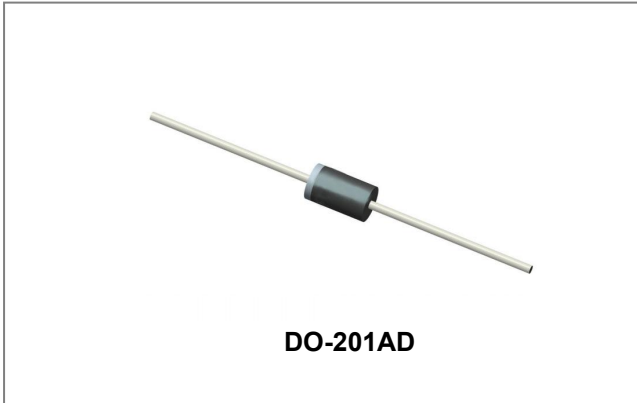




# THE DATASHEET OF SB5100



## SB5100 SCHOTTKY RECTIFIER



### Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- High Current Capability
- Low Power Loss, High Efficiency
- High Surge Current Capability
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- “-A” is an AEC-Q101 qualified device
- Terminals finish: 100% Pure Tin
- 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
- Battery charging

### Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

Characteristic	Symbol	SB5100	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>		
Maximum RMS Voltage	V <sub>RMS</sub>	70	V
Average Rectified Output Current (Note 1) @T <sub>A</sub> = 105°C	I <sub>F(AV)</sub>	5.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	120	A
Forward Voltage @I <sub>F</sub> = 5.0A, T <sub>A</sub> = 25°C @I <sub>F</sub> = 5.0A, T <sub>A</sub> = 125°C	V <sub>FM</sub>	0.85 0.70	V
Peak Reverse Current @T <sub>A</sub> = 25°C At Rated DC Blocking Voltage @T <sub>A</sub> = 125°C	I <sub>RM</sub>	0.5 10	mA
Maximum Junction Capacitance (Note 2)	C <sub>j</sub>	250	pF
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	25	K/W
Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C
Case Style	DO-201AD		

Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case.

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •

**Ratings and Characteristics Curves**

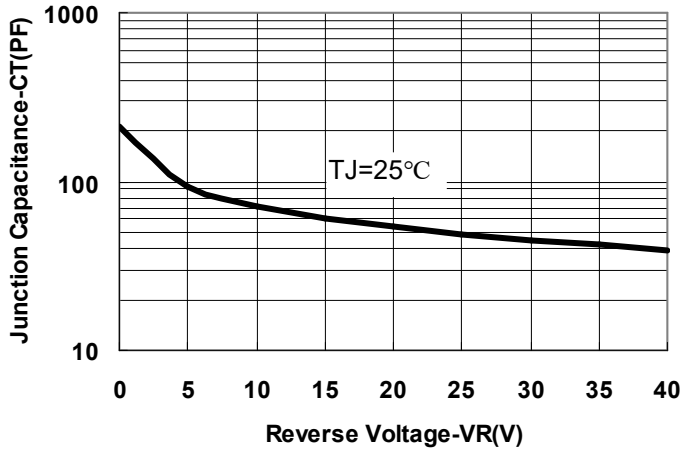


Fig.1-Typical Junction Capacitance

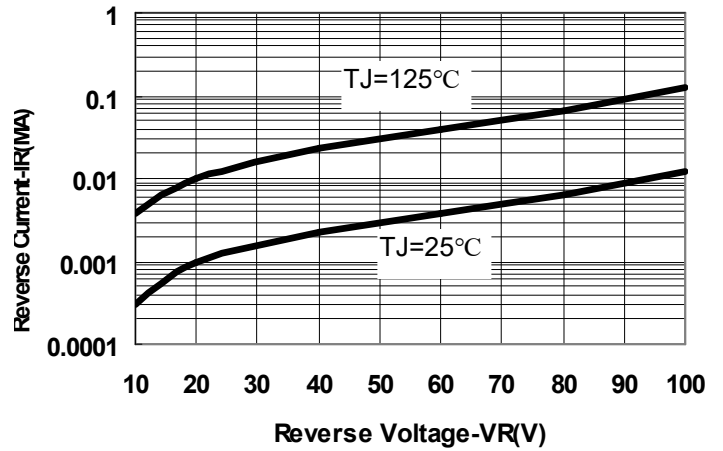


Fig.2-Typical Reverse Current

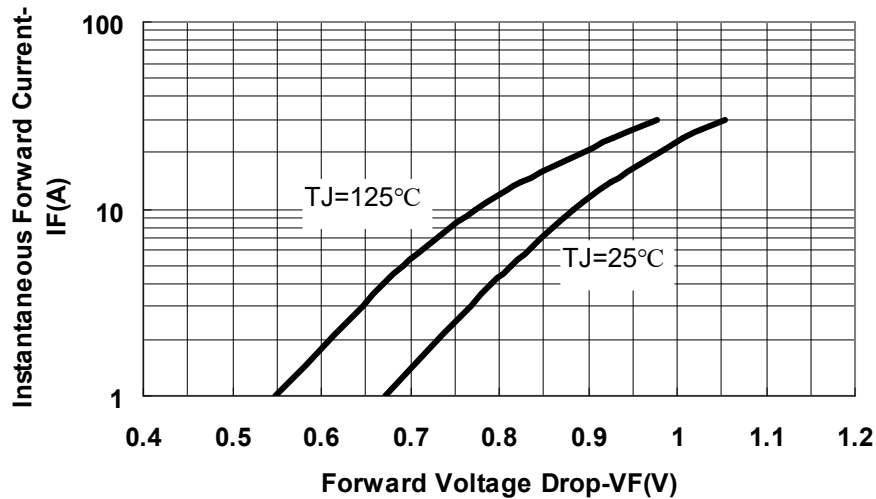
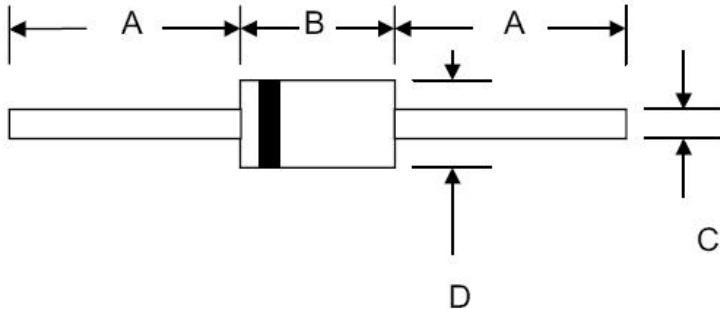


Fig.3-Typical Forward Voltage Drop Characteristics

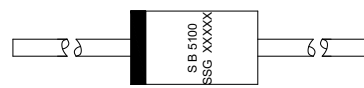
**Mechanical Dimensions DO-201AD**


SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.4	-	1.000	-
B	8.50	9.50	0.335	0.374
C	1.2	1.3	0.048	0.052
D	5.0	5.6	0.197	0.220

**Ordering Information**

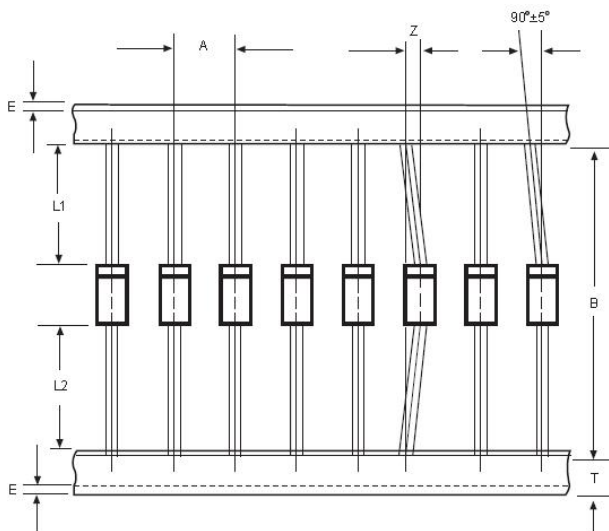
Device	Package	Shipping
SB5100	DO-201AD (Pb-Free)	1250pcs / tape

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

SB5100 = Part Name  
SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number

**Carrier Tape Specification DO-201AD**




SYMBOL	Millimeters	
	Min.	Max.
A	9.50	10.50
B	50.9	53.9
Z	-	1.20
T	5.60	6.40
E	-	0.80
IL1-L2I	-	1.0

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