

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 **63**
- 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°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}	300	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
RMS Reverse Voltage	V _{R(RMS)}	212	V
Average Rectified Output Current @ T _C = 140°C	I _O	60	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	300	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance (per leg) (Note 3)	R _{θJC}	1.0	°C/W
Maximum Thermal Resistance (total) (Note 3)	R _{θJC}	0.55	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +175	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	V _{(BR)R}	300	-	-	V	I _R = 100μA
Forward Voltage Drop (per leg)	V _F	-	0.89 0.78	0.94 0.82	V	I _F = 30A, T _J = 25°C I _F = 30A, T _J = 125°C
Leakage Current (Note 1)	I _R	-	9 2	100 10	μA mA	V _R = 300V, T _J = 25°C V _R = 300V, T _J = 125°C
Reverse Recovery Time	t _{rr}	-	32	50	ns	I _F = 0.5A, I _R = 1A, I _{RR} = 0.25A
		-	26	35		I _F = 1A, V _R = 30V di/dt = 100A/μs, T _J = 25°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.

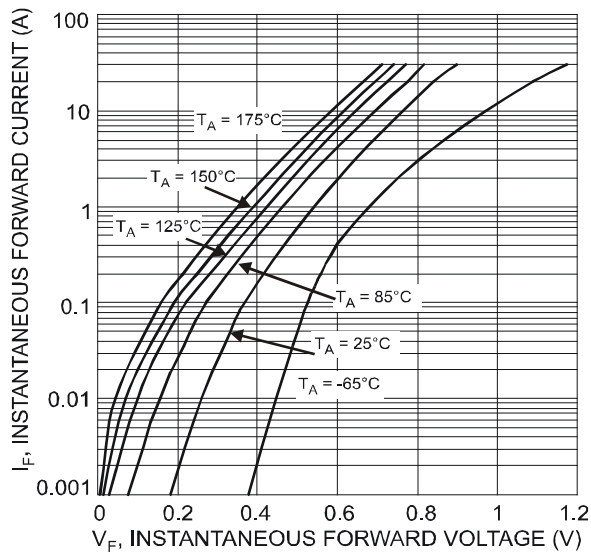


Fig. 1 Typical Forward Characteristics

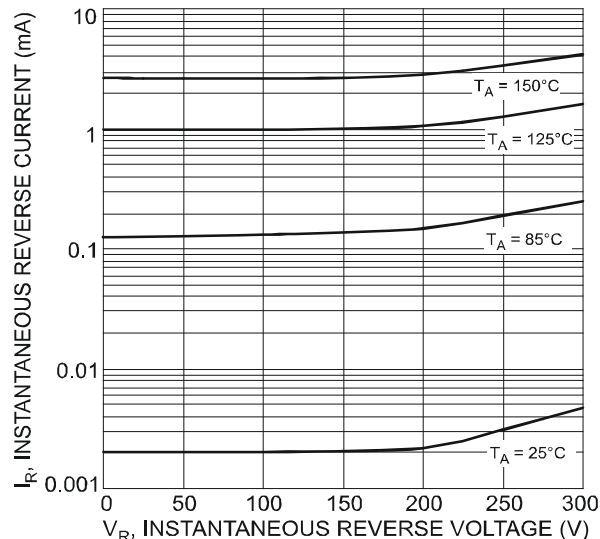


Fig. 2 Typical Reverse Characteristics

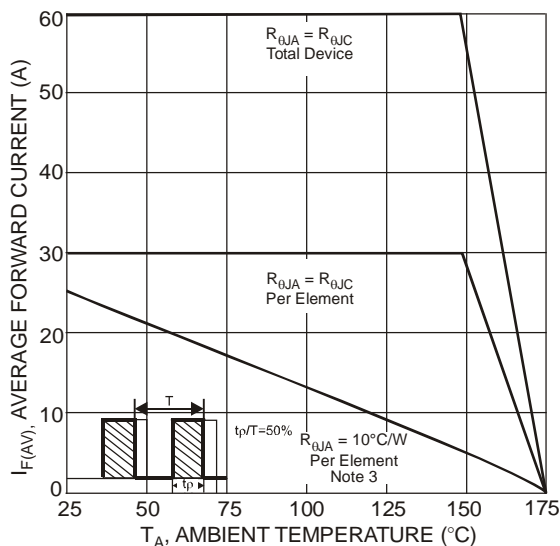


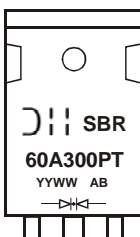
Fig. 3 Forward Current Derating Curve

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>.

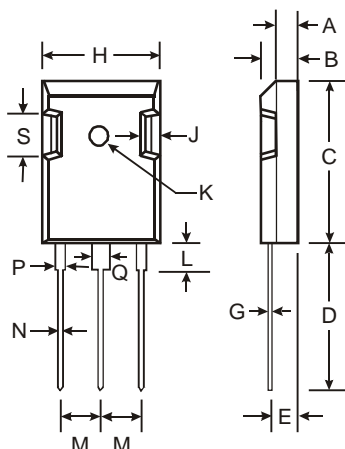
Marking Information



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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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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