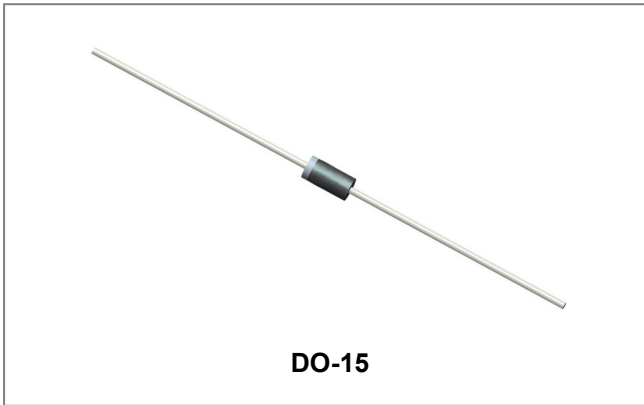


SB2100 SCHOTTKY RECTIFIER



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

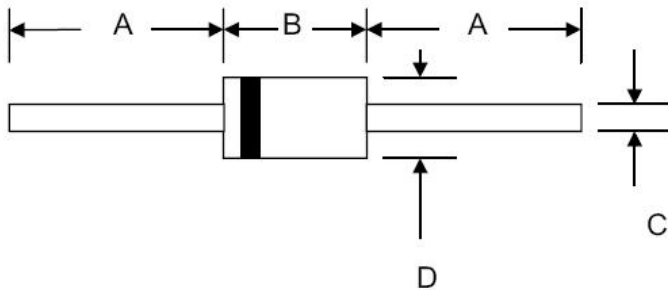
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 2.0A, Pulse, $T_J = 25^\circ\text{C}$	0.70	0.85	V
Reverse Current*	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	0.02	0.5	mA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 100^\circ\text{C}$	10	20	mA
Junction Capacitance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

* 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	R _{θJC}	DC operation	8	°C/W
Approximate Weight	wt	-	0.093	g

Mechanical Dimensions DO-15



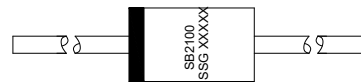
SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.4	-	1.000	-
B	5.5	7.62	0.217	0.300
C	0.6	0.9	0.023	0.034
D	2.6	3.6	0.104	0.140

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.

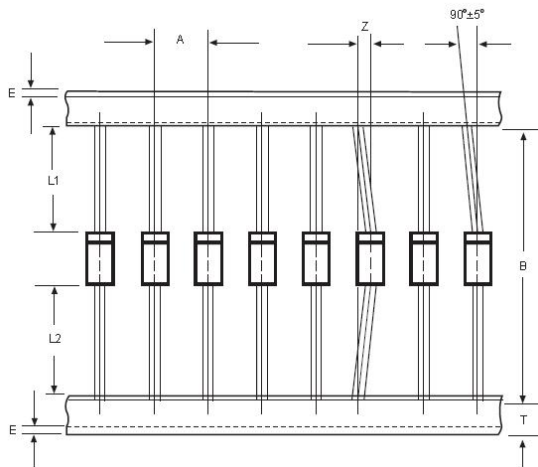
Marking Diagram



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

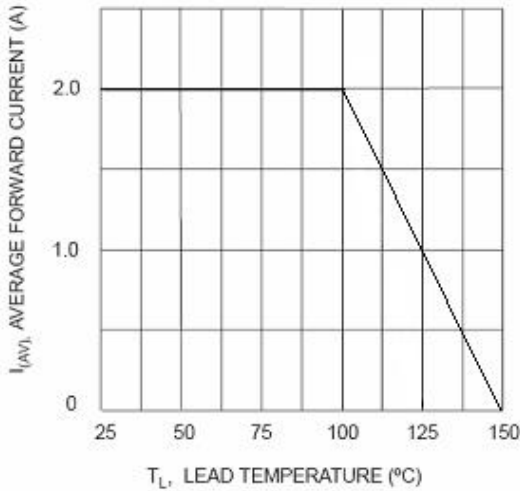


Fig. 1 Forward Current Derating Curve

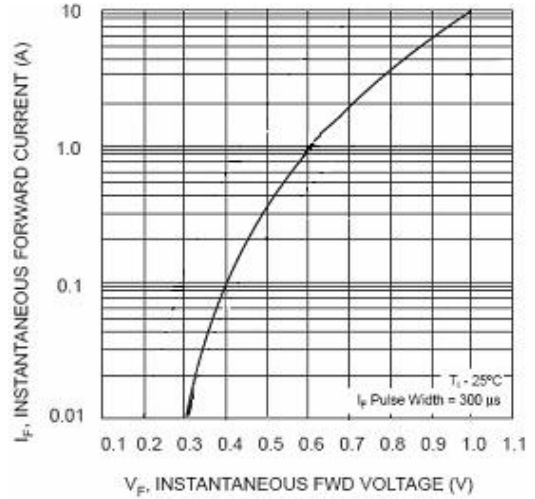


Fig. 2 Typ. Forward Characteristics

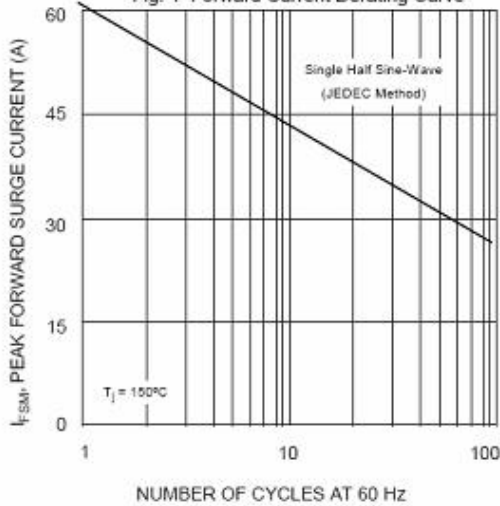


Fig. 3 Max Non-Replicative Peak Fwd Surge Current

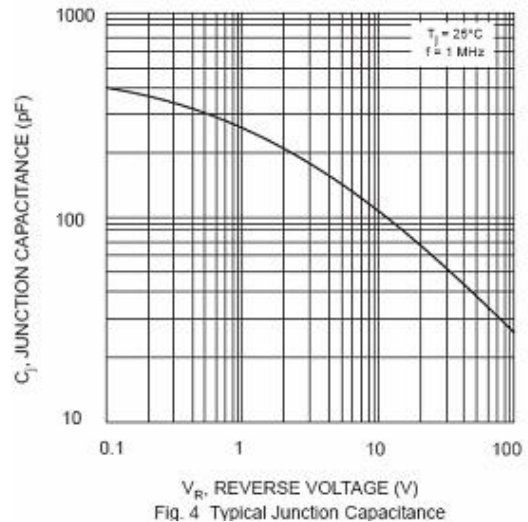


Fig. 4 Typical Junction Capacitance

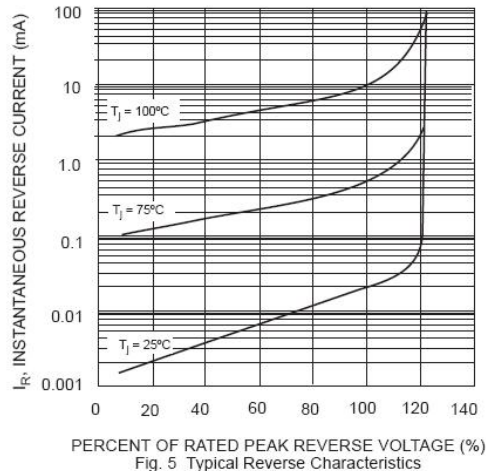


Fig. 5 Typical Reverse Characteristics

DISCLAIMER:

1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC - Sangdest Microelectronics (Nanjing) Co., Ltd sales department for the latest version of the datasheet(s).

2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.

3- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC - Sangdest Microelectronics (Nanjing) Co., Ltd assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.

4- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.

5- No license is granted by the datasheet(s) under any patents or other rights of any third party or SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.

6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.

7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations..