



# SBT10100UYT

## ULTRA LOW VF SCHOTTKY BARRIER RECTIFIER

**Voltage**

**100 V**

**Current**

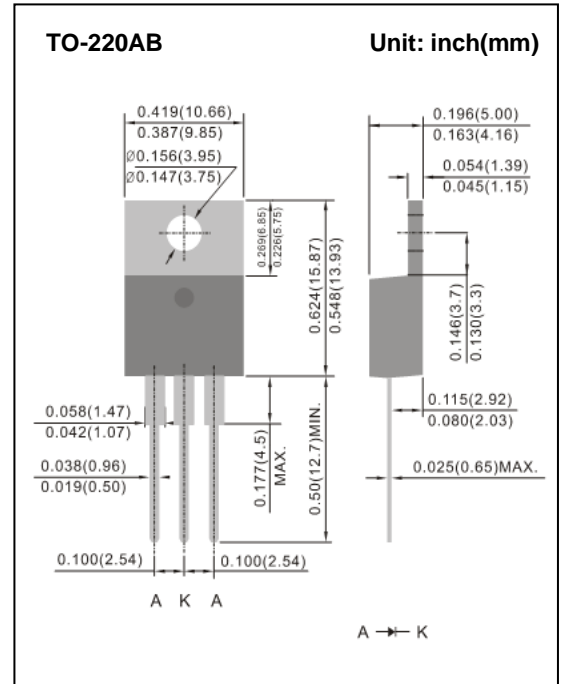
**10 A**

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



### 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   | $I_{F(AV)}$     | 10          | A                    |
| Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load | $I_{FSM}$       | 150         | A                    |
| Typical junction capacitance ( $V_R=4\text{V}, f=1\text{MHz}$ )                     | $C_J$           | 620         | pF                   |
| Typical thermal resistance (Note 1)   | $R_{\theta JC}$ | 3           | $^{\circ}\text{C/W}$ |
| 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. Mounted on infinite heatsink.



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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             | $V_{BR}$ | $I_R=0.5\text{mA}$ | $T_J=25^\circ\text{C}$  | 100  | -    | -    | V             |
| Instantaneous forward voltage | $V_F$    | $I_F=3\text{A}$    | $T_J=25^\circ\text{C}$  | -    | 0.47 | -    | V             |
|                               |          | $I_F=5\text{A}$    |                         | -    | 0.53 | -    |               |
|                               |          | $I_F=10\text{A}$   |                         | -    | -    | 0.71 |               |
|                               |          | $I_F=3\text{A}$    | $T_J=125^\circ\text{C}$ | -    | 0.40 | -    | V             |
|                               |          | $I_F=5\text{A}$    |                         | -    | 0.49 | -    |               |
|                               |          | $I_F=10\text{A}$   |                         | -    | 0.61 | -    |               |
| Reverse current               | $I_R$    | $V_R=70\text{V}$   | $T_J=25^\circ\text{C}$  | -    | 5    | -    | $\mu\text{A}$ |
|                               |          | $V_R=100\text{V}$  | $T_J=25^\circ\text{C}$  | -    | -    | 80   | $\mu\text{A}$ |
|                               |          |                    | $T_J=125^\circ\text{C}$ | -    | 7.2  | -    | mA            |



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## TYPICAL CHARACTERISTIC CURVES

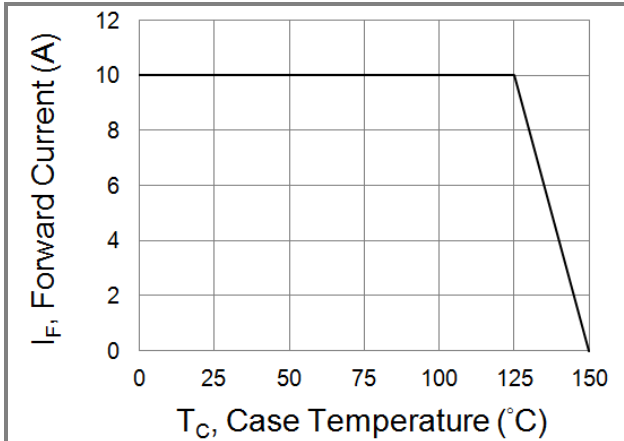


Fig.1 Forward Current Derating Curve

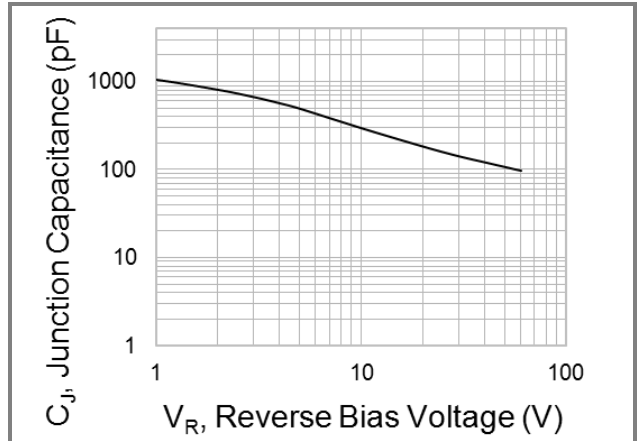


Fig.2 Typical Junction Capacitance

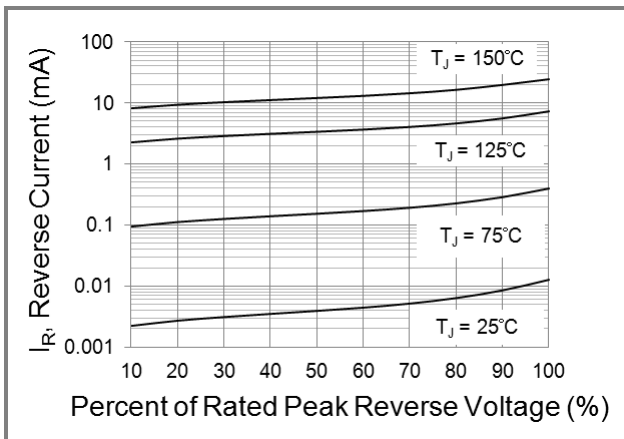


Fig.3 Typical Reverse Characteristics

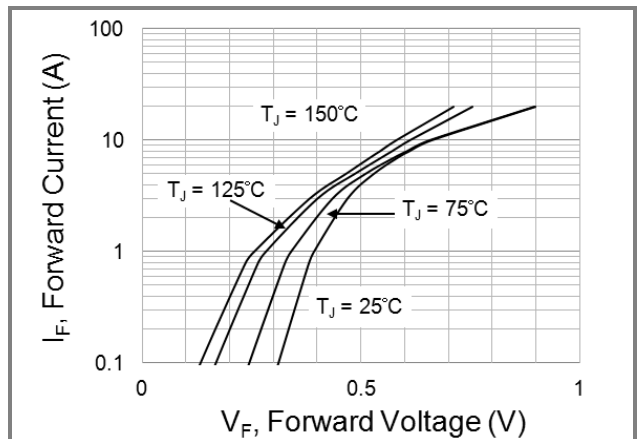


Fig.4 Typical Forward Characteristics

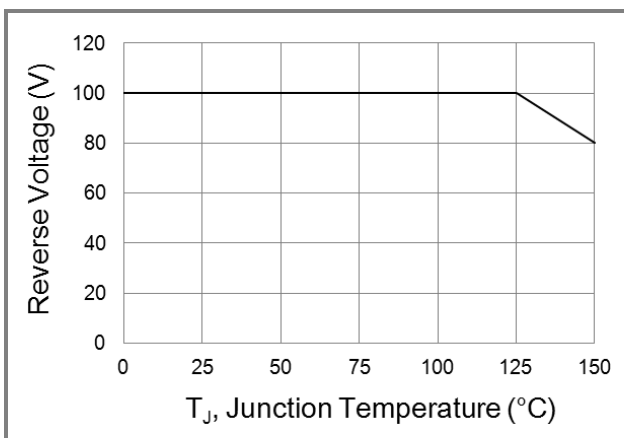


Fig.5 Operating Temperature Derating Curve



# SBT10100UYT

## Part No Packing Code Version

| Part No Packing Code | Package Type | Packing Type | Marking     | Version      |
|----------------------|--------------|--------------|-------------|--------------|
| SBT10100UYT_TO_00001 | TO-220AB     | 50pcs / Tube | SBT10100UYT | Halogen free |



## SBT10100UYT

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