



6A SBR[®] SUPER BARRIER RECTIFIER

Product Summary (@ T_A = +25°C)

V _{RRM} (V)	I ₀ (A)	V _{F(MAX)} (V)	I _{R(MAX)} (mA)
100	3(Per leg)	0.74	0.2

Applications

- Switching Power Supplies
- DC-DC Converter
- Freewheeling Diodes

Features and Benefits

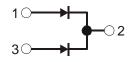
- Ultra-Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

Mechanical Data

- Case: TO252 (DPAK)
- Case Material: Molded Plastic, "Green" Molding Compound. 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⁽²⁾
- Polarity: See Below
- Weight: 0.4 grams (Approximate)



Top View



Package Pin Out Configuration

Ordering Information (Note 4)

Part Number	Case	Packaging
SBR6100CTL-13	TO252	2500/Tape & Reel, 13-inch

1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.

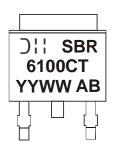
2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.

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

Notes:



6100CT = Product Type Marking Code AB = Foundry and Assembly Code YYWW = Date Code Marking YY = Last Two Digits of Year (ex: 14 = 2014) 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	Vrrm Vrwm Vrm	100	V
RMS Reverse Voltage	V _{R(RMS)}	71	V
Average Rectified Output Current $@T_C = +115^{\circ}C$	lo	6	А
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	78	А

Thermal Characteristics

Notes:

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance, Junction to Ambient (per leg) (Note 5)	$R_{ ext{ heta}JA}$	35	°C/W
Operating and Storage Temperature Range	TJ, T _{STG}	-65 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

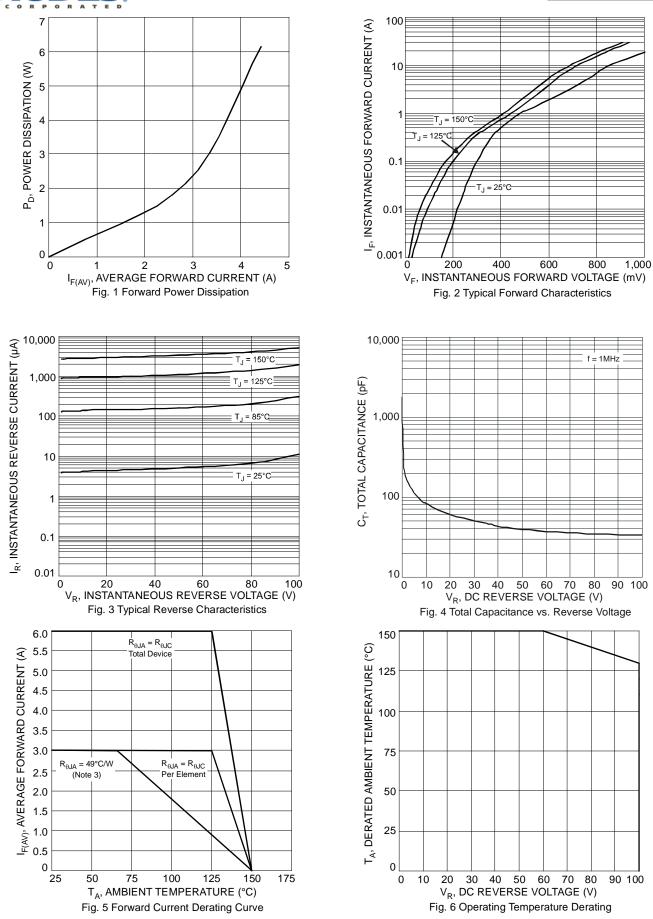
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V _{(BR)R}	100	_	_	V	$I_R = 0.2 \text{mA}$
Forward Voltage Drop (per leg)	V _F	_	0.68 0.56	0.74 0.62	V	I _F = 3A, T _J = +25°C I _F = 3A, T _J = +125°C
Leakage Current (Note 6) (per leg)	I _R	_	—	0.2 15	mA	$V_R = 100V, T_J = +25^{\circ}C$ $V_R = 100V, T_J = +125^{\circ}C$

5. Device mounted on 2inch sq. Al board. minimum recommended pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at http://www.diodes.com.

6. Short duration pulse test used to minimize self-heating effect.



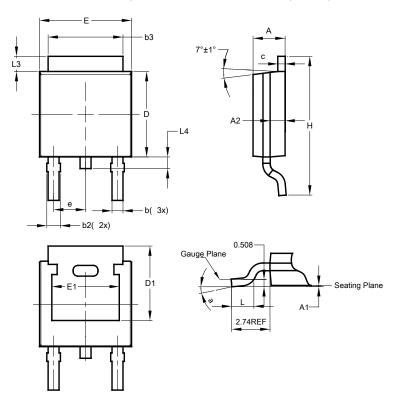






Package Outline Dimensions

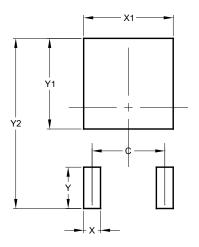
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



TO252 (DPAK)				
Dim	Min	Max	Тур	
Α	2.19	2.39	2.29	
A1	0.00	0.13	0.08	
A2	0.97	1.17	1.07	
b	0.64	0.88	0.783	
b2	0.76	1.14	0.95	
b3	5.21	5.46	5.33	
С	0.45	0.58	0.531	
D	6.00	6.20	6.10	
D1	5.21	-	-	
е	-	-	2.286	
Е	6.45	6.70	6.58	
E1	4.32	-	-	
Н	9.40	10.41	9.91	
L	1.40	1.78	1.59	
L3	0.88	1.27	1.08	
L4	0.64	1.02	0.83	
а	0°	10°	-	
All	All Dimensions in mm			

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for latest version.



Dimensions	Value (in mm)
С	4.572
Х	1.060
X1	5.632
Y	2.600
Y1	5.700
Y2	10.700



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