

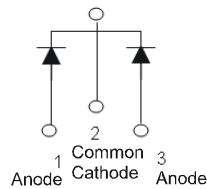
Product Summary

V_{RRM} (V)	I_o (A)	$V_F(MAX)$ (V) @ +25°C	$I_R(MAX)$ (mA) @ +25°C
100	10 (Per leg) 20 (Total)	0.85	0.1

Description and Applications

The SBR20A100CTB provides very low V_F 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

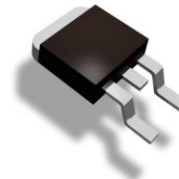
Features and Benefits

- Patented Trench SBR® technology provides superior avalanche capability versus Schottky diodes, ensuring more rugged and reliable end applications
- Reduced ultra-low forward voltage drop (V_F); 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)



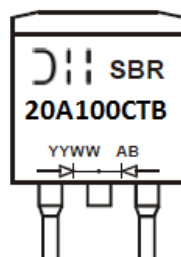
Top View

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 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



DJI = 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°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 Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _{RM}	100	V
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 (2μs-1KHz)	I _{RRM}	3	A

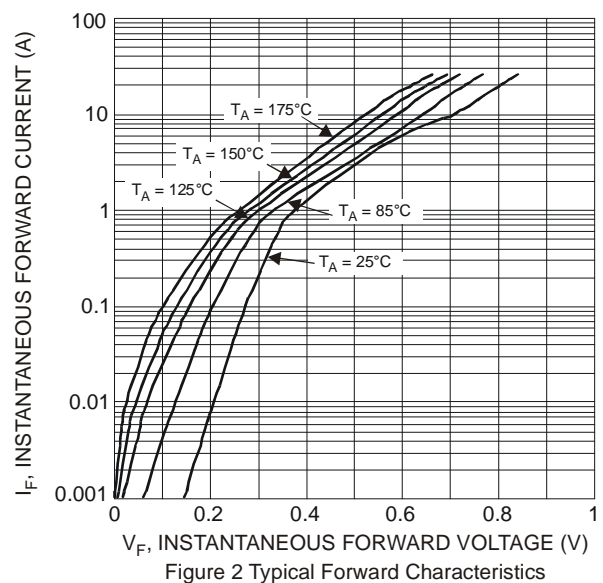
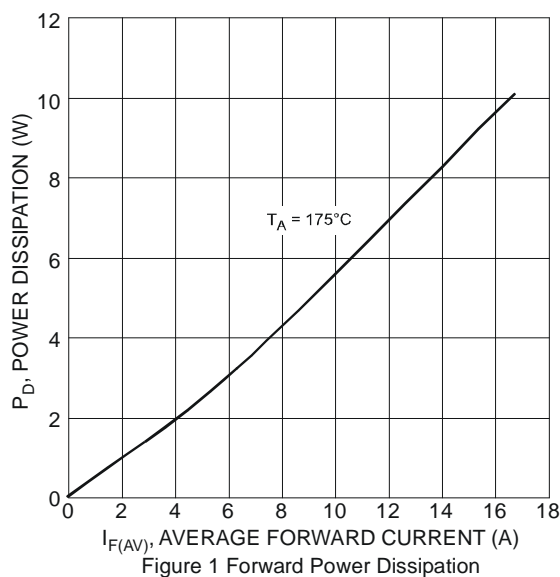
Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Per Leg) (Note 5)	R _{θJC}	5	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +175	°C

Electrical Characteristics (Per Leg) (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V _F	—	—	0.75 0.64 0.85	V	I _F = 10A, T _J = +25°C I _F = 10A, T _J = +125°C I _F = 20A, T _J = +25°C
Leakage Current (Note 6)	I _R	—	—	0.1 100	mA	V _R = 100V, T _J = +25°C V _R = 100V, T _J = +125°C

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



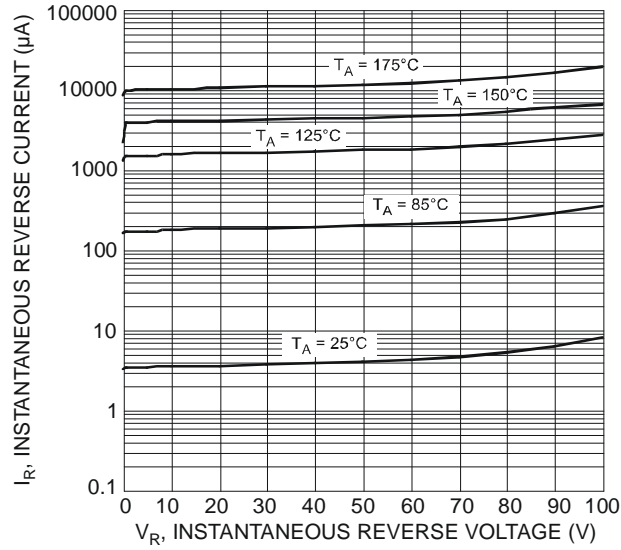


Figure 3 Typical Reverse Characteristics

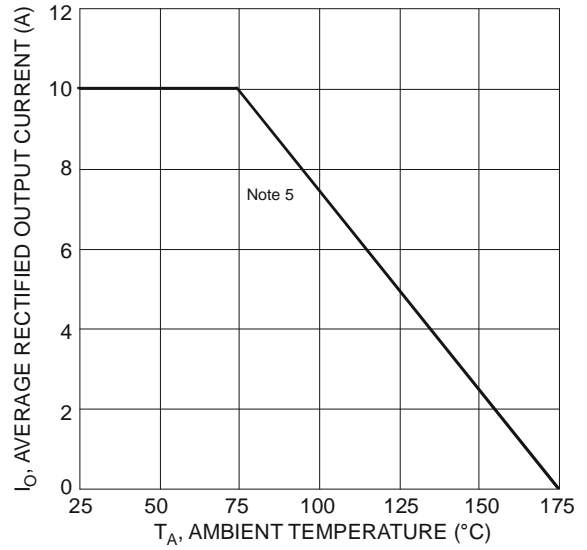
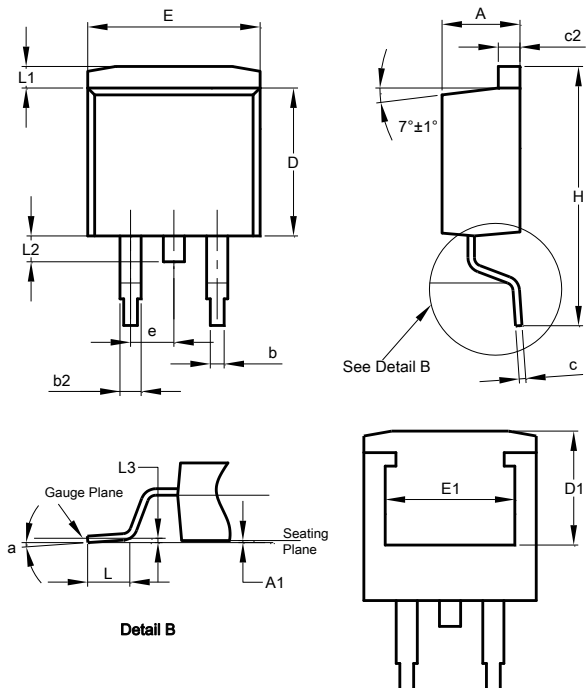


Figure 4 Forward Current Derating Curve

Package Outline Dimensions

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

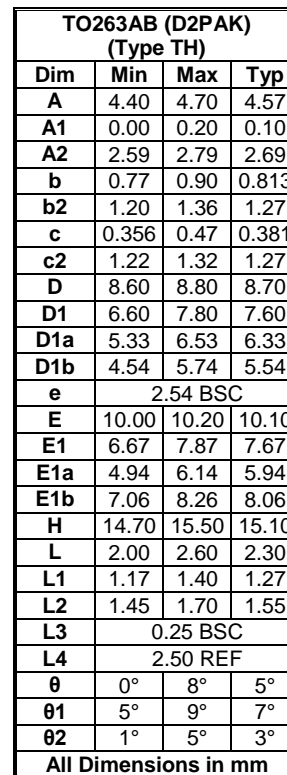
TO263AB (D2PAK)



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°	-
All Dimensions in mm			

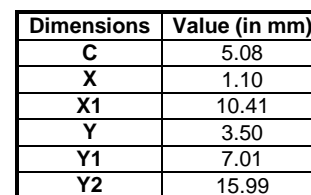
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TO263AB (D2PAK) (Type TH)



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

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



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