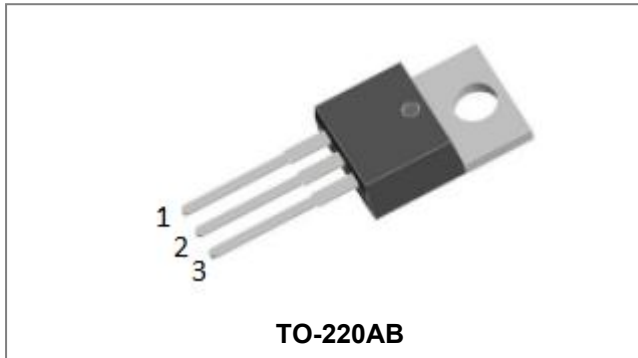


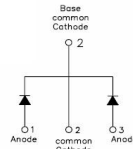
## SBR20100CT SCHOTTKY RECTIFIER



### Features

- 150°C T<sub>J</sub> operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced
- mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Applications

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

### Maximum Ratings:

| Characteristics                                      | Symbol              | Condition                                                    | Max.                          | Units |
|------------------------------------------------------|---------------------|--------------------------------------------------------------|-------------------------------|-------|
| Peak Repetitive Reverse Voltage                      | V <sub>RRM</sub>    | -                                                            | 100                           | V     |
| Working Peak Reverse Voltage                         | V <sub>RWM</sub>    |                                                              |                               |       |
| DC Blocking Voltage                                  | V <sub>R</sub>      |                                                              |                               |       |
| Average Rectified Forward Current                    | I <sub>F (AV)</sub> | 50% duty cycle @T <sub>c</sub> =133°C, rectangular wave form | 10(Per Leg)<br>20(Per Device) | A     |
| Peak One Cycle Non-Repetitive Surge Current(Per Leg) | I <sub>FSM</sub>    | 8.3ms, Half Sine pulse, T <sub>c</sub> = 25 °C               | 150                           | A     |
| Peak Repetitive Reverse Surge Current (Per Leg)      | I <sub>RRM</sub>    | 2.0s, 1.0KHz                                                 | 0.5                           | A     |

### Electrical Characteristics:

| Characteristics                | Symbol          | Condition                                                             | Typ.  | Max.   | Units |
|--------------------------------|-----------------|-----------------------------------------------------------------------|-------|--------|-------|
| Forward Voltage Drop(Per Leg)* | V <sub>F1</sub> | @10A, Pulse, T <sub>J</sub> = 25 °C                                   | 0.85  | 0.90   | V     |
|                                | V <sub>F2</sub> | @10A, Pulse, T <sub>J</sub> = 125 °C                                  | 0.75  | 0.80   | V     |
| Reverse Current(Per Leg)*      | I <sub>R1</sub> | @V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 25 °C       | 0.001 | 1.0    | mA    |
|                                | I <sub>R2</sub> | @V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 125 °C      | 0.1   | 6.0    | mA    |
| Junction Capacitance(Per Leg)  | C <sub>T</sub>  | @V <sub>R</sub> = 5V, T <sub>c</sub> = 25 °C, f <sub>sig</sub> = 1MHz | 180   | 350    | pF    |
| Voltage Rate of Change         | dv/dt           | -                                                                     | -     | 10,000 | V/μs  |

\* Pulse width < 300 μs, duty cycle < 2%

### Thermal-Mechanical Specifications:

| Characteristics                                      | Symbol          | Condition    | Specification | Units |
|------------------------------------------------------|-----------------|--------------|---------------|-------|
| Junction Temperature                                 | $T_J$           | -            | -55 to +150   | °C    |
| Storage Temperature                                  | $T_{stg}$       | -            | -55 to +150   | °C    |
| Typical Thermal Resistance Junction to Case(Per Leg) | $R_{\theta JC}$ | DC operation | 2             | °C/W  |
| Approximate Weight                                   | wt              | -            | 2             | g     |

### Ratings and Characteristics Curves

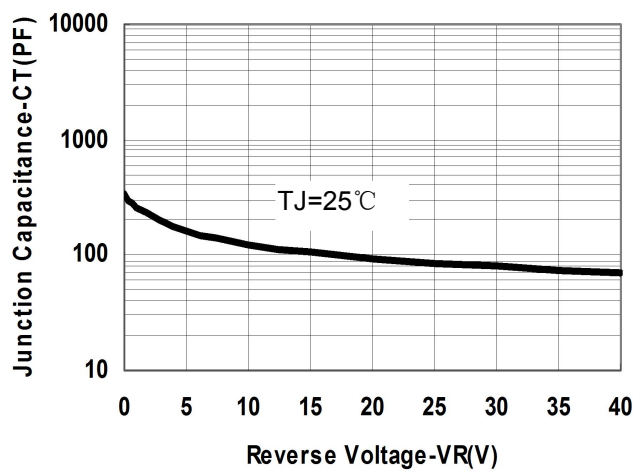


Fig.1-Typical Junction Capacitance

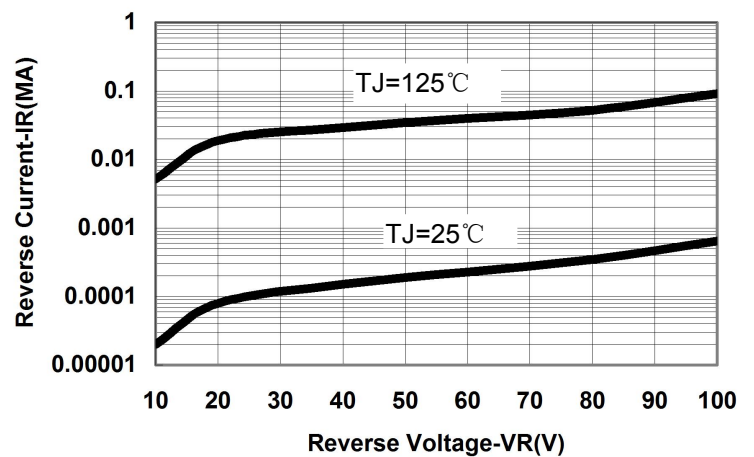


Fig.2-Typical Reverse Characteristics

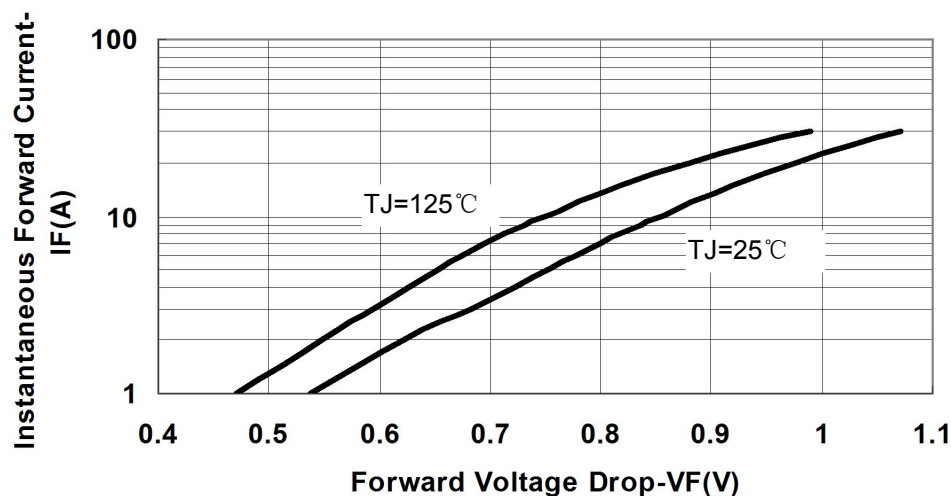
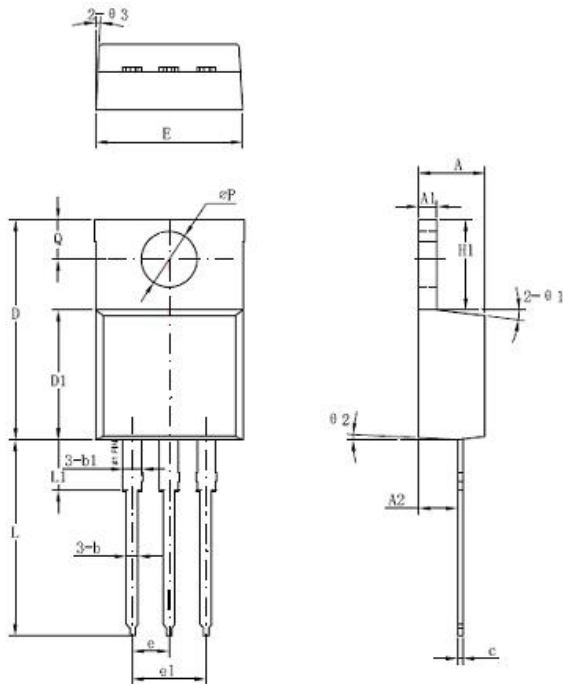


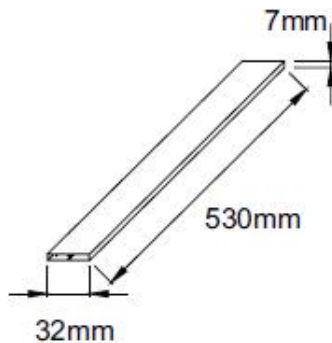
Fig.3-Typical Instantaneous Forward Voltage Characteristics

**Mechanical Dimensions TO-220AB**

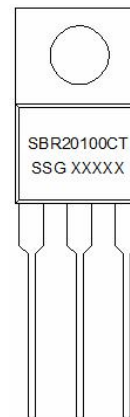


| Symbol | Dimensions in millimeters |         |       |
|--------|---------------------------|---------|-------|
|        | Min                       | Typical | Max   |
| A      | 4.42                      | 4.57    | 4.72  |
| A1     | 1.17                      | 1.27    | 1.37  |
| A2     | 2.52                      | 2.69    | 2.89  |
| b      | 0.71                      | 0.81    | 0.96  |
| b1     | 1.17                      | 1.27    | 1.37  |
| c      | 0.31                      | 0.38    | 0.61  |
| D      | 14.94                     | 15.24   | 15.54 |
| D1     | 8.85                      | 9.00    | 9.15  |
| E      | 10.01                     | 10.16   | 10.31 |
| e      |                           | 2.54    |       |
| e1     | 4.98                      | 5.06    | 5.18  |
| H1     | 6.04                      | 6.24    | 6.44  |
| L      | 12.7                      | 13.56   | 13.80 |
| L1     | 3.56                      | 3.5     | 3.96  |
| ΦP     | 3.74                      | 3.84    | 4.04  |
| Q      | 2.54                      | 2.74    | 2.94  |
| θ1     |                           | 7°      |       |
| θ2     |                           | 3°      |       |
| θ3     |                           | 4°      |       |

**Tube Specification**



**Marking Diagram**



Where XXXXX is YYWWL

SBR = Device Type  
20 = Forward Current (20A)  
100 = Reverse Voltage(100V)  
CT = Configuration  
SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

**Ordering Information**

| Device     | Package            | Shipping     |
|------------|--------------------|--------------|
| SBR20100CT | TO-220AB (Pb-Free) | 50 pcs/ tube |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

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