



# SBT5100VSS

## ULTRA LOW VF SCHOTTKY RECTIFIER

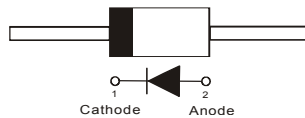
**VOLTAGE** 100 Volt **CURRENT** 5 Ampere

### FEATURES

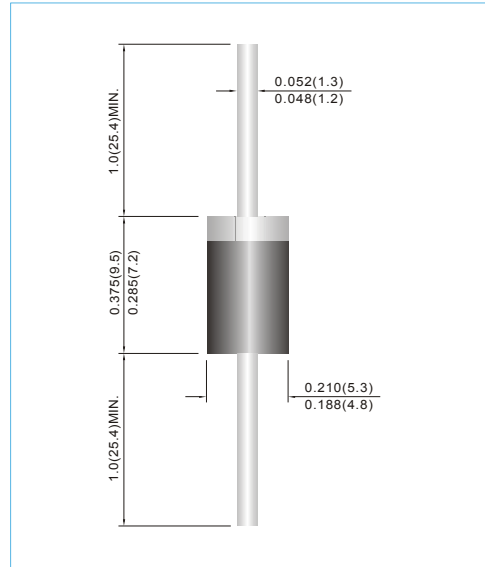
- Ultra low forward voltage drop, low power loss
- High efficiency operation
- Lead free in compliance with EU RoHS 2.0

### MECHANICAL DATA

- Case : Molded plastic, DO-201AD
- Terminals : Axial leads,solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Approx weight : 0.0402 ounces, 1.142 grams



**DO-201AD** Unit : inch(mm)



### MAXIMUM RATINGS(T<sub>A</sub>=25°C unless otherwise noted)

| PARAMETER   | SYMBOL             | VALUE        | UNIT |
|---|--------------------|--------------|------|
| Maximum repetitive peak reverse voltage   | V <sub>RRM</sub>   | 100          | V    |
| Maximum rms voltage   | V <sub>RMS</sub>   | 70           | V    |
| Maximum dc blocking voltage   | V <sub>R</sub>     | 100          | V    |
| Maximum average forward rectified current   | I <sub>F(AV)</sub> | 5            | A    |
| Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load | I <sub>FSM</sub>   | 110          | A    |
| Typical thermal resistance (Note 1)   | R <sub>θJL</sub>   | 23           | °C/W |
| Operating junction temperature range  | T <sub>J</sub>     | -55 to + 150 | °C   |
| Storage temperature range   | T <sub>STG</sub>   | -55 to + 150 | °C   |

Note : 1.The testing condition of the thermal resistance (junction to lead) is based on 10 mm lead length between two 10cm x 10cm x 0.5mm copper pad.



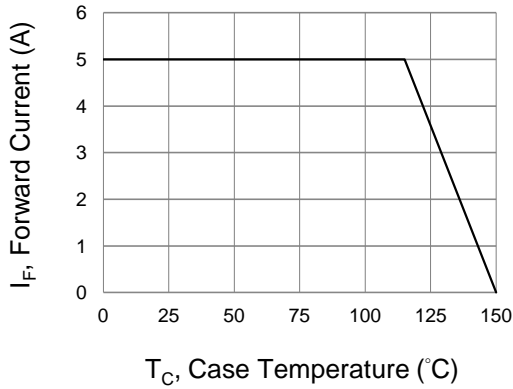
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## ELECTRICAL CHARACTERISTICS( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

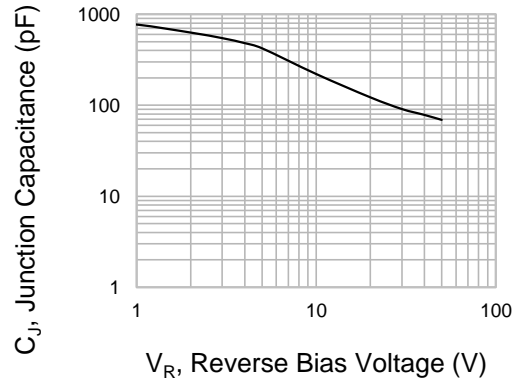
| PARAMETER                     | SYMBOL   | TEST CONDITIONS   | MIN. | TYP. | MAX. | UNIT                |
|-------------------------------|----------|---|------|------|------|---------------------|
| Breakdown voltage             | $V_{BR}$ | $I_R=0.5\text{mA}$ $T_J=25^{\circ}\text{C}$                             | 100  | -    | -    | V                   |
| Instantaneous forward voltage | $V_F$    | $I_F=1\text{A}$   | -    | 0.42 | -    | V                   |
|                               |          | $I_F=3\text{A}$ $T_J=25^{\circ}\text{C}$                                | -    | 0.51 | -    |                     |
|                               |          | $I_F=5\text{A}$   | -    | 0.59 | 0.65 |                     |
|                               |          | $I_F=1\text{A}$ $T_J=125^{\circ}\text{C}$                               | -    | 0.32 | -    | V                   |
| Reverse current               | $I_R$    | $V_R=80\text{V}$ $T_J=25^{\circ}\text{C}$                               | -    | 5    | -    | $\mu\text{A}$       |
|                               |          | $V_R=100\text{V}$ $T_J=25^{\circ}\text{C}$<br>$T_J=125^{\circ}\text{C}$ | -    | -    | 50   | $\mu\text{A}$<br>mA |



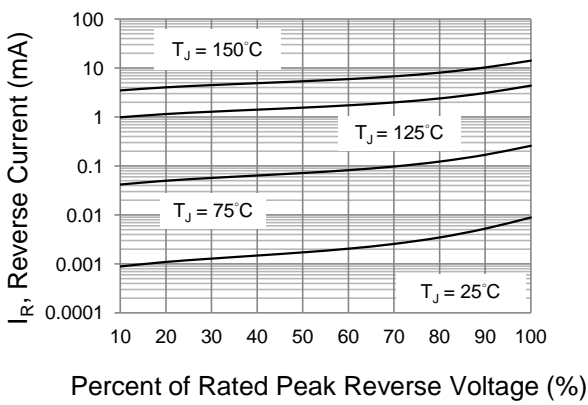
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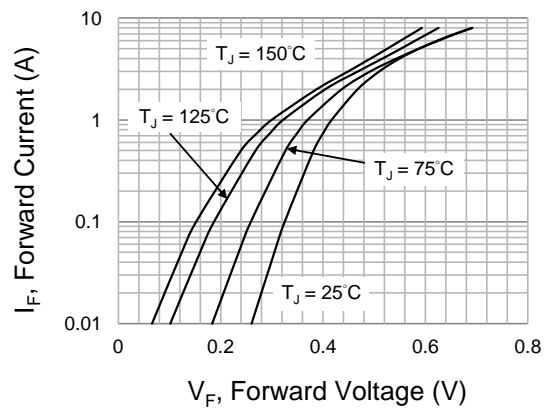
**Fig.1 Forward Current Derating Curve**



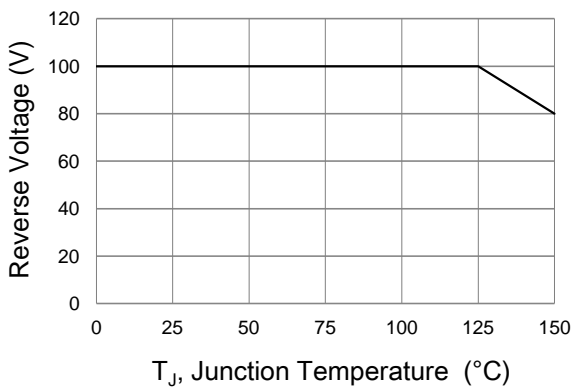
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



**Fig.5 Operating Temperature Derating Curve**



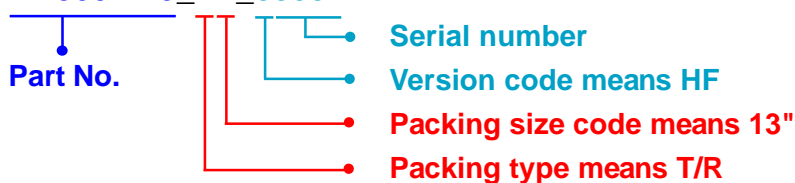
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## Part No\_packing code\_Version

SBT5100VSS\_AY\_00001  
 SBT5100VSS\_AY\_10001  
 SBT5100VSS\_B0\_00001  
 SBT5100VSS\_B0\_10001  
 SBT5100VSS\_R2\_00001  
 SBT5100VSS\_R2\_10001

For example :

**RB500V-40\_R2\_00001**



| 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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