

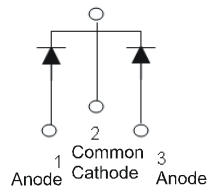
## Product Summary

V <sub>RRM</sub> (V)	I <sub>o</sub> (A)	V <sub>F(MAX)</sub> (V) @ +25°C	I <sub>R(MAX)</sub> (mA) @ +25°C
100	10 (Per leg) 20 (Total)	0.85	0.1

## Description and Applications

The SBR20A100CTB provides very low V<sub>F</sub> and excellent reverse leakage stability at high temperatures. It is ideal for use as a rectifier, freewheel diode or blocking diode in:

- DC/DC Converters
- AC/DC Adaptors



Package Pin Out Configuration

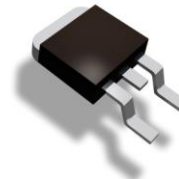
## Features and Benefits

- Patented Trench SBR<sup>®</sup> technology provides superior avalanche capability versus Schottky diodes, ensuring more rugged and reliable end applications
- Reduced ultra-low forward voltage drop (V<sub>F</sub>); Better efficiency and cooler operation
- Reduced high temperature reverse leakage; Increased reliability against thermal runaway failure in high temperature operation
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

## Mechanical Data

- Case: TO263AB (D2PAK), TO263AB (D2PAK) (Type TH)
- 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 Leadframe Solderable per MIL-STD-202, Method 208 (E3)
- Polarity: See Below
- Weight: 1.6 grams (Approximate)

TO263AB (D2PAK)  
TO263AB (D2PAK) (Type TH)



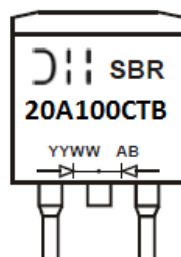
Top View

## Ordering Information (Note 4)

Part Number	Case	Packaging
SBR20A100CTB	TO263AB (D2PAK)	50 Pieces/Tube
SBR20A100CTB-13	TO263AB (D2PAK)	800/Tape & Reel
SBR20A100CTB	TO263AB (D2PAK) (Type TH)	50 Pieces/Tube
SBR20A100CTB-13	TO263AB (D2PAK) (Type TH)	800/Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
  2. See [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) 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/products/packages.html>.

## Marking Information



- ⌋⌋ = Manufacturer's Marking  
 SBR20A100CTB = Product Type Marking Code  
 AB = Foundry and Assembly Code  
 YYWW = Date Code Marking  
 YY = Last Two Digits of Year (ex: 16 = 2016)  
 WW = Week (01 to 53)

**Maximum Ratings (Per Leg)** (@ $T_A = +25^\circ\text{C}$ , 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 (Per Leg) (Total)	$I_O$	10 20	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	250	A
Peak Repetitive Reverse Surge Current (2 $\mu\text{s}$ -1KHz)	$I_{RRM}$	3	A

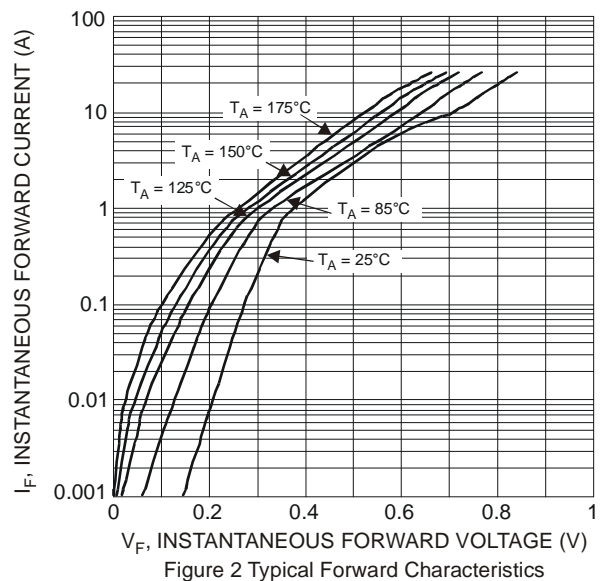
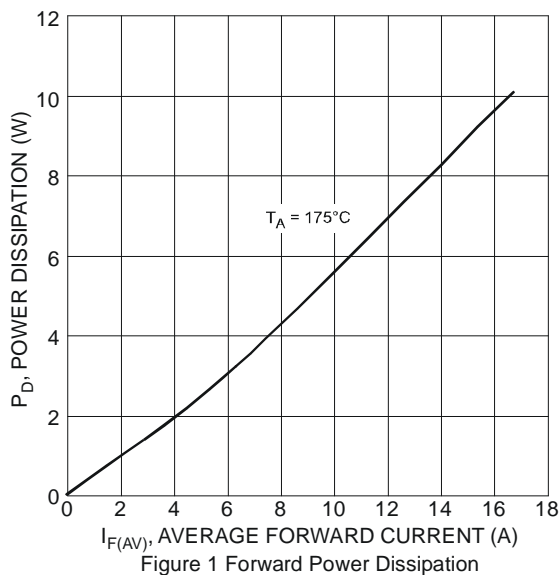
**Thermal Characteristics (Per Leg)**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Per Leg) (Note 5)	$R_{\theta JC}$	5	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +175	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	$V_F$	—	—	0.75	V	$I_F = 10\text{A}, T_J = +25^\circ\text{C}$
		—	0.60	0.64		$I_F = 10\text{A}, T_J = +125^\circ\text{C}$
		—	—	0.85		$I_F = 20\text{A}, T_J = +25^\circ\text{C}$
Leakage Current (Note 6)	$I_R$	—	—	0.1	mA	$V_R = 100\text{V}, T_J = +25^\circ\text{C}$
		—	—	100		$V_R = 100\text{V}, T_J = +125^\circ\text{C}$

Notes: 5. Device mounted on Aluminum substrate 2inch square.  
6. Short duration pulse test used to minimize self-heating effect.



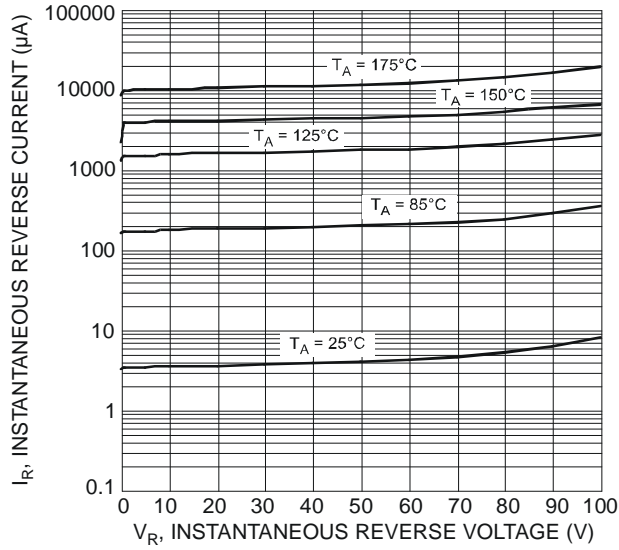


Figure 3 Typical Reverse Characteristics

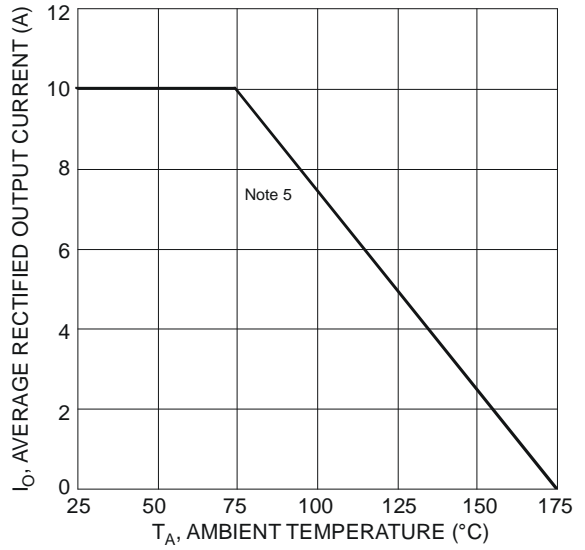
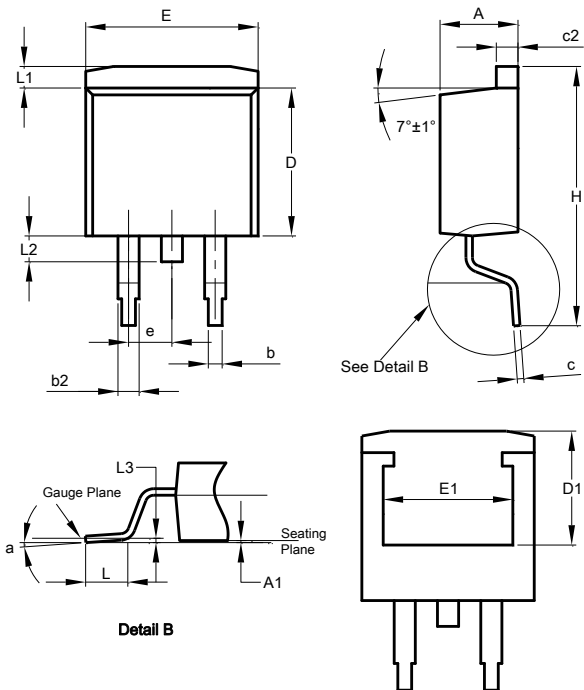


Figure 4 Forward Current Derating Curve

**Package Outline Dimensions**

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

**TO263AB (D2PAK)**



TO263AB (D2PAK)			
Dim	Min	Max	Typ
A	4.07	4.82	-
A1	0.00	0.25	-
b	0.51	0.99	-
b2	1.15	1.77	-
c	0.356	0.73	-
c2	1.143	1.65	-
D	8.39	9.65	-
D1	6.55	6.95	-
e	2.54 TYP		
E	9.66	10.66	-
E1	6.23	8.23	-
H	14.61	15.87	-
L	1.78	2.79	-
L1	-	1.67	-
L2	-	1.77	-
L3	-	-	0.254
a	0°	8°	-
<b>All Dimensions in mm</b>			



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