

**Product Summary** (@ T<sub>A</sub> = +25°C)

V <sub>RRM</sub> (V)	I <sub>o</sub> (A)	V <sub>F</sub> (MAX) (V)	I <sub>R</sub> (MAX) (μA)
100	2	0.78	1

**Description**

The SBR2M100SB is a single rectifier packaged in the low profile SMB package, offering very low forward voltage drop (V<sub>F</sub>) and excellent low reverse leakage stability at high temperatures.

**Applications**

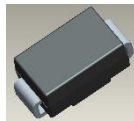
- DC-DC Converter
- AC-DC Rectifier
- Polarity Protection Diode
- Re-Circulating Diode
- Switching Diode
- Blocking Diode

**Features**

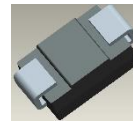
- Low Forward Voltage Drop
- Patented Interlocking Clip Design for High Surge Current Capacity
- Patented Super Barrier Rectifier SBR<sup>®</sup> Technology
- Soft, Fast Switching Capability
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](mailto:contact@diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

**Mechanical Data**

- Case: SMB
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Matte Tin Annealed over copper Lead-Frame. Solderable per MIL-STD-202, Method 208 **e3**
- Polarity: Cathode Band
- Weight: 0.093 grams (Approximate)



Top View

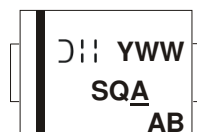


Bottom View

**Ordering Information** (Note 4)

Part Number	Case	Packaging
SBR2M100SB-13	SMB	3000/Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

**Marking Information**


SQA = Product Type Marking Code  
 J|| = Manufacturers' Code Marking  
 YWW = Date Code Marking  
 Y = Last Digit of Year (ex: 1 for 2021)  
 WW = Week Code (01 to 53)  
 AB = Foundry and Assembly Code

**Maximum Ratings** (@  $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	100	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_{RM}$		
Average Rectified Output Current (See Figure 1)	$I_O$	2.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	65	A

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Thermal Resistance Junction to Lead	$R_{\theta JL}$	25	$^\circ\text{C/W}$
Thermal Resistance Junction to Case (Note 5)	$R_{\theta JC}$	40	
Thermal Resistance Junction to Ambient (Note 5)	$R_{\theta JA}$	70	
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

**Electrical Characteristics** (@  $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	$V_F$	—	0.72	0.78	V	$I_F = 2\text{A}, T_J = +25^\circ\text{C}$
		—	0.585	0.65		$I_F = 2\text{A}, T_J = +125^\circ\text{C}$
Leakage Current (Note 6)	$I_R$	—	0.08	1	$\mu\text{A}$	$V_R = 100\text{V}, T_J = +25^\circ\text{C}$
		—	18	500		$V_R = 100\text{V}, T_J = +125^\circ\text{C}$

Notes: 5. Device mounted on FR-4 substrate, 1" x 1", 2oz, single-sided, PC boards with 0.56" x 0.73" copper pad.  $T_A = +25^\circ\text{C}$ .  
6. Short duration pulse test used to minimize self-heating effect.

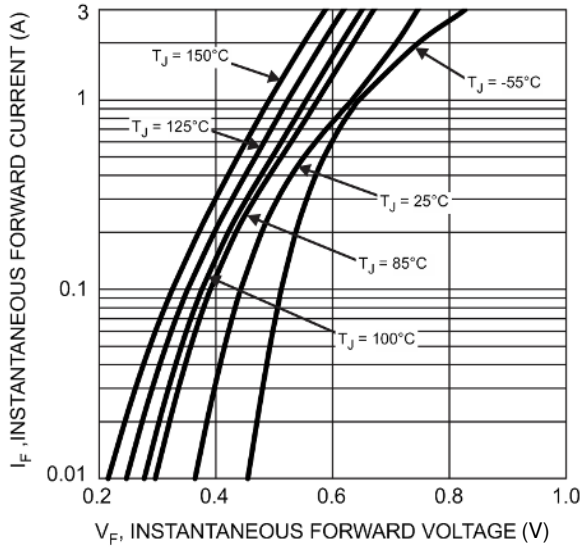


Fig. 1 Typical Forward Characteristics

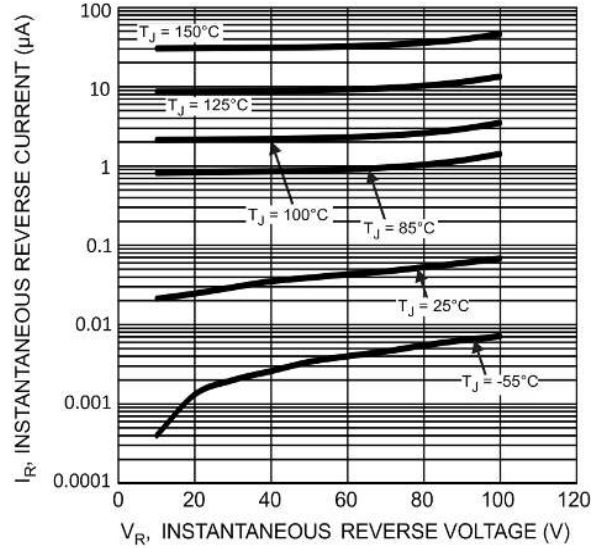


Fig. 2 Typical Reverse Characteristics

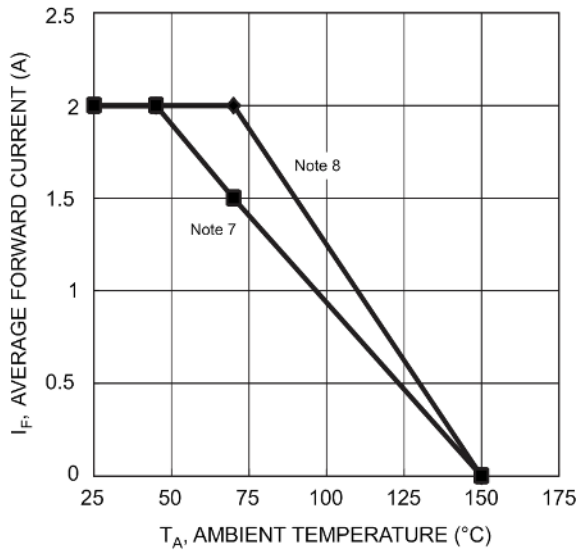


Fig. 3 Forward Current Derating Curve

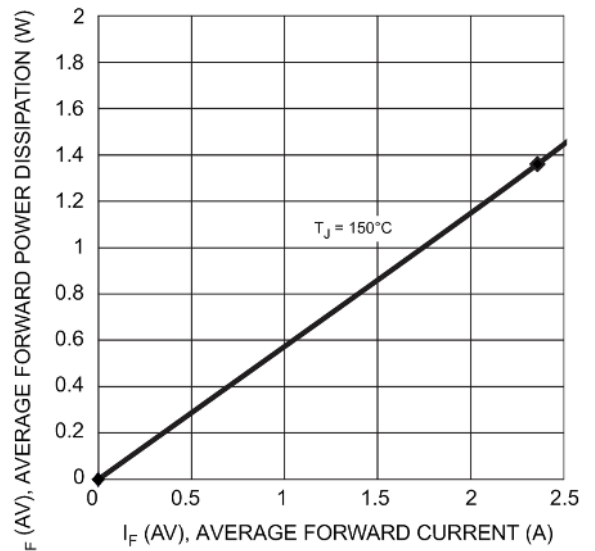


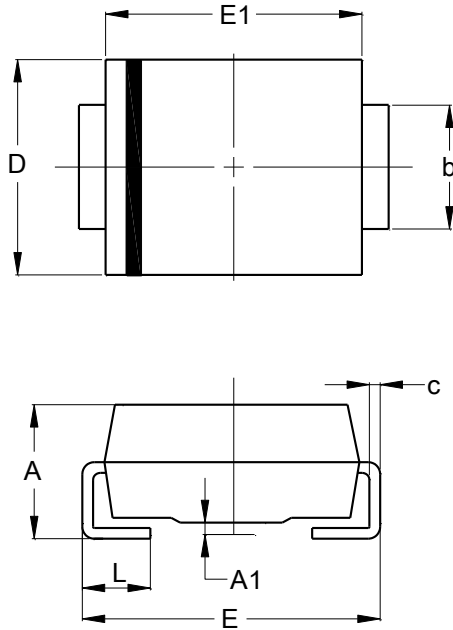
Fig. 4 Forward Power Dissipation

Notes: 7. Device mounted on FR-4 substrate, 1\*\*1", 2oz, single-sided, PC boards with 0.1\*\*0.15" copper pad.  
8. Device mounted on FR-4 substrate, 1\*\*1", 2oz, single-sided, PC boards with 0.56\*\*0.73" copper pad.

**Package Outline Dimensions**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**SMB**

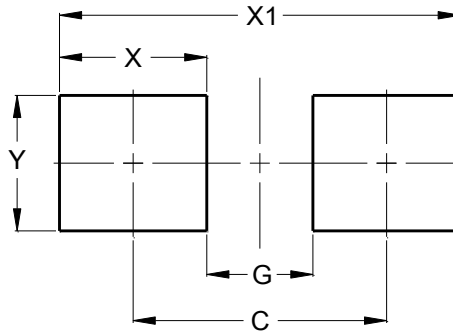


SMB		
Dim	Min	Max
A	2.00	2.50
A1	0.05	0.20
b	1.96	2.21
c	0.15	0.31
D	3.30	3.94
E	5.00	5.59
E1	4.06	4.57
L	0.76	1.52
<b>All Dimensions in mm</b>		

**Suggested Pad Layout**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**SMB**



Dimensions	Value (in mm)
C	4.30
G	1.80
X	2.50
X1	6.80
Y	2.30

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