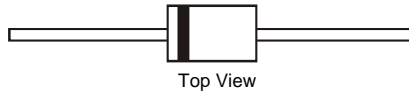


## Features

- Designed as Bypass Diodes for Solar Panels
- Selectively Rated for 200°C Maximum Junction Temperature for High Thermal Reliability
- Patented Super Barrier Rectifier Technology
- High Forward Surge Capability
- Ultra Low Forward Voltage Drop
- Excellent High Temperature Stability
- **Lead Free Finish, RoHS Compliant (Note 2)**

## Mechanical Data

- Case: DO-201AD
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish – Tin Plated Leads. Solderable per MIL-STD-202, Method 208 (E3)
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: TBD grams (approximate)



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

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

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	45	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>RM</sub>		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	32	V
Average Rectified Output Current	I <sub>O</sub>	10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	200	A

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance	R <sub>θJA</sub>	54	°C/W
Thermal Resistance Junction to Ambient (Note 3)			
Operating Temperature Range	T <sub>J</sub>	-65 to +150	°C
		V <sub>R</sub> ≤ 80% V <sub>RRM</sub>	
		V <sub>R</sub> ≤ 50% V <sub>RRM</sub> DC Forward Mode	
Storage Temperature Range	T <sub>STG</sub>	-65 to +175	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	V <sub>(BR)R</sub>	45	-	-	V	I <sub>R</sub> = 0.5mA
Forward Voltage Drop	V <sub>F</sub>	-	-	0.42	V	I <sub>F</sub> = 8A, T <sub>J</sub> = 25°C
		-	0.42	0.47		I <sub>F</sub> = 10A, T <sub>J</sub> = 25°C
		-	0.37	0.41		I <sub>F</sub> = 10A, T <sub>J</sub> = 125°C
Leakage Current (Note 1)	I <sub>R</sub>	-	0.051	0.3	mA	V <sub>R</sub> = 45V, T <sub>J</sub> = 25°C
		-	-	15		V <sub>R</sub> = 45V, T <sub>J</sub> = 100°C
		-	27	75		V <sub>R</sub> = 45V, T <sub>J</sub> = 150°C

- Notes:
1. Short duration pulse test used to minimize self-heating effect.
  2. RoHS revision 13.2.2003. High temperature solder exemption applied, see *EU Directive Annex Note 7*.
  3. FR-4 PCB, 2oz. Copper, minimum recommended pad layout per <http://www.diodes.com/datasheets/ap02001.pdf>.

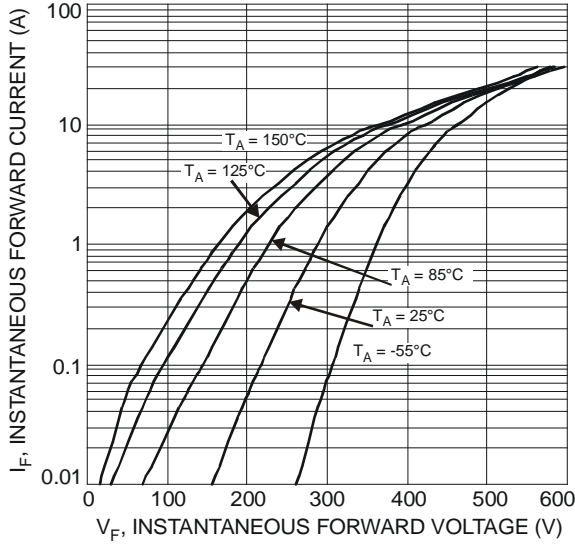


Fig. 1 Typical Forward Characteristics

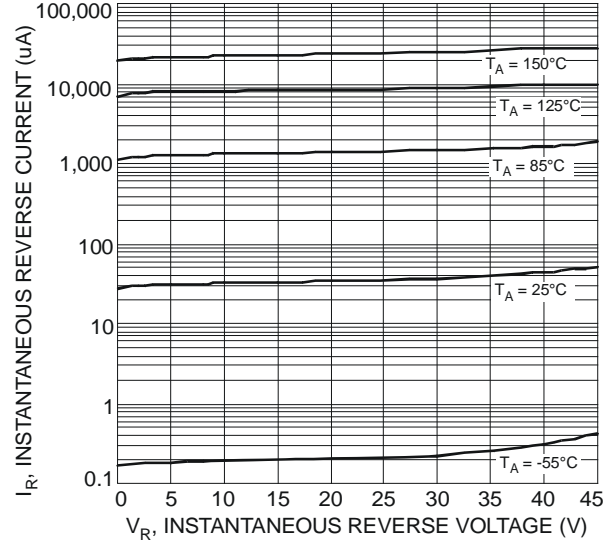


Fig. 2 Typical Reverse Characteristics

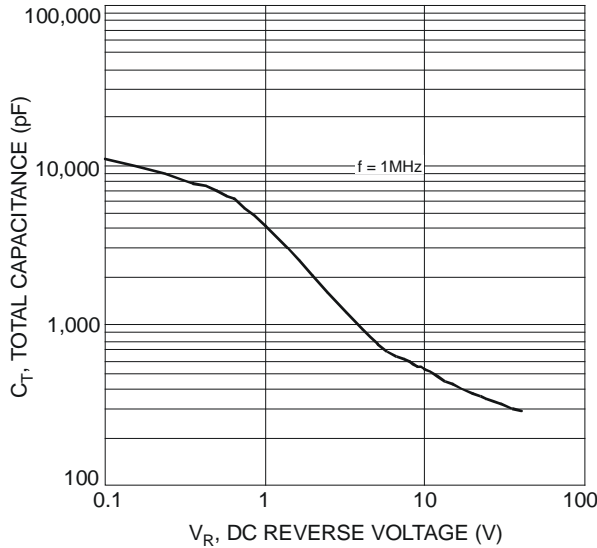


Fig. 3 Total Capacitance vs. Reverse Voltage

**Ordering Information** (Note 3)

Part Number	Case	Packaging
SBR10U45SD1-T	DO-201AD	1200/Tape & Reel, 13-inch

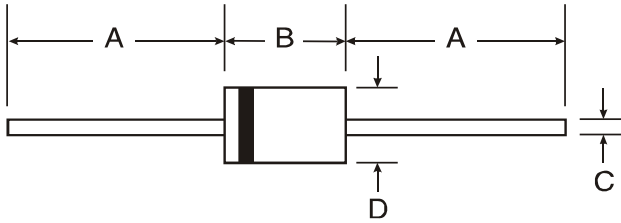
Notes: 3. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



SBR10U45 = Product Type Marking Code  
 AB = Foundry and Assembly Code  
 YWW = Manufacturers' code marking  
 YWW = Date Code Marking  
 Y = Last digit of year ex: 8 for 2008  
 WW = Week code 01 to 52

**Package Outline Dimensions**



DO-201AD		
Dim	Min	Max
<b>A</b>	25.40	—
<b>B</b>	7.20	9.50
<b>C</b>	1.20	1.30
<b>D</b>	4.80	5.30
<b>All Dimensions in mm</b>		

**IMPORTANT NOTICE**

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

**LIFE SUPPORT**

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.

NEW PRODUCT