SBR3045CTB

30A SBR
SUPER BARRIER RECTIFIER

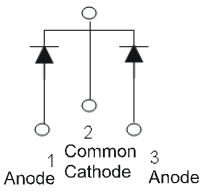
Features

- Low Forward Voltage Drop
- Patented Superior Barrier Rectifier SBR® Technology
- Excellent High Temperature Stability
- Soft, Fast Switching Capability
- +150°C Operating Junction Temperature
- **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)
- 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)

Top View



Package Pin-Out Configuration

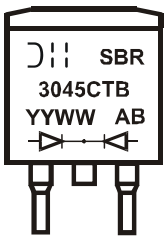
Ordering Information (Note 4)

	Part Number	Qualification	Case	Packaging
Pb	SBR3045CTB	Commercial	TO263AB (D2PAK)	50 Pieces/Tube
Pb	SBR3045CTB-G*	Commercial	TO263AB (D2PAK)	50 Pieces/Tube
Pb	SBR3045CTB-13	Commercial	TO263AB (D2PAK)	800/Tape & Reel
Pb	SBR3045CTB-13-G*	Commercial	TO263AB (D2PAK)	800/Tape & Reel

* For Green Molding Compound version part numbers, add "-G" suffix to part number above. Example: SBR3045CTB-G.

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



SBR3045CTB = 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 - 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}	45	V
Average Rectified Output Current @T_C = +150°C	Per Leg	I_O	15	A
	Total		30	
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		I_{FSM}	180	A
Repetitive Peak Avalanche Power (1µs, +25°C)		P_{ARM}	7,000	W

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Per Leg)	$R_{\theta JC}$	2	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	°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	—	—	0.70	V	I_F = 15A, T_J = +25°C
		—	—	0.66		I_F = 15A, T_J = +125°C
Leakage Current (Note 5)	I_R	—	—	0.3	mA	V_R = 45V, T_J = +25°C
		—	—	50		V_R = 45V, T_J = +125°C

Note: 5. Short duration pulse test used to minimize self-heating effect.

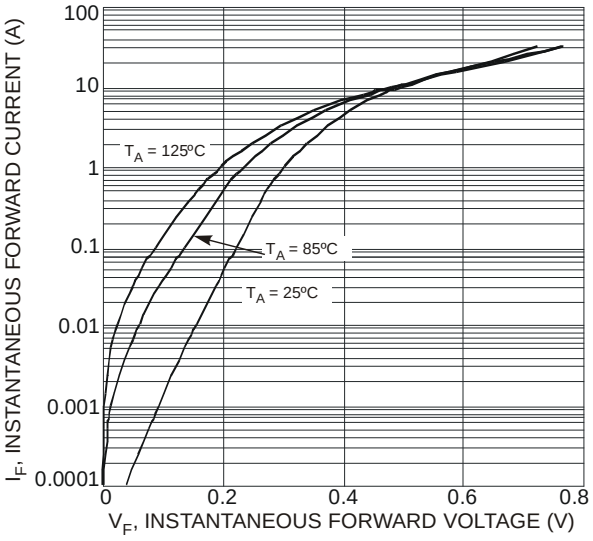


Fig. 1 Typical Forward Characteristics, Per Element

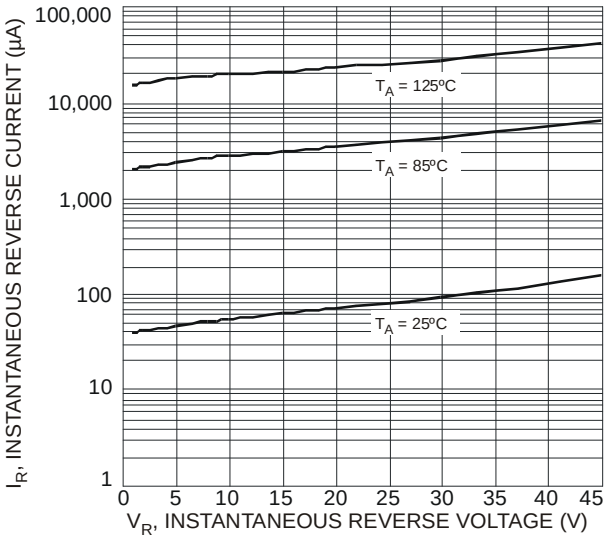


Fig. 2 Typical Reverse Characteristics, Per Element

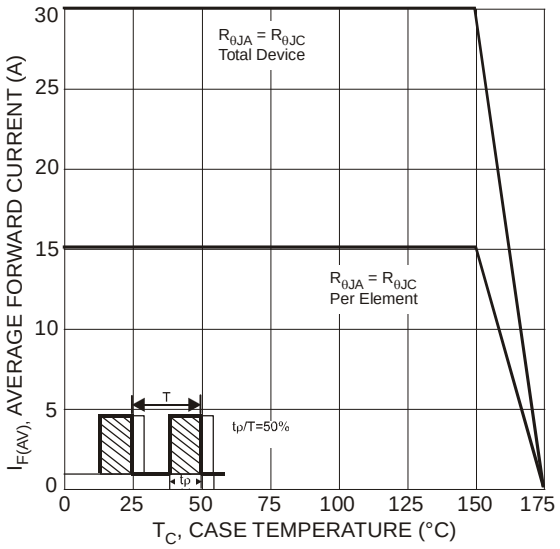


Fig. 3 Forward Current Derating Curve

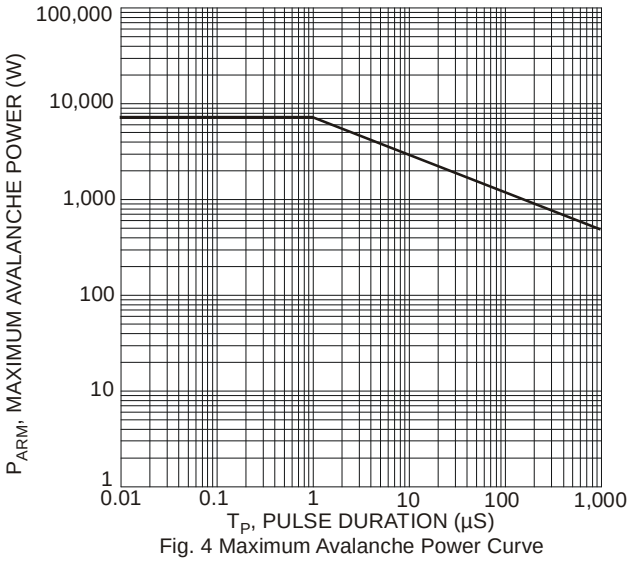
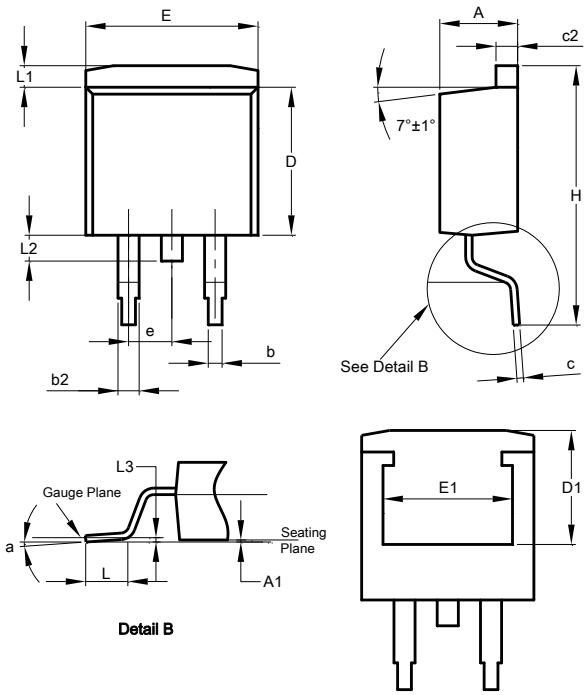


Fig. 4 Maximum Avalanche Power Curve

Package Outline Dimensions

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

TO263AB (D2PAK)

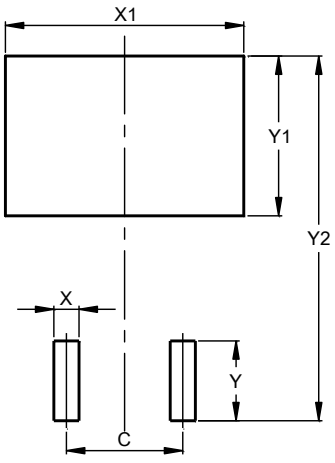


TO263AB (D2PAK)			
Dim	**Min**	**Max**	**Typ**
A	4.07	4.82	–
A1	0.00	0.25	–
b	0.51	0.99	–
b2	1.15	1.77	–
c	0.356	0.73	–
c2	1.143	1.65	–
D	8.39	9.65	–
D1	6.55	6.95	–
e	2.54 TYP		
E	9.66	10.66	–
E1	6.23	8.23	–
H	14.61	15.87	–
L	1.78	2.79	–
L1	–	1.67	–
L2	–	1.77	–
L3	–	–	0.254
a	0°	8°	–
All Dimensions in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