


Features

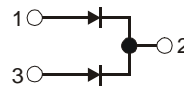
- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Super Barrier Design
- Soft, Fast Switching Capability
- **Lead Free Finish, RoHS Compliant (Note 2)**
- **“Green” Molding Compound (No Br, Sb)**

Mechanical Data

- Case: TO-252
- 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 
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.33 grams (approximate)



Top View



Package Pin Out Configuration

Maximum Ratings @ $T_A = 25^\circ\text{C}$ 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}	100	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_{RM}		
RMS Reverse Voltage	$V_{R(RMS)}$	71	V
Average Rectified Output Current @ $T_C = 115^\circ\text{C}$	I_O	6	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	78	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance, Junction to Ambient (per leg) (Note 3)	$R_{\theta JA}$	49	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	100	-	-	V	$I_R = 0.2\text{mA}$
Forward Voltage Drop (per leg)	V_F	-	0.68 0.56	0.74 0.62	V	$I_F = 3\text{A}, T_J = 25^\circ\text{C}$ $I_F = 3\text{A}, T_J = 125^\circ\text{C}$
Leakage Current (Note 1) (per leg)	I_R	-	-	0.2 25	mA	$V_R = 100\text{V}, T_J = 25^\circ\text{C}$ $V_R = 100\text{V}, T_J = 125^\circ\text{C}$

- Notes:
1. Short duration pulse test used to minimize self-heating effect.
 2. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. Please visit our website at http://www.diodes.com/quality/lead_free.html.
 3. Device mounted on Poly substrate PC board, 1oz copper, with minimum recommended pad layout

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SBR6100CTL

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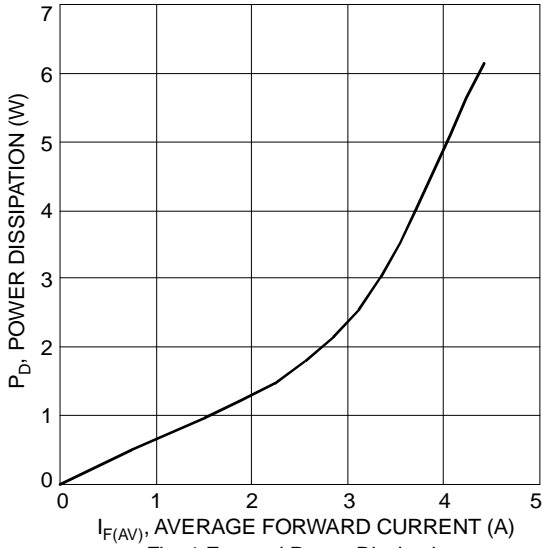


Fig. 1 Forward Power Dissipation

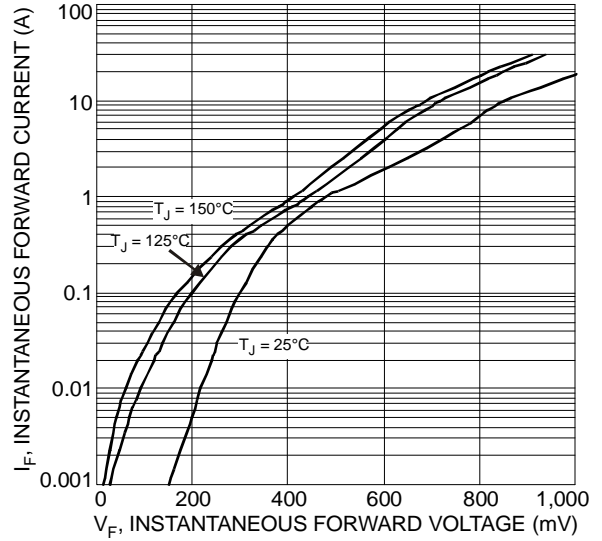


Fig. 2 Typical Forward Characteristics

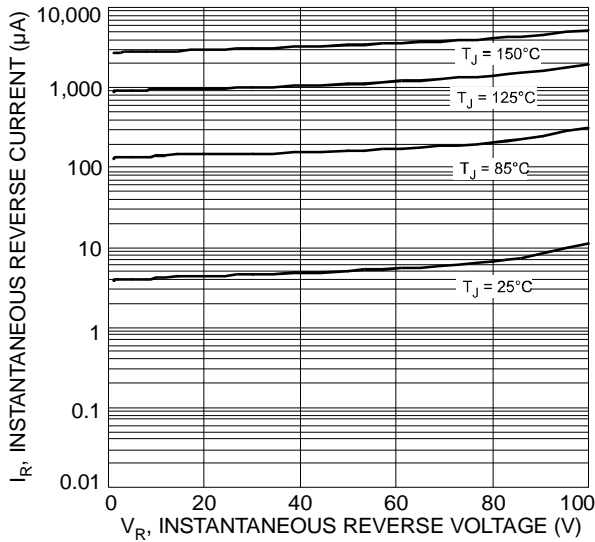


Fig. 3 Typical Reverse Characteristics

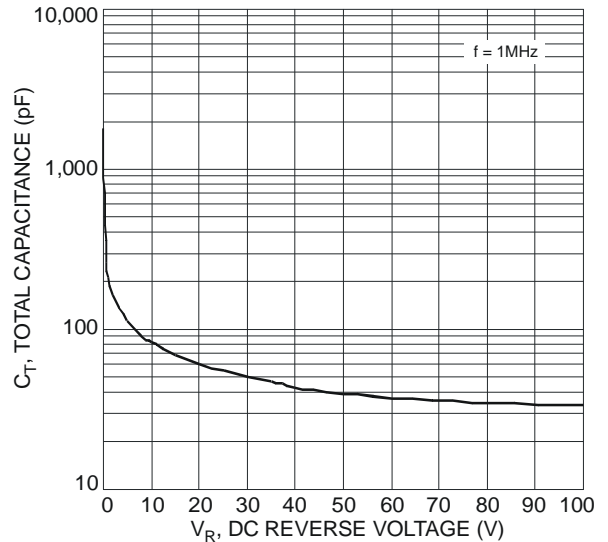


Fig. 4 Total Capacitance vs. Reverse Voltage

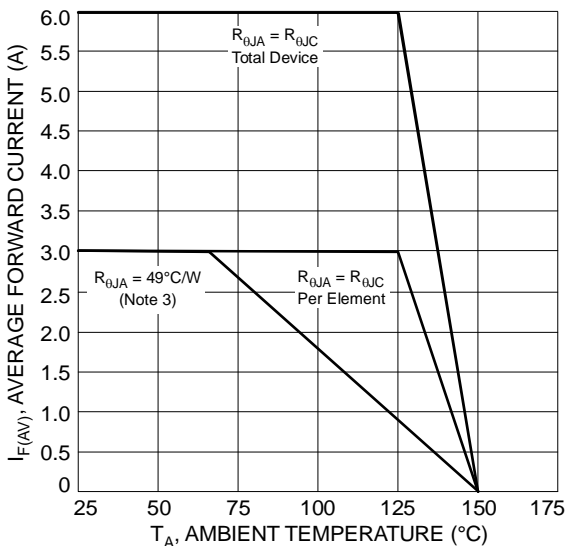


Fig. 5 Forward Current Derating Curve

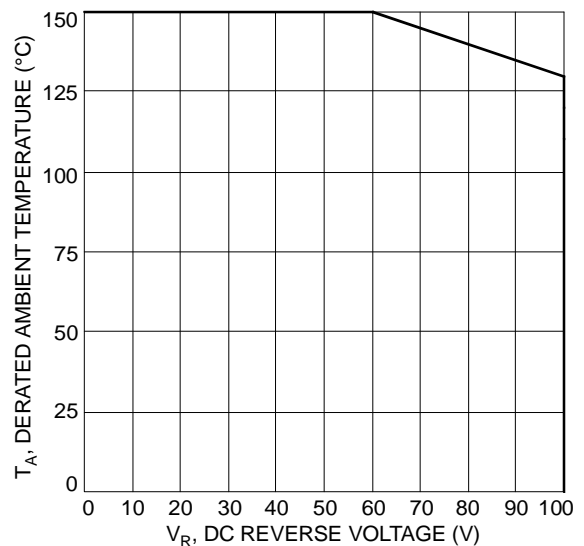


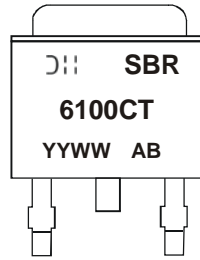
Fig. 6 Operating Temperature Derating

Ordering Information (Note 4)

Part Number	Case	Packaging
SBR6100CTL-13	TO-252	2500/Tape & Reel, 13-inch

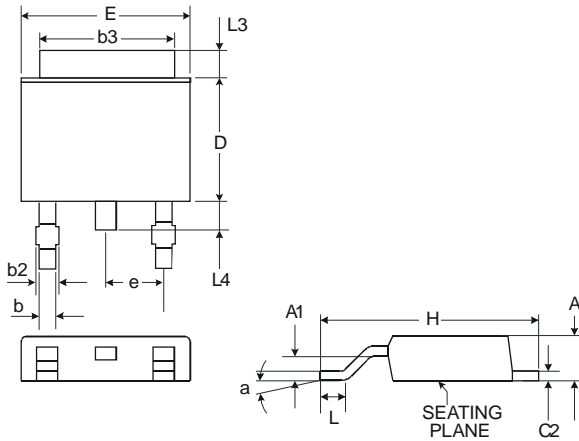
Notes: 4. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



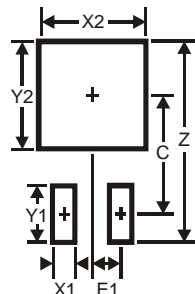
6100CT = Product Type Marking Code
 AB = Foundry and Assembly Code
 YYWW = Date Code Marking
 YY = Last two digits of year (ex: 08 = 2008)
 WW = Week (01 - 53)

Package Outline Dimensions



TO252-3L			
Dim	Min	Typ	Max
A	2.19	2.29	2.39
A1	0.97	1.07	1.17
b	0.64	0.76	0.88
b2	0.76	0.95	1.14
b3	5.21	5.33	5.50
C2	0.45	0.51	0.58
D	6.00	6.10	6.20
E	6.45	6.58	6.70
e	2.286 Typ.		
H	9.40	9.91	10.41
L	1.40	1.59	1.78
L3	0.88	1.08	1.27
L4	0.64	0.83	1.02
a	0°	-	10°
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	11.6
X1	1.5
X2	7.0
Y1	2.5
Y2	7.0
C	6.9
E1	2.3

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