Features

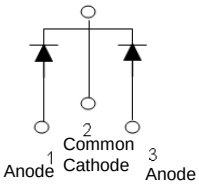
- Ultra Low Forward Voltage Drop
- Low Leakage Current
- Excellent High-Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- **Lead Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- Also Available in Green Molding Compound (Note 4)

Mechanical Data

- Case: TO263AB (D^2PAK)
- 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: 1.6 grams (Approximate)

TO263AB (D^2PAK)

Top View



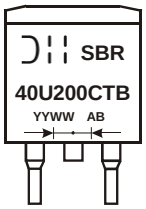
Package Pin Out Configuration

Ordering Information (Notes 5)

Part Number	Case	Packaging
SBR40U200CTB	TO263AB (D^2PAK)	50 Pieces/Tube
SBR40U200CTB-G (Note 4)	TO263AB (D^2PAK)	50 Pieces/Tube
SBR40U200CTB-13	TO263AB (D^2PAK)	800/Tape & Reel
SBR40U200CTB-13-G (Note 4)	TO263AB (D^2PAK)	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 Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR40U200CTB-G.
5. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information



SBR40U200CTB = Product Type Marking Code
AB = Foundry and Assembly Code (if applicable)
YYWW = Date Code Marking
YY = Year (ex: 15 = 2015)
WW = Week (01 - 53)

Maximum Ratings (@T_A = +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 Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_{RM}	200	V
Average Rectified Output Current @ T_C = +100°C	I_O	40	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	240	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance (per leg) Thermal Resistance Junction to Case (Note 6) Thermal Resistance, Junction to Ambient (Note 6)	 $R_{\theta JC}$ $R_{\theta JA}$	 2 7	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop (per leg)	V_F	-	0.85 0.70	0.93 0.75	V	I_F = 20A, T_J = +25°C I_F = 20A, T_J = +125°C
Leakage Current (Note 7)	I_R	- -	- -	0.2 40	mA	V_R = 200V, T_J =+25°C V_R = 200V, T_J = +125°C
Reverse Recovery Time	t_{rr}	-	38	50	nS	I_F = 0.5A, I_R = 1A, I_{RR} = 0.25A
		-	25	35		I_F = 1A, V_R = 30V di/dt = 100A/µs, T_J = +25°C

Notes: 6. FR-4 PCB, 2 oz. Copper, minimum recommended pad layout per http://www.diodes.com.
7. Short duration pulse test used to minimize self-heating effect.

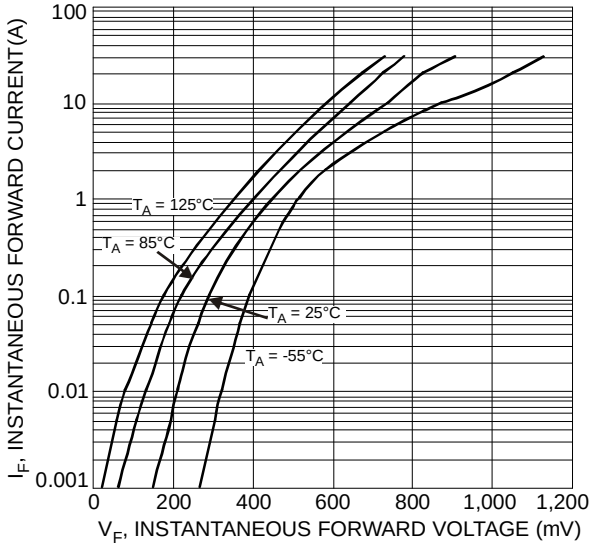


Fig.1 Typical Forward Characteristics

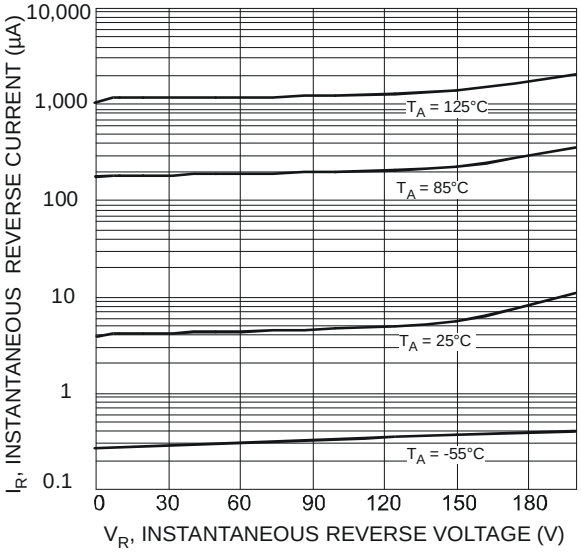


Fig. 2 Typical Reverse Characteristics

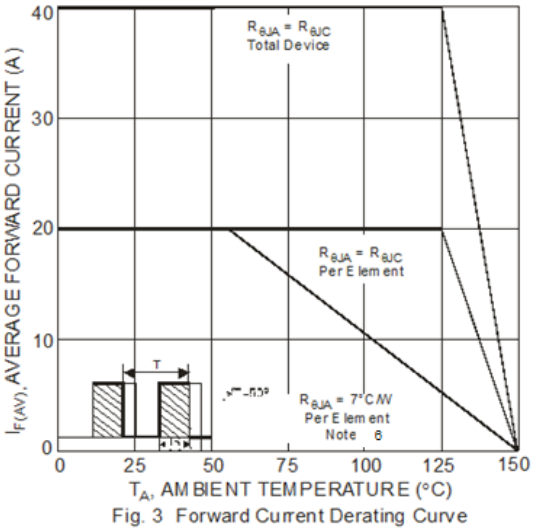
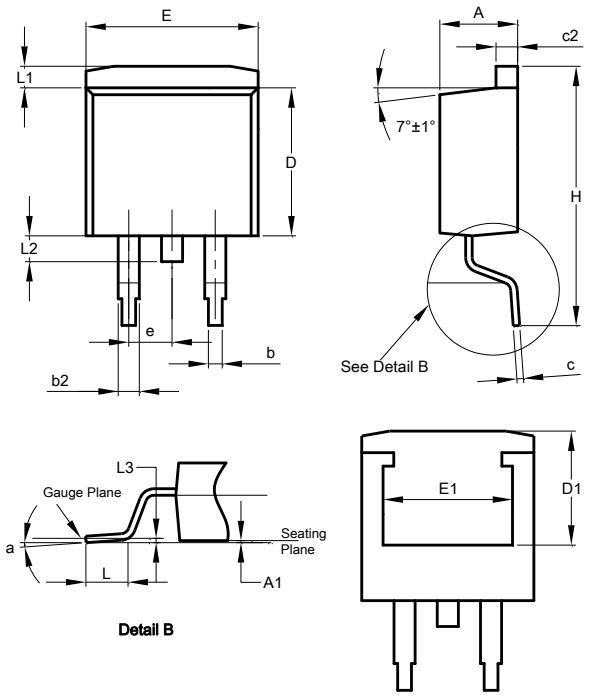


Fig. 3 Forward Current Derating Curve

Package Outline Dimensions

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.

TO263AB (D²PAK)

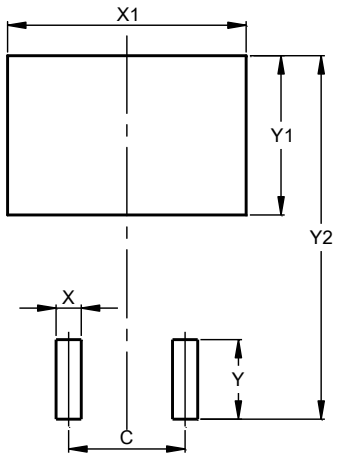


TO263AB (D²PAK)			
Dim	**Min**	**Max**	**Typ**
A	4.07	4.82	-
A1	0.00	0.25	-
b	0.51	0.99	-
b2	1.15	1.77	-
c	0.356	0.73	-
c2	1.143	1.65	-
D	8.39	9.65	-
D1	6.55	6.95	-
e	2.54 TYP		
E	9.66	10.66	-
E1	6.23	8.23	-
H	14.61	15.87	-
L	1.78	2.79	-
L1	-	1.67	-
L2	-	1.77	-
L3	-	-	0.254
a	0°	8°	-
All Dimensions in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

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.

TO263AB (D²PAK)



Dimensions	Value (in mm)
C	5.08
X	1.10
X1	10.41
Y	3.50
Y1	7.01
Y2	15.99

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