

## Features

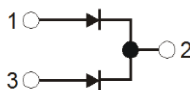
- Low Forward-Voltage Drop
- Excellent High-Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

## Mechanical Data

- Case: TO252
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 (E3)
- Weight: 0.317 grams (Approximate)



Top View



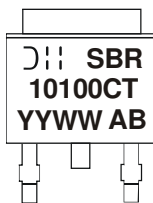
Package Pin-Out Configuration

## Ordering Information (Note 4)

Part Number	Case	Packaging
SBR10100CTL-13	TO252	2500 Pieces/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 <http://www.diodes.com>.

## Marking Information



SBR10100CT = Product Type Marking Code  
 AB = Foundry and Assembly Code  
 YYWW = Date Code Marking  
 YY = Last two digits of year (ex: 18 = 2018)  
 WW = Week (01 - 53)

### Maximum Ratings (Per Leg) @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>	100	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>RM</sub>		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	71	V
Average Rectified Output Current Per Device	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>	110	A

### Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance (Note 6)	R <sub>θJC</sub>	22	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V <sub>F</sub>	—	0.77	0.84	V	I <sub>F</sub> = 5A, T <sub>J</sub> = 25°C
		—	0.63	0.71		I <sub>F</sub> = 5A, T <sub>J</sub> = 125°C
Leakage Current (Note 5)	I <sub>R</sub>	—	—	0.2	mA	V <sub>R</sub> = 100V, T <sub>J</sub> = 25°C
		—	—	25		V <sub>R</sub> = 100V, T <sub>J</sub> = 125°C

- Notes:
5. Short duration pulse test used to minimize self-heating effect
  6. Device mounted on FR-4 substrate PCB, 1oz copper .with minimum recommended pad layout.
  7. Device mounted on Polyimide substrate, 1\*MRP, 2oz, copper, PCBs.

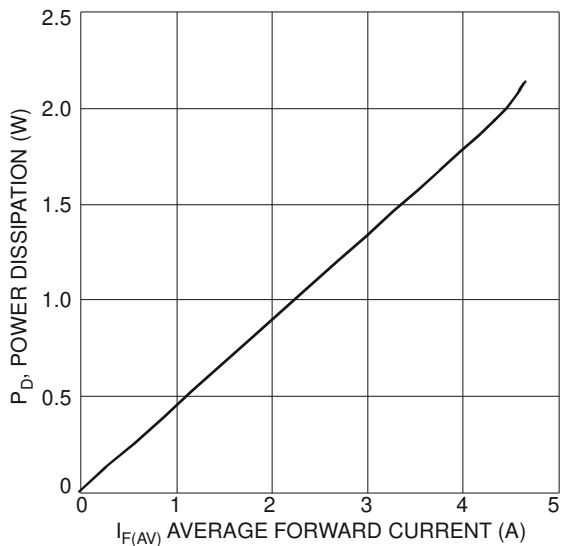


Fig. 1 Forward Power Dissipation

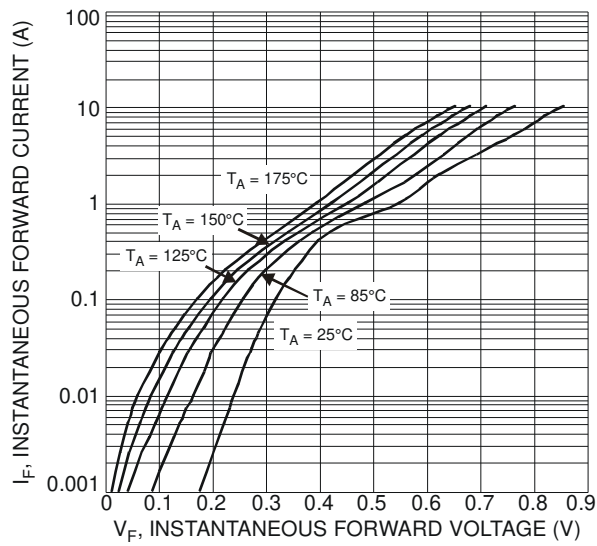


Fig. 2 Typical Forward Characteristics

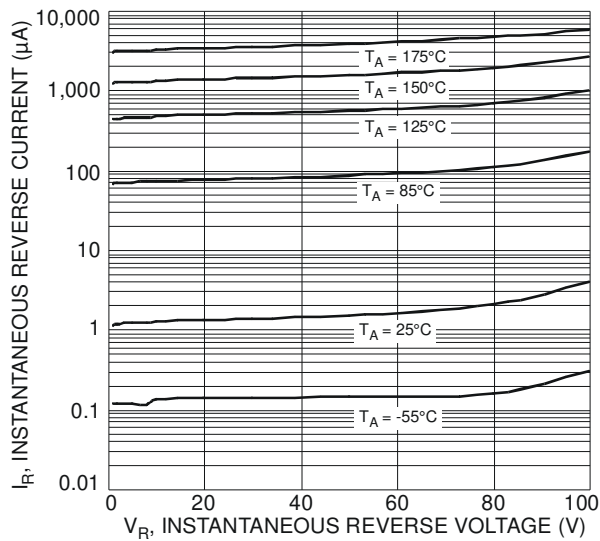


Fig. 3 Typical Reverse Characteristics

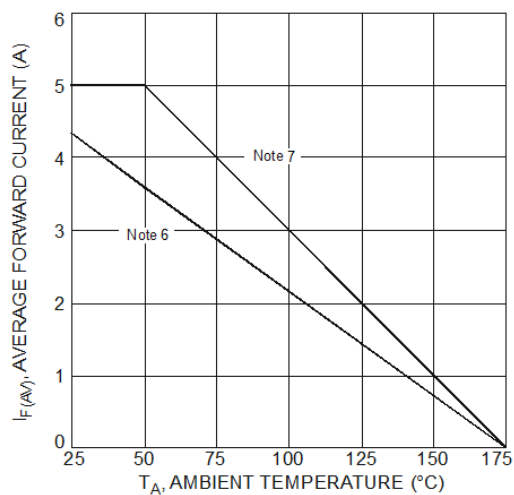
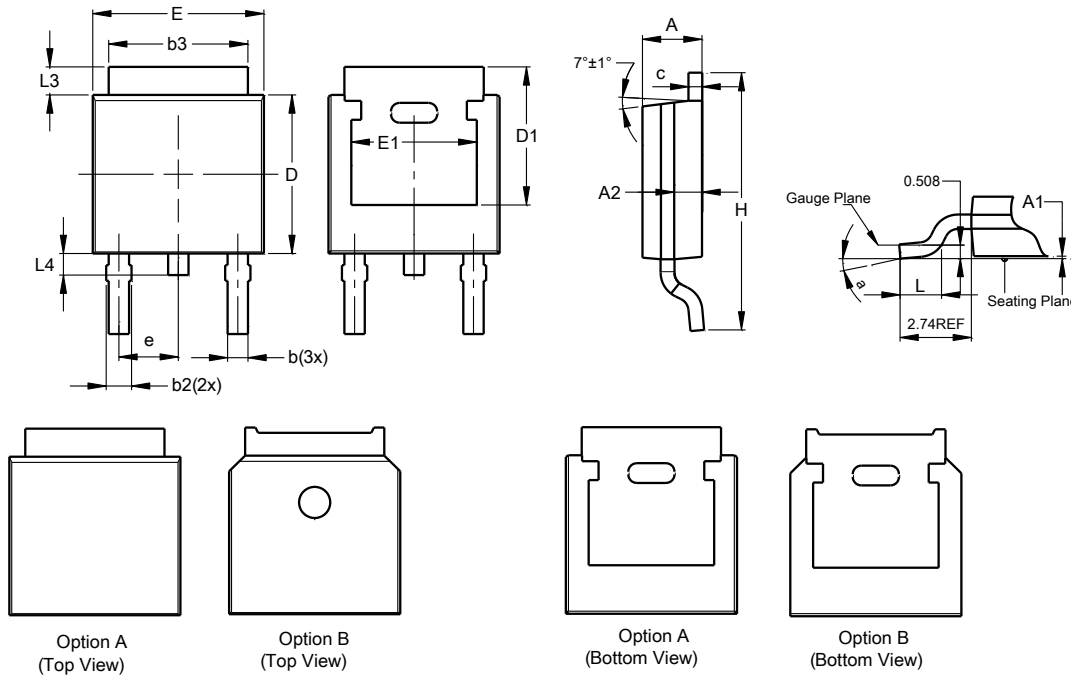


Fig. 4 Forward Current Derating Curve

**Package Outline Dimensions**

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

**TO252 (Standard)**

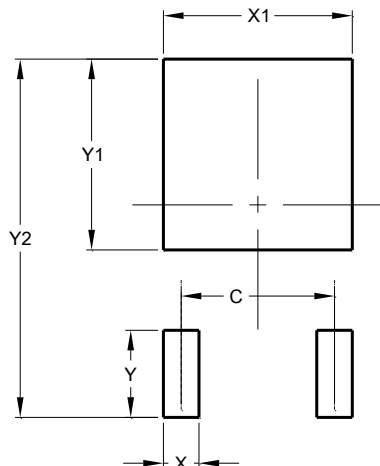


TO252 (Standard)			
Dim	Min	Max	Typ
A	2.19	2.39	2.29
A1	0.00	0.13	0.08
A2	0.97	1.17	1.07
b	0.64	0.88	0.783
b2	0.76	1.14	0.95
b3	5.21	5.46	5.33
c	0.45	0.58	0.531
D	6.00	6.20	6.10
D1	5.21	-	-
e	-	-	2.286
E	6.45	6.70	6.58
E1	4.32	-	-
H	9.40	10.41	9.91
L	1.40	1.78	1.59
L3	0.88	1.27	1.08
L4	0.60	1.02	0.83
a	0°	10°	-
<b>All Dimensions in mm</b>			

**Suggested Pad Layout**

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

**TO252 (Standard)**



Dimensions	Value (in mm)
C	4.572
X	1.060
X1	5.632
Y	2.600
Y1	5.700
Y2	10.700

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