

30A SBR SUPER BARRIER RECTIFIER

### **Features**

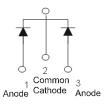
- Low Forward Voltage Drop
- Patented Superior Barrier Rectifier SBR<sup>®</sup> Technology
- Excellent High Temperature Stability
- Soft, Fast Switching Capability
- +150°C Operating Junction Temperature
- Lead Free Finish, RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 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 (3)
- Weight: 1.6 grams (Approximate)



Top View



Package Pin-Out Configuration

## **Ordering Information** (Note 4)

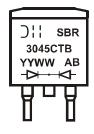
	Part Number	Qualification	Case	Packaging
(Pu)	SBR3045CTB	Commercial	TO263AB (D2PAK)	50 Pieces/Tube
Ph	SBR3045CTB-G*	Commercial	TO263AB (D2PAK)	50 Pieces/Tube
(Ps)	SBR3045CTB-13	Commercial	TO263AB (D2PAK)	800/Tape & Reel
(Pb)	SBR3045CTB-13-G*	Commercial	TO263AB (D2PAK)	800/Tape & Reel

<sup>\*</sup> 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.
- 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<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 Working Peak Reverse Voltage DC Blocking Voltage		V <sub>RMM</sub> V <sub>RM</sub>	45	V
Average Rectified Output Current @T <sub>C</sub> = +150°C	Per Leg Total	Ю	15 30	А
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	180	Α	
Repetitive Peak Avalanche Power (1µs, +25°C)	P <sub>ARM</sub>	7,000	W	

## **Thermal Characteristics**

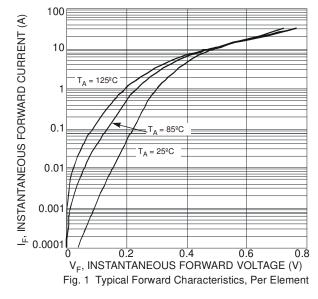
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Per Leg)	R <sub>0</sub> JC	2	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

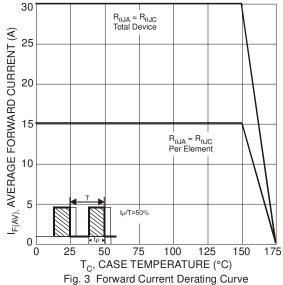
# Electrical Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

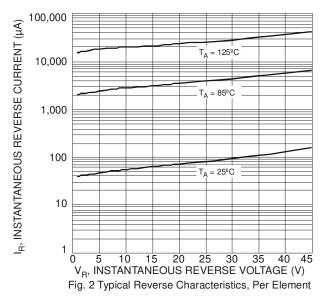
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Forward Voltage Drop (Per Leg)	V <sub>F</sub>	_	_	0.70	ı V	I <sub>F</sub> = 15A, T <sub>J</sub> = +25°C
Polward Voltage Drop (Per Leg)		_	_	0.66		I <sub>F</sub> = 15A, T <sub>J</sub> = +125°C
Lookaga Current (Note E)	I <sub>R</sub>	_	_	0.3	- mA	$V_R = 45V, T_J = +25^{\circ}C$
Leakage Current (Note 5)		_	_	50		$V_R = 45V, T_J = +125$ °C

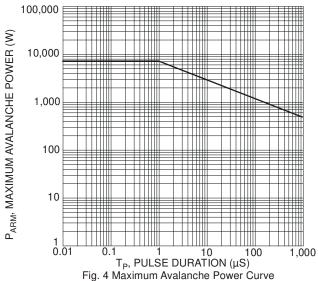
Note: 5. Short duration pulse test used to minimize self-heating effect.









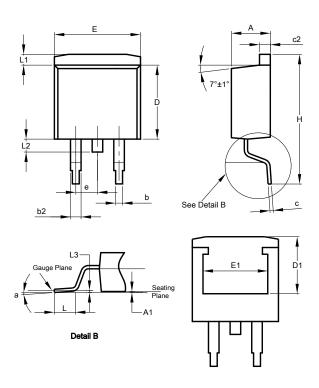




# **Package Outline Dimensions**

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

## TO263AB (D2PAK)

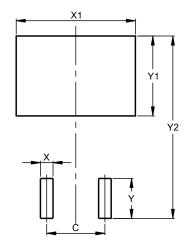


TO263AB (D2PAK)				
Dim	Min	Max	Тур	
Α	4.07	4.82	_	
<b>A</b> 1	0.00	0.25	_	
b	0.51	0.99	_	
b2	1.15	1.77	_	
С	0.356	0.73	_	
c2	1.143	1.65	_	
D	8.39	9.65	_	
D1	6.55	6.95	_	
е	2.54 TYP			
Е	9.66	10.66	_	
E1	6.23	8.23	_	
Н	14.61	15.87	_	
L	1.78	2.79	_	
L1	_	1.67	_	
L2	_	1.77	_	
L3	_	_	0.254	
а	0°	8°	_	
All 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)		
С	5.08		
Х	1.10		
X1	10.41		
Υ	3.50		
Y1	7.01		
Υ2	15 99		



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