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Diodes Incorporated
SBR3045SCTB

For any questions, you can email us directly:
sales@integrated-circuit.com

DIODES INCORPORATED

SBR3045SCTB

30A SBR®
SUPER BARRIER RECTIFIER

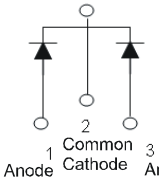
Features

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

Mechanical Data

- Case: D^2Pak
- 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 e3
- Weight: 1.6 grams (approximate)

Top View



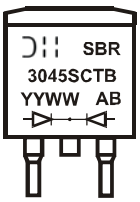
Package Pin-Out Configuration

Ordering Information (Notes 2 & 3)

Part Number	Case	Packaging
SBR3045SCTB	D^2Pak	50 pieces/tube
SBR3045SCTB-G	D^2Pak	50 pieces/tube
SBR3045SCTB-13	D^2Pak	800/Tape & Reel
SBR3045SCTB-13-G	D^2Pak	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°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	(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		$R_{\theta JC}$	2	ºC/W
Operating Temperature Range	$V_R \le 80\% V_{RRM}$	T_J	-65 to +175	ºC
	$V_R \le 50\% V_{RRM}$		≤180	
	DC Forward Mode		≤200	
Storage Temperature Range		T_{STG}	-65 to +175	ºC

Electrical Characteristics (Per Leg) @T_A = 25°C unless otherwise specified

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

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

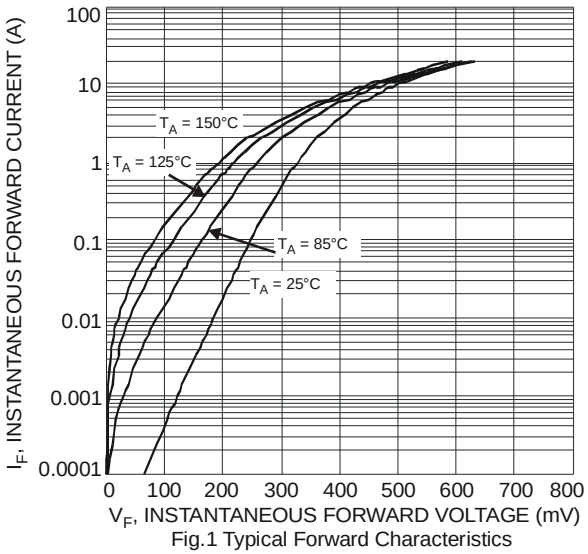


Fig.1 Typical Forward Characteristics

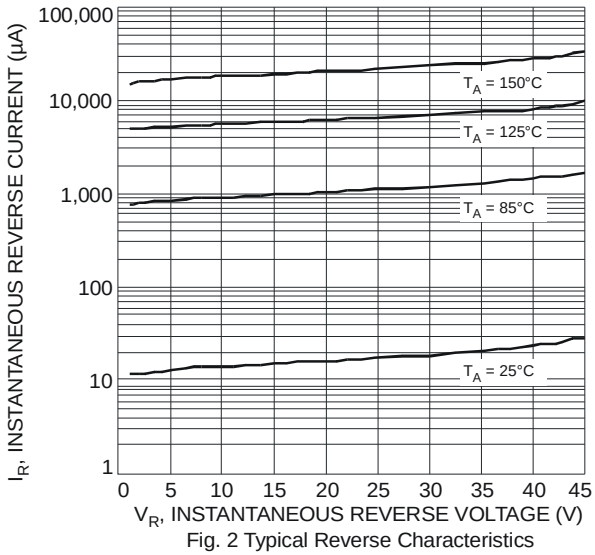


Fig. 2 Typical Reverse Characteristics

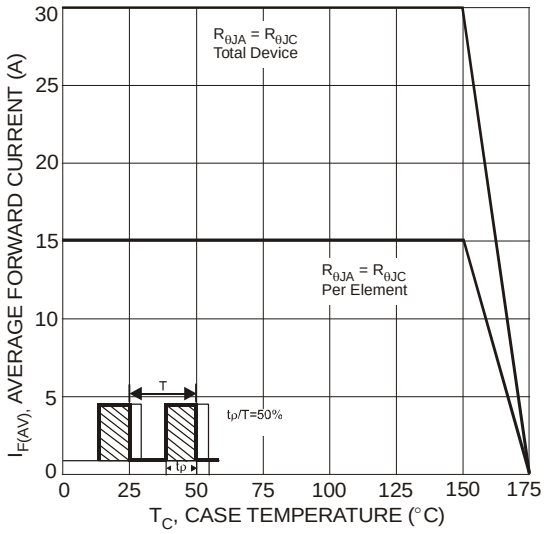
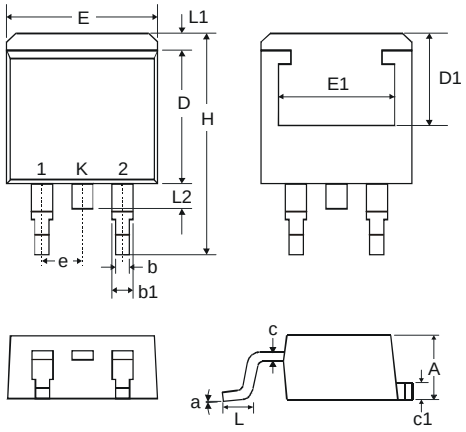


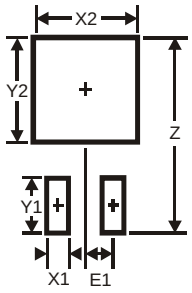
Fig. 3 Forward Current Derating Curve

Package Outline Dimensions



D^2PAK		
Dim	**Min**	**Max**
A	4.07	4.82
b	0.51	0.99
b1	1.15	1.77
c	0.356	0.58
c1	1.143	1.65
D	8.39	9.65
D1	6.55	—
E	9.66	10.66
E1	6.23	—
e	2.54 Typ	
H	14.61	15.87
L	1.78	2.79
L1	—	1.67
L2	—	1.77
a	0°	8°
All Dimensions in mm		

Suggested Pad Layout



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

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