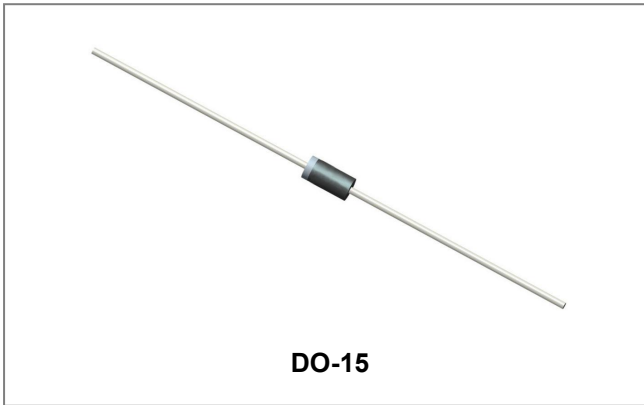


## SB2100 SCHOTTKY RECTIFIER



### Features

- Schottky Barrier Chip
- Ideally Suited for Automatic Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 50A Peak
- For Use in Low Voltage Application
- Guard Ring Die Construction
- Plastic Case Material has UL Flammability
- Classification Rating 94V-0
- Green Products in Compliance with the RoHS Directive
- 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
- Disk drives

### Maximum Ratings

| Characteristics                             | Symbol      | Condition  | Max. | Units |
|---|-------------|--|------|-------|
| Peak Repetitive Reverse Voltage             | $V_{RRM}$   | -  | 100  | V     |
| Working Peak Reverse Voltage                | $V_{RWM}$   |  |      |       |
| DC Blocking Voltage                         | $V_R$       |  |      |       |
| Average Rectified Forward Current           | $I_{F(AV)}$ | 50% duty cycle @ $T_C = 100^\circ\text{C}$ rectangular wave form ( $L=0.375''$ ) | 2.0  | A     |
| Peak One Cycle Non-Repetitive Surge Current | $I_{FSM}$   | 8.3 ms, half Sine pulse, $T_J = 25^\circ\text{C}$                                | 50   | A     |

### Electrical Characteristics

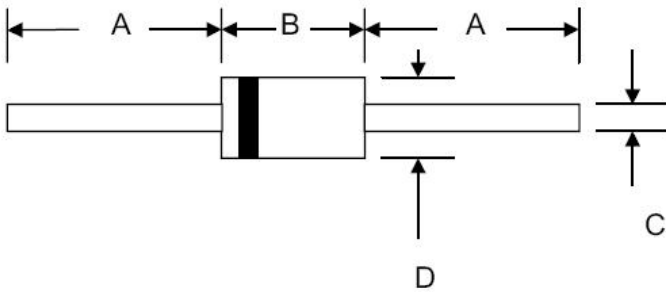
| Characteristics       | Symbol   | Condition   | Typ. | Max. | Units |
|-----------------------|----------|---|------|------|-------|
| Forward Voltage Drop* | $V_{F1}$ | @ 2.0A, Pulse, $T_J = 25^\circ\text{C}$                                   | 0.70 | 0.85 | V     |
| Reverse Current*      | $I_{R1}$ | @ $V_R = \text{rated } V_R$<br>$T_J = 25^\circ\text{C}$                   | 0.02 | 0.5  | mA    |
|                       | $I_{R2}$ | @ $V_R = \text{rated } V_R$<br>$T_J = 100^\circ\text{C}$                  | 10   | 20   | mA    |
| Junction Capacitance  | $C_J$    | @ $V_R = 5\text{V}$ , $T_C = 25^\circ\text{C}$<br>$f_{SIG} = 1\text{MHz}$ | 120  | 140  | pF    |

\* Pulse width < 300  $\mu\text{s}$ , 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 | $R_{\theta JC}$ | DC operation | 8             | °C/W  |
| Approximate Weight                          | wt              | -            | 0.093         | g     |

### Mechanical Dimensions DO-15



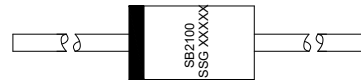
| SYMBOL | Millimeters |      | Inches |       |
|--------|-------------|------|--------|-------|
|        | Min.        | Max. | Min.   | Max.  |
| A      | 25.4        | -    | 1.000  | -     |
| B      | 5.5         | 7.62 | 0.217  | 0.300 |
| C      | 0.6         | 0.9  | 0.023  | 0.034 |
| D      | 2.6         | 3.6  | 0.104  | 0.140 |

### Ordering Information

| Device | Package         | Shipping      |
|--------|-----------------|---------------|
| SB2100 | DO-15 (Pb-Free) | 3000pcs /tape |

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

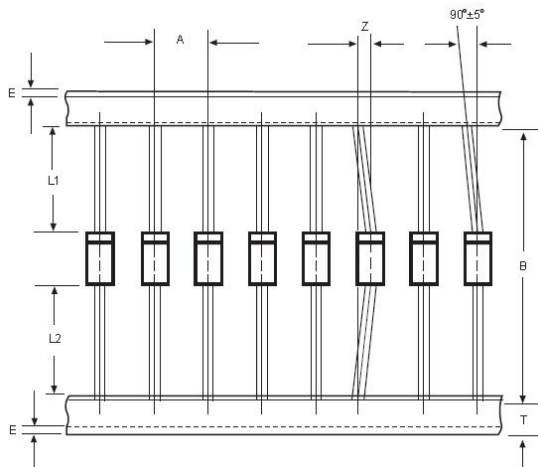
### Marking Diagram



Where XXXXX is YYWWL

SB = Device Type  
 2 = Forward Current (2A)  
 100 = Reverse Voltage (100V)  
 SSG = SSG  
 YY = Year  
 WW = Week  
 L = Lot Number

### Carrier Tape Specification DO-15



| SYMBOL  | Millimeters |      |
|---------|-------------|------|
|         | Min.        | Max. |
| A       | 4.50        | 5.50 |
| B       | 50.9        | 53.9 |
| Z       | -           | 1.20 |
| T       | 5.60        | 6.40 |
| E       | -           | 0.80 |
| IL1-L2I | -           | 1.0  |

**Ratings and Characteristics Curves**

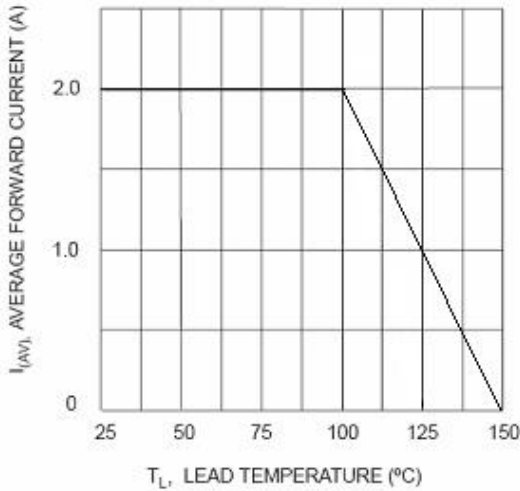


Fig. 1 Forward Current Derating Curve

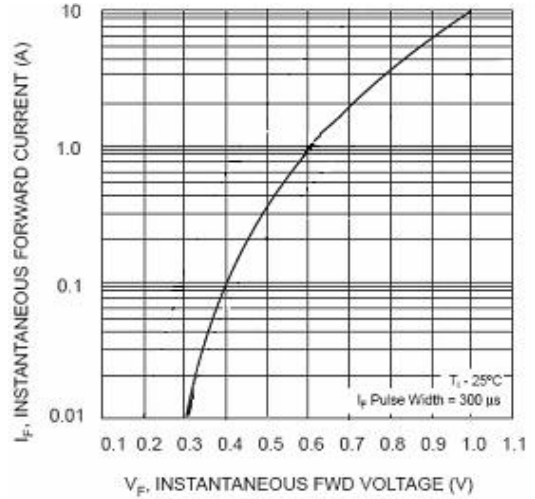


Fig. 2 Typ. Forward Characteristics

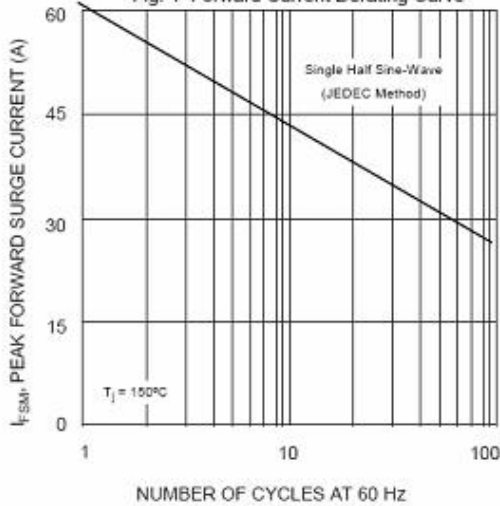


Fig. 3 Max Non-Replicative Peak Fwd Surge Current

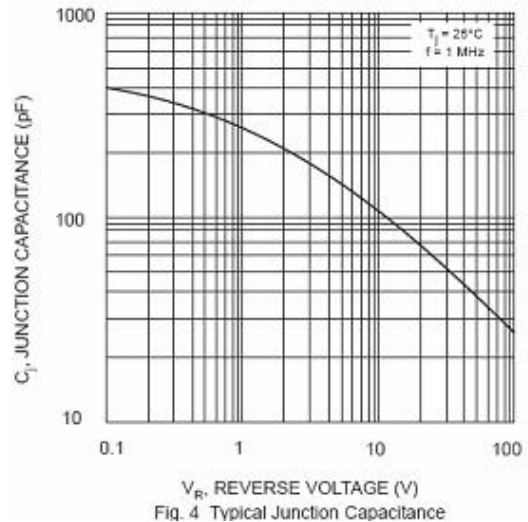


Fig. 4 Typical Junction Capacitance

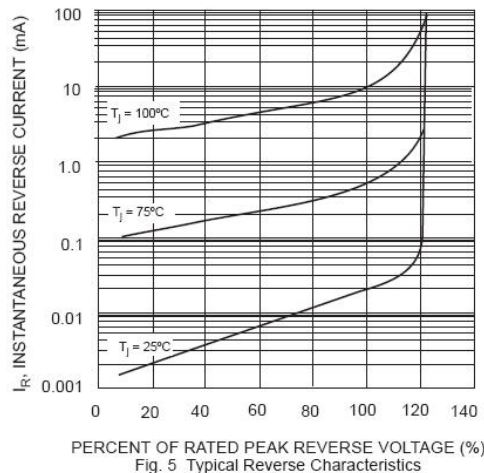


Fig. 5 Typical Reverse Characteristics

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