

Features

- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- **Lead Free Finish, RoHS Compliant (Note 2)**

Mechanical Data

- Case: TO-247AB
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish — Bright Tin. Plated Leads Solderable per MIL-STD-202, Method 208 (E3)
- Polarity: As Marked on Body
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 5.6 grams (approximate)

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}		
Working Peak Reverse Voltage	V_{RWM}	300	V
DC Blocking Voltage	V_{RM}		
RMS Reverse Voltage	$V_{R(\text{RMS})}$	212	V
Average Rectified Output Current @ $T_C = 140^\circ\text{C}$	I_O	60	A
Non-Repetitive Peak Forward Surge Current 8.3ms	I_{FSM}	300	A
Single Half Sine-Wave Superimposed on Rated Load			

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance (per leg) (Note 3)	$R_{\theta JC}$	1.0	$^\circ\text{C}/\text{W}$
Maximum Thermal Resistance (total) (Note 3)	$R_{\theta JC}$	0.55	
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175	$^\circ\text{C}$

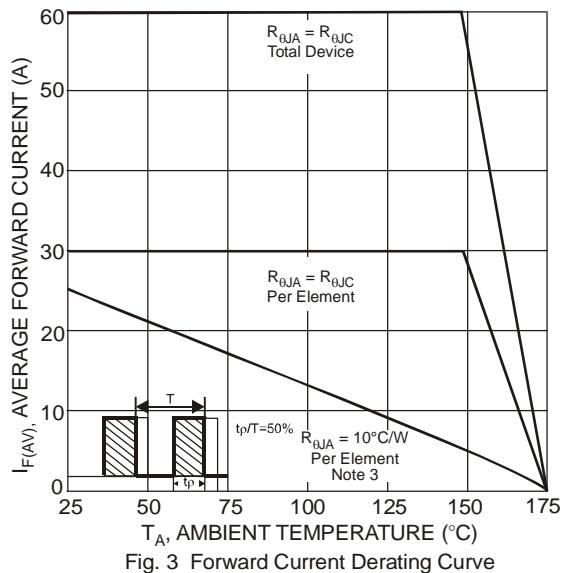
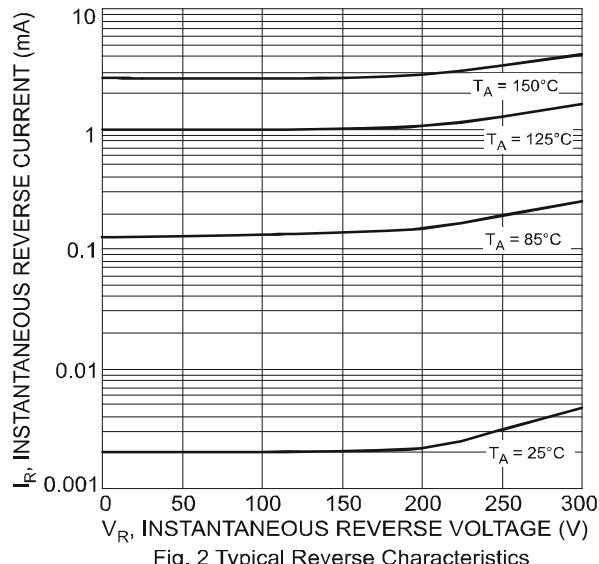
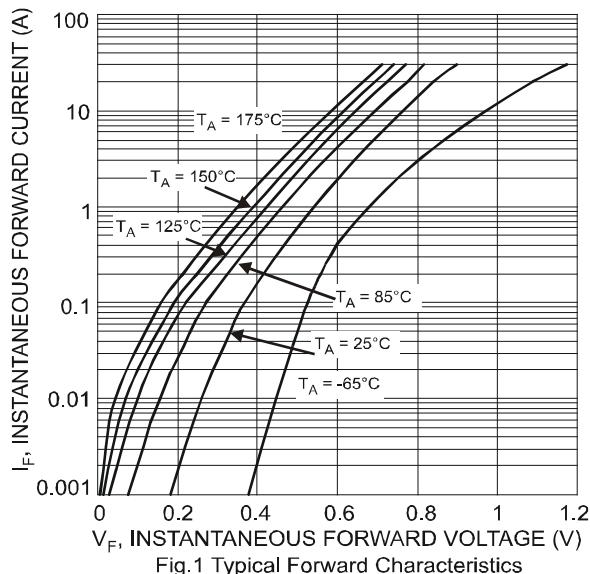
Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	300	-	-	V	$I_R = 100\mu\text{A}$
Forward Voltage Drop (per leg)	V_F	-	0.89 0.78	0.94 0.82	V	$I_F = 30\text{A}, T_J = 25^\circ\text{C}$ $I_F = 30\text{A}, T_J = 125^\circ\text{C}$
Leakage Current (Note 1)	I_R	-	9 2	100 10	μA mA	$V_R = 300\text{V}, T_J = 25^\circ\text{C}$ $V_R = 300\text{V}, T_J = 125^\circ\text{C}$
Reverse Recovery Time	t_{rr}	-	32	50	ns	$I_F = 0.5\text{A}, I_R = 1\text{A}, I_{RR} = 0.25\text{A}$
		-	26	35		$I_F = 1\text{A}, V_R = 30\text{V}$ $di/dt = 100\text{A}/\mu\text{s}, T_J = 25^\circ\text{C}$

Notes:

1. Short duration pulse test used to minimize self-heating effect.
2. RoHS revision 13.2.2003. High temperature solder exemption applied, see *EU Directive Annex Note 7*.
3. Device mounted on heatsink (Black Aluminum, 37mm x 15mm x 50mm)

SBR is a registered trademark of Diodes Incorporated.

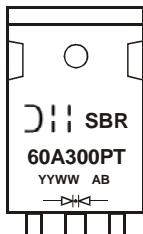


Ordering Information (Note 4)

Part Number	Case	Packaging
SBR60A300PT	TO-247AB	30 pieces/tube

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

Marking Information



SBR60A300PT = Product Type Marking Code

AB = Foundry and Assembly Code

YYWW = Date Code Marking

YY = Last two digits of year, ex: 07 = 2007

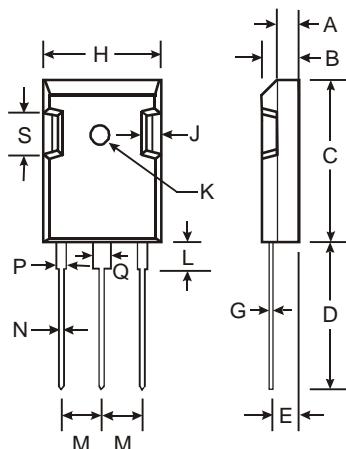
WW = Week (01-52)

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SBR60A300PT

Document number: DS31089 Rev. 5 - 2

Package Outline Dimensions



TO-247		
Dim	Min	Max
A	1.9	2.1
B	4.85	5.15
C	20.3	21.75
D	19.60	20.1
E	2.2	2.6
G	0.51	0.76
H	15.45	16.25
J	1.93	2.18
K	2.9Ø	3.2Ø
L	3.78	4.38
M	5.2	5.7
N	1.0	1.4
P	1.8	2.2
Q	2.8	3.2
S	4.4 Typ.	

All Dimensions in mm

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