

## Features

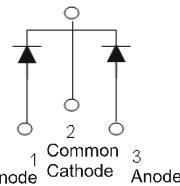
- Designed as Bypass Diodes for Solar Panels
- Selectively Rated for 200°C Maximum Junction Temperature for High Thermal Reliability.
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 175°C Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **Also Available in Green Molding Compound (Note 2)**



Top View

## Mechanical Data

- Case: D<sup>2</sup>Pak
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 <sup>③</sup>
- Weight: 1.6 grams (approximate)



Package Pin-Out Configuration

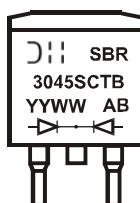
## Ordering Information (Notes 2 & 3)

Part Number	Case	Packaging
SBR3045SCTB	D <sup>2</sup> Pak	50 pieces/tube
SBR3045SCTB-G	D <sup>2</sup> Pak	50 pieces/tube
SBR3045SCTB-13	D <sup>2</sup> Pak	800/Tape & Reel
SBR3045SCTB-13-G	D <sup>2</sup> Pak	800/Tape & Reel

Notes:

1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes
2. For Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR3045SCTB-G.
3. For packaging details, go to our website at <http://www.diodes.com>.

## Marking Information



SBR3045SCTB = Product Type Marking Code  
 AB = Foundry and Assembly Code  
 YYWW = Date Code Marking  
 YY = Last two digits of year (ex: 08 = 2008)  
 WW = Week (01 - 53)

**Maximum Ratings (Per Leg) @ $T_A = 25^\circ\text{C}$  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	$V_{RRM}$		
Working Peak Reverse Voltage	$V_{RWM}$	45	V
DC Blocking Voltage	$V_{RM}$		
Average Rectified Output Current (Per Leg) (Total)	$I_O$	15 30	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	220	A

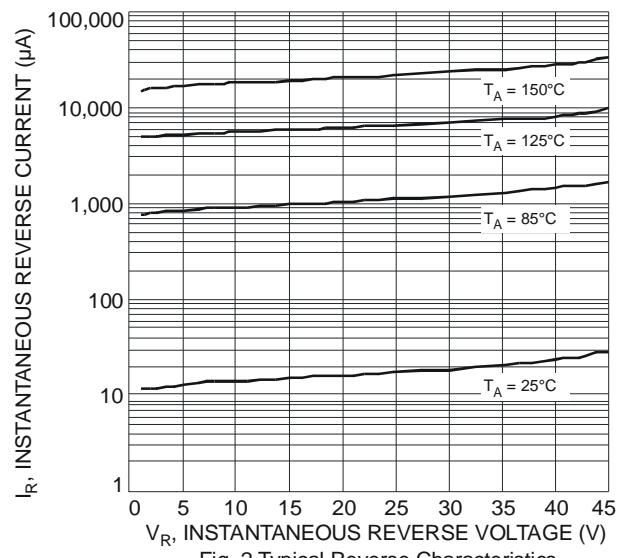
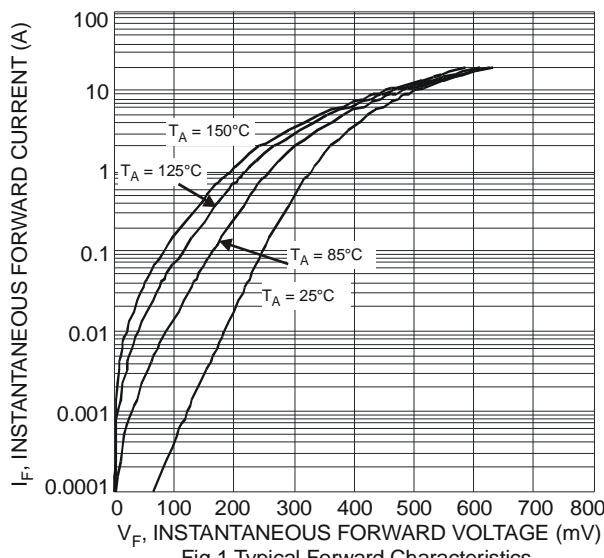
**Thermal Characteristics (Per Leg)**

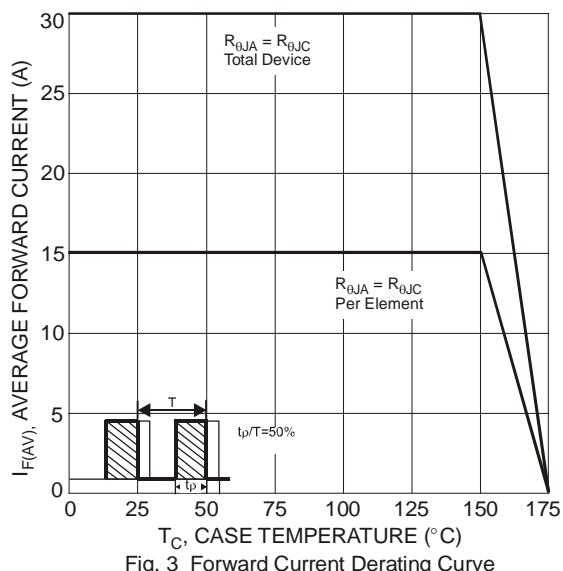
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case	$R_{0JC}$	2	$^\circ\text{C}/\text{W}$
Operating Temperature Range	$T_J$	-65 to +175	$^\circ\text{C}$
		$\leq 180$	
		$\leq 200$	
Storage Temperature Range	$T_{STG}$	-65 to +175	$^\circ\text{C}$

**Electrical Characteristics (Per Leg) @ $T_A = 25^\circ\text{C}$  unless otherwise specified**

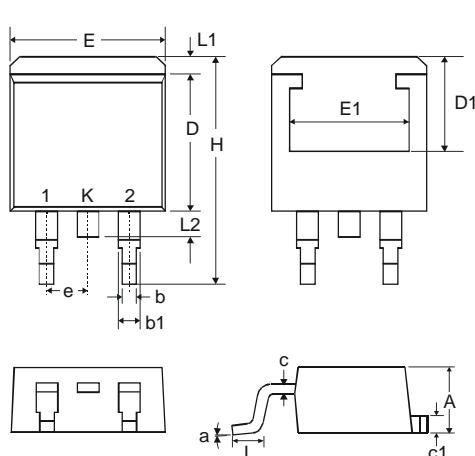
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	$V_F$	-	-	0.65 0.58	V	$I_F = 15\text{A}, T_J = 25^\circ\text{C}$ $I_F = 15\text{A}, T_J = 125^\circ\text{C}$
Leakage Current (Note 4)	$I_R$	-	0.03 10	0.2 40	mA	$V_R = 45\text{V}, T_J = 25^\circ\text{C}$ $V_R = 45\text{V}, T_J = 125^\circ\text{C}$

Notes: 4. Short duration pulse test used to minimize self-heating effect.





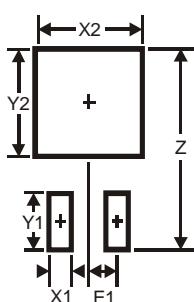
## Package Outline Dimensions



D²PAK		
Dim	Min	Max
<b>A</b>	4.07	4.82
<b>b</b>	0.51	0.99
<b>b1</b>	1.15	1.77
<b>c</b>	0.356	0.58
<b>c1</b>	1.143	1.65
<b>D</b>	8.39	9.65
<b>D1</b>	6.55	—
<b>E</b>	9.66	10.66
<b>E1</b>	6.23	—
<b>e</b>	2.54 Typ	—
<b>H</b>	14.61	15.87
<b>L</b>	1.78	2.79
<b>L1</b>	—	1.67
<b>L2</b>	—	1.77
<b>a</b>	0°	8°

All Dimensions in mm

## Suggested Pad Layout



Dimensions	Value (in mm)
<b>Z</b>	16.9
<b>X1</b>	1.1
<b>X2</b>	10.8
<b>Y1</b>	3.5
<b>Y2</b>	7.01
<b>E1</b>	2.5

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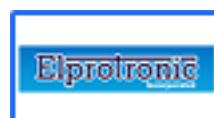
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