
| Maximum repetitive peak reverse voltage   | $V_{RRM}$       | 100          | V                           |
| Maximum rms voltage   | $V_{RMS}$       | 70           | V                           |
| Maximum dc blocking voltage   | $V_R$           | 100          | V                           |
| Maximum average forward rectified current   | $I_{F(AV)}$     | 40<br>20     | A                           |
| Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load | $I_{FSM}$       | 250          | A                           |
| Typical thermal resistance  | $R_{\theta JC}$ | 2            | $^{\circ}\text{C}/\text{W}$ |
| Operating junction temperature range  | $T_J$           | -55 to + 150 | $^{\circ}\text{C}$          |
| Storage temperature range   | $T_{STG}$       | -55 to + 150 | $^{\circ}\text{C}$          |

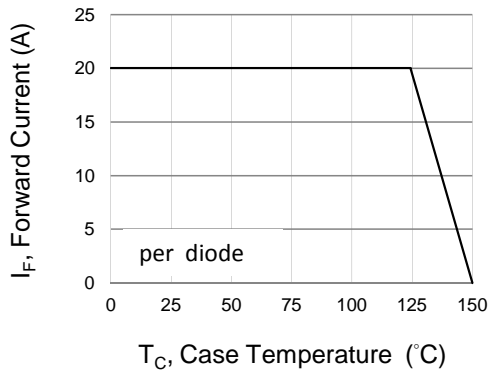
Note : 1. Mounted on infinite heatsink.

### ELECTRICAL CHARACTERISTICS( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

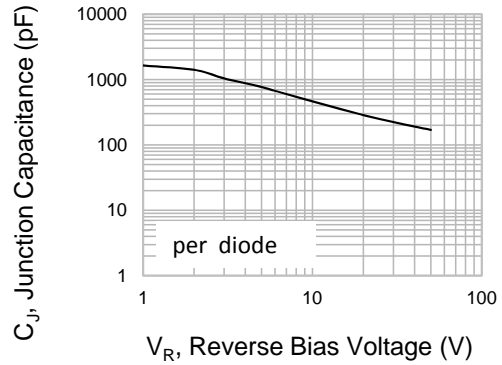
| PARAMETER                               | SYMBOL   | TEST CONDITIONS                                       | MIN. | TYP. | MAX. | UNIT          |
|---|----------|---|------|------|------|---------------|
| Breakdown voltage per diode             | $V_{BR}$ | $I_R=0.5\text{mA}$                                    | 100  | -    | -    | V             |
| Instantaneous forward voltage per diode | $V_F$    | $I_F=5\text{A}$                                       | -    | 0.48 | -    | V             |
|   |          | $I_F=10\text{A}$                                      | -    | 0.57 | -    | V             |
|   |          | $I_F=20\text{A}$                                      | -    | 0.71 | 0.76 | V             |
|   |          | $I_F=5\text{A}$                                       | -    | 0.41 | -    | V             |
| Reverse current per diode               | $I_R$    | $I_F=10\text{A}$                                      | -    | 0.53 | -    | V             |
|   |          | $I_F=20\text{A}$                                      | -    | 0.68 | -    | V             |
|   |          | $V_R=70\text{V}$                                      | -    | 5    | -    | $\mu\text{A}$ |
|   |          | $V_R=70\text{V}$                                      | -    | 6    | -    | mA            |
| Reverse current per diode               | $I_R$    | $V_R=100\text{V}$                                     | -    | -    | 120  | $\mu\text{A}$ |
|   |          | $T_J=25^{\circ}\text{C}$<br>$T_J=125^{\circ}\text{C}$ | -    | 12   | -    | mA            |



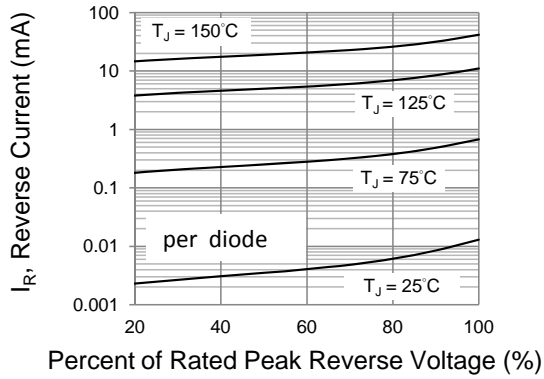
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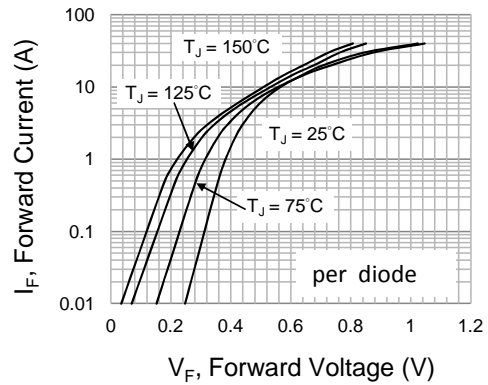
**Fig.1 Forward Current Derating Curve**



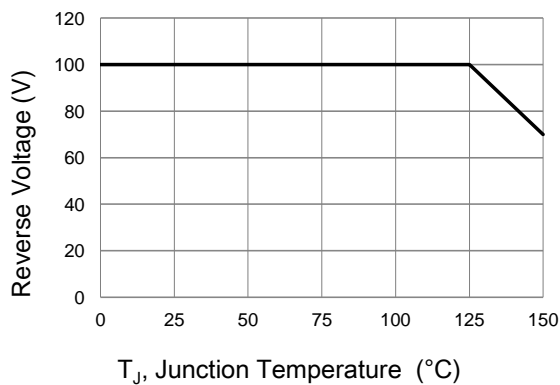
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



**Fig.5 Operating Temperature Derating Curve**



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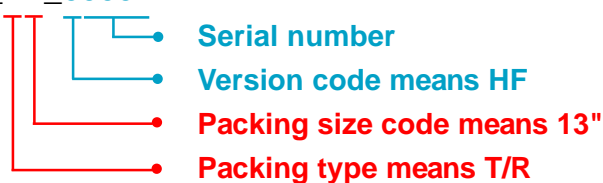
Part No\_packing code\_Version

SBT40100VCT\_T0\_00001

For example :

RB500V-40\_R2\_00001

Part No.



| Packing Code <b>XX</b>               |                      |                                  |                      | Version Code <b>XXXXX</b> |                      |                                       |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| 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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