



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## Features

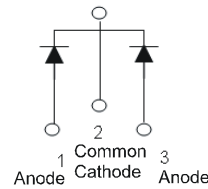
- Low Forward Voltage Drop
- Patented Superior Barrier Rectifier SBR<sup>®</sup> Technology
- Excellent High Temperature Stability
- Soft, Fast Switching Capability
- +150°C Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**



Top View

## 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)



Package Pin-Out Configuration

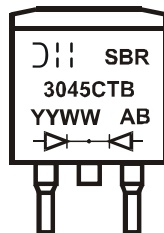
## Ordering Information (Note 4)

	Part Number	Qualification	Case	Packaging
	SBR3045CTB	Commercial	TO263AB (D2PAK)	50 Pieces/Tube
	SBR3045CTB-G*	Commercial	TO263AB (D2PAK)	50 Pieces/Tube
	SBR3045CTB-13	Commercial	TO263AB (D2PAK)	800/Tape & Reel
	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](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	V <sub>RRM</sub>	45	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>RM</sub>		
Average Rectified Output Current @T <sub>C</sub> = +150°C	Per Leg	15	A
	Total	30	
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	180	A
Repetitive Peak Avalanche Power (1μs, +25°C)	P <sub>ARM</sub>	7,000	W

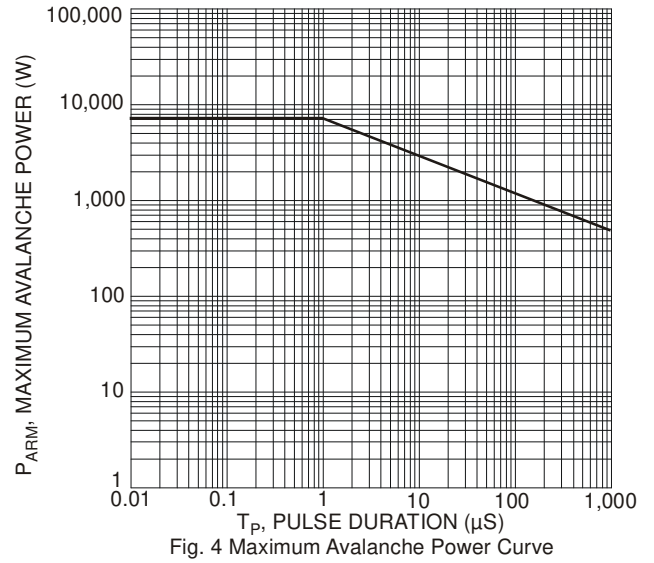
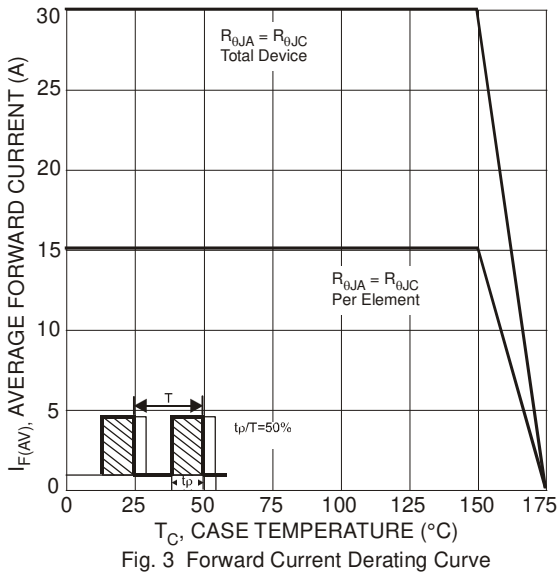
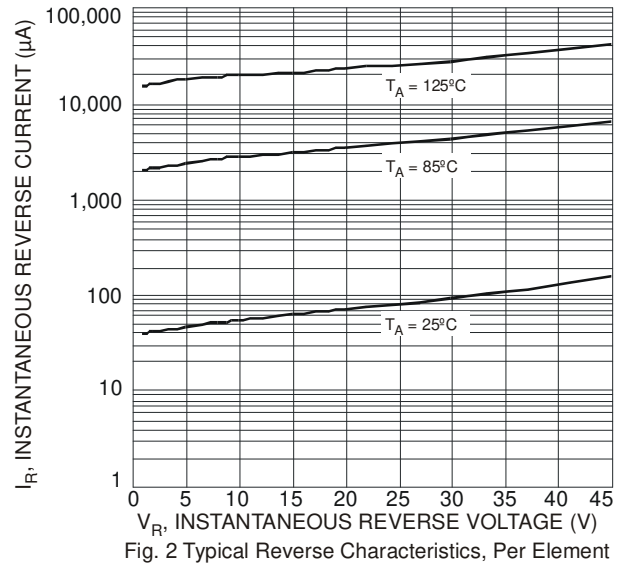
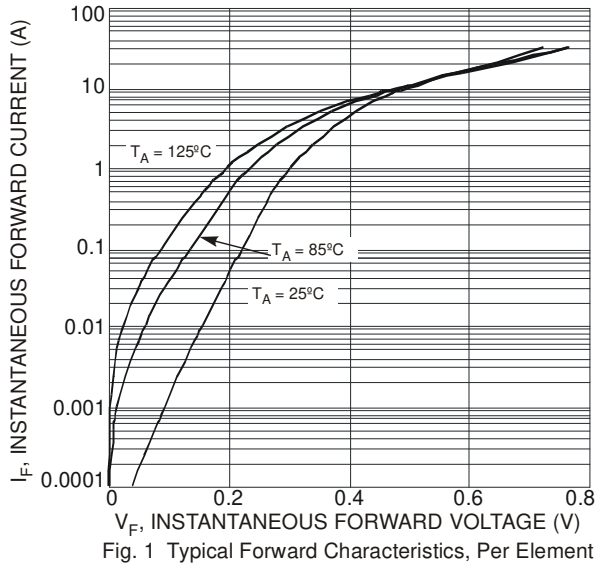
**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Per Leg)	R <sub>θJC</sub>	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	Typ	Max	Unit	Test Condition
Forward Voltage Drop (Per Leg)	V <sub>F</sub>	—	—	0.70	V	I <sub>F</sub> = 15A, T <sub>J</sub> = +25°C
		—	—	0.66		I <sub>F</sub> = 15A, T <sub>J</sub> = +125°C
Leakage Current (Note 5)	I <sub>R</sub>	—	—	0.3	mA	V <sub>R</sub> = 45V, T <sub>J</sub> = +25°C
		—	—	50		V <sub>R</sub> = 45V, T <sub>J</sub> = +125°C

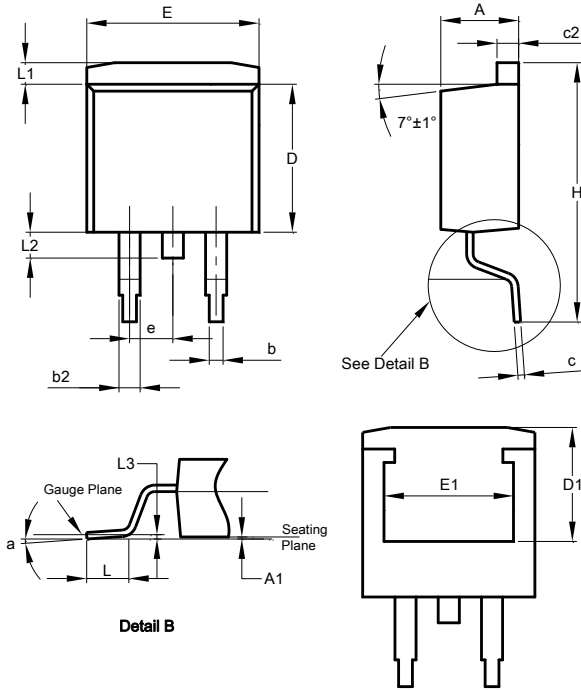
Note: 5. Short duration pulse test used to minimize self-heating effect.



**Package Outline Dimensions**

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

**TO263AB (D2PAK)**

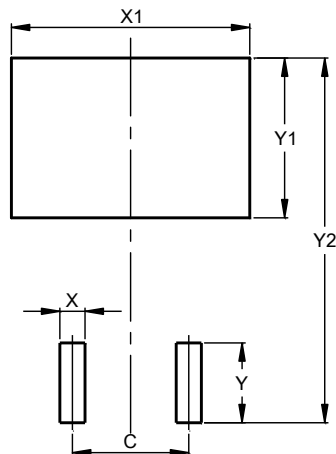


TO263AB (D2PAK)			
Dim	Min	Max	Typ
A	4.07	4.82	–
A1	0.00	0.25	–
b	0.51	0.99	–
b2	1.15	1.77	–
c	0.356	0.73	–
c2	1.143	1.65	–
D	8.39	9.65	–
D1	6.55	6.95	–
e	2.54 TYP		
E	9.66	10.66	–
E1	6.23	8.23	–
H	14.61	15.87	–
L	1.78	2.79	–
L1	–	1.67	–
L2	–	1.77	–
L3	–	–	0.254
a	0°	8°	–
<b>All Dimensions in mm</b>			

**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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