



SBT40100UCT

EXTREME LOW VF SCHOTTKY BARRIER RECTIFIER

Voltage

100 V

Current

40 A

TO-220AB

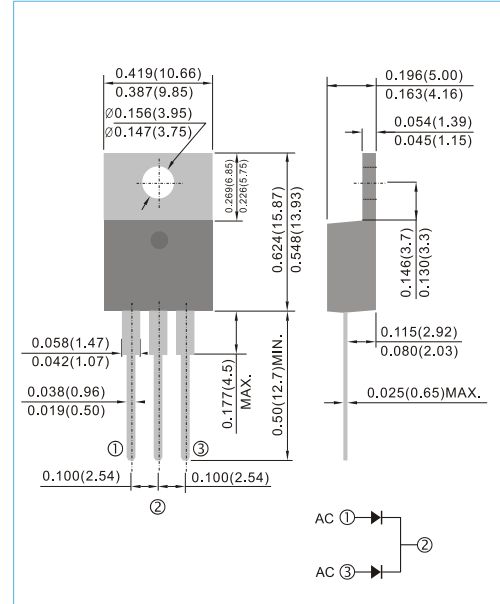
Unit : inch(mm)

Features

- Ideal for automated placement
- Extreme low forward voltage drop, low power loss
- High efficiency operation
- Low thermal resistance
- Easy pick and place package suitable for automated handling
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

Mechanical Data

- Case: Molded plastic, TO-220AB
- Terminals: solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.067 ounces, 1.89 grams.
- Marking: Part number



Maximum Ratings And Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER | | SYMBOL | LIMIT | 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 | per diode | $I_{F(AV)}$ | 20 | A |
| | per device | | 40 | |
| Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load per diode | | I_{FSM} | 250 | A |
| Typical thermal resistance per diode | (Note 1) | $R_{\theta JC}$ | 2 | $^{\circ}\text{C/W}$ |
| 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. Device mounted on a infinite heatsink , then measured the center of the marking side.



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Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | TEST CONDITION | | MIN. | TYP. | MAX. | UNITS |
|---|----------|--------------------|-------------------------|------|------|------|---------------|
| Breakdown voltage per diode | V_{BR} | $I_R=0.5\text{mA}$ | $T_J=25^\circ\text{C}$ | 100 | - | - | V |
| Instantaneous forward voltage per diode | V_F | $I_F=5\text{A}$ | $T_J=25^\circ\text{C}$ | - | 0.45 | - | V |
| | | $I_F=10\text{A}$ | | - | 0.52 | - | |
| | | $I_F=20\text{A}$ | | - | 0.65 | 0.7 | |
| | | $I_F=5\text{A}$ | $T_J=125^\circ\text{C}$ | - | 0.37 | - | V |
| $I_F=10\text{A}$ | - | 0.48 | | - | | | |
| Reverse current per diode | I_R | $V_R=70\text{V}$ | $T_J=25^\circ\text{C}$ | - | 12 | - | μA |
| | | | $T_J=125^\circ\text{C}$ | - | 7.7 | - | mA |
| | | $V_R=100\text{V}$ | $T_J=25^\circ\text{C}$ | - | - | 120 | μA |
| | | | $T_J=125^\circ\text{C}$ | - | 15 | - | mA |



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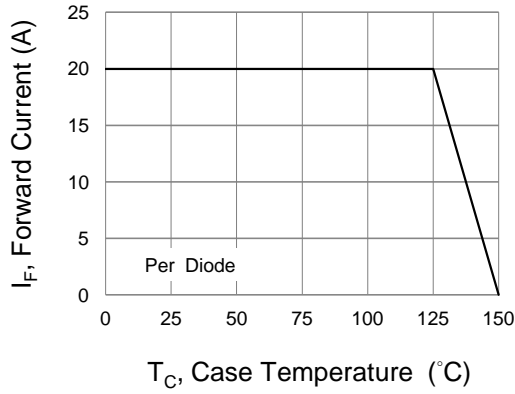


Fig.1 Forward Current Derating Curve

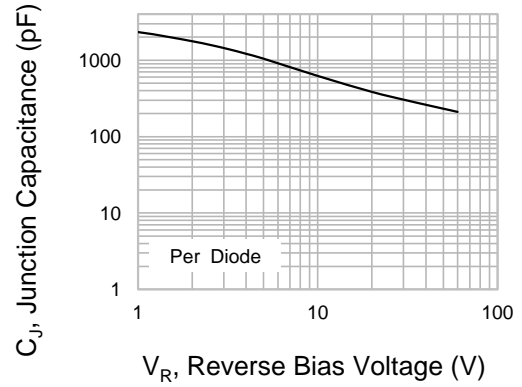


Fig.2 Typical Junction Capacitance

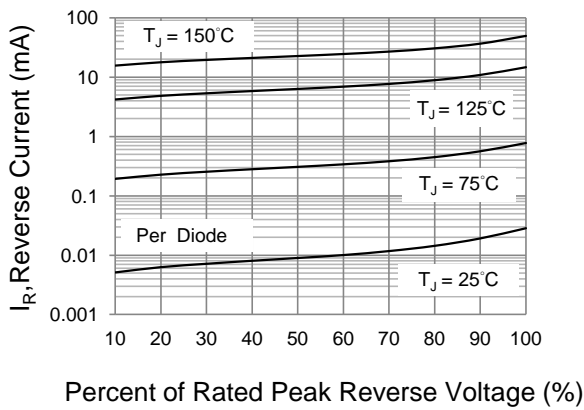


Fig.3 Typical Reverse Characteristics

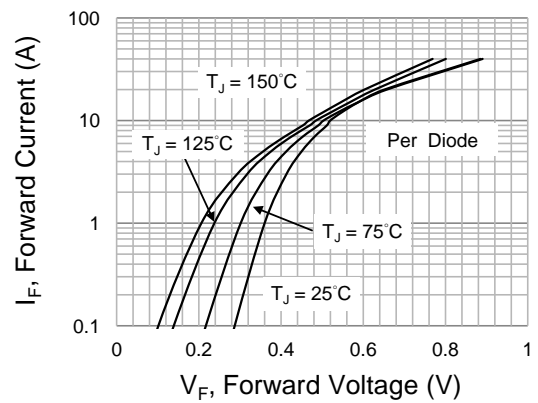


Fig.4 Typical Forward Characteristics

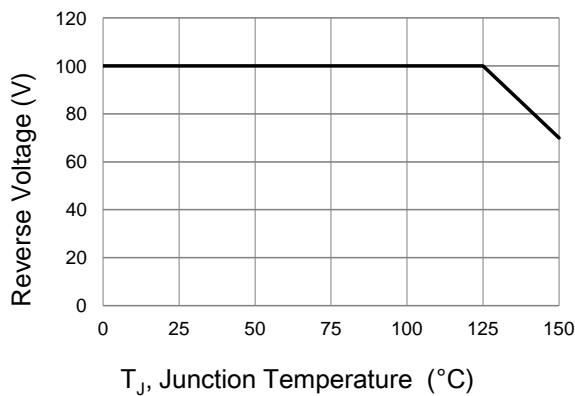


Fig.5 Operating Temperature Derating Curve



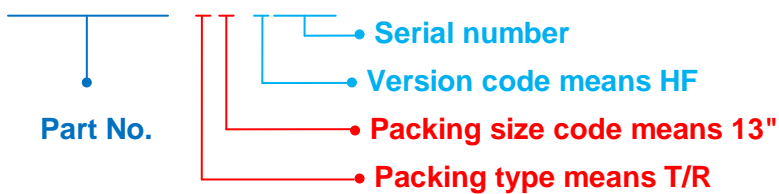
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Part No_packing code_Version

SBT40100UCT_T0_00001

For example :

RB500V-40_R2_00001



| Packing Code XX | | | | Version Code XXXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|----------------------------|----------------------|---------------------------------------|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HF or RoHS | 1 st Code | 2 nd -5 th 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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