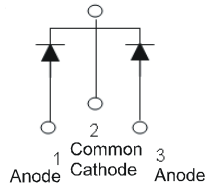


### Features

- 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-020
- Terminals: Finish — Bright Tin. Plated Leads Solderable per MIL-STD-202, Method 208 <sup>Ⓔ3</sup>
- Polarity: As Marked on Body
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 5.6 grams (approximate)



### Maximum Ratings @T<sub>A</sub> = 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 <sub>RRM</sub>	300	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>RM</sub>		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	212	V
Average Rectified Output Current @ T <sub>C</sub> = 140°C	I <sub>O</sub>	60	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	300	A

### Thermal Characteristics

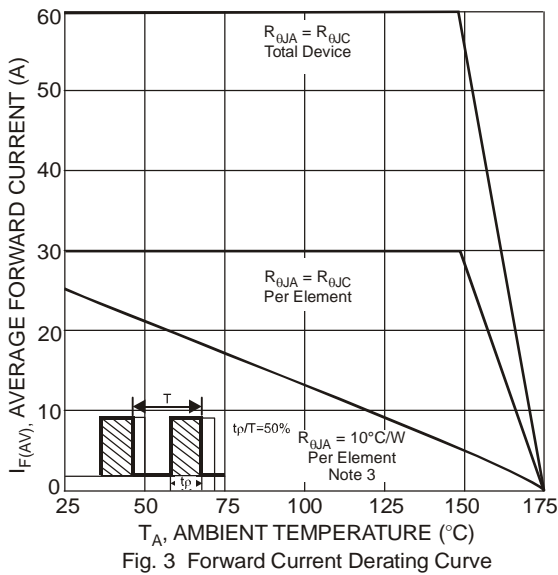
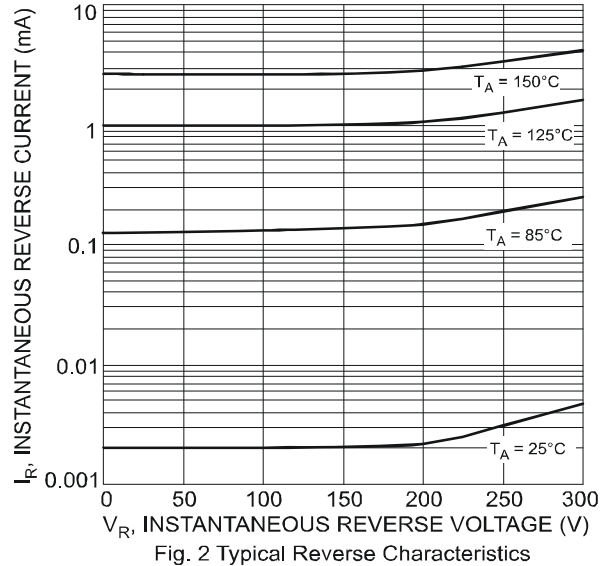
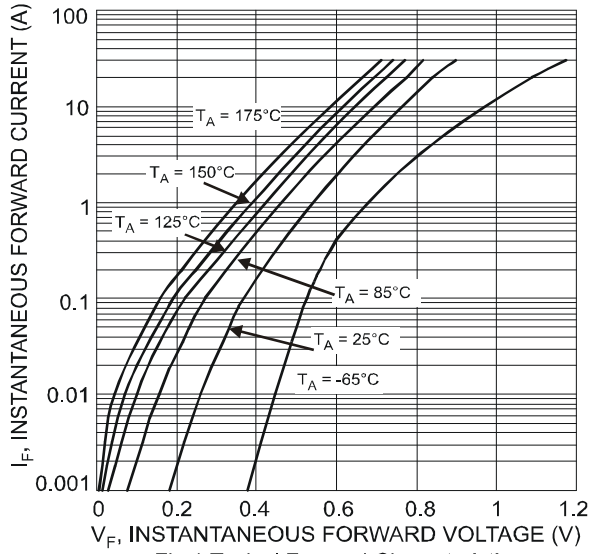
Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance (per leg) (Note 3)	R <sub>θJC</sub>	1.0	°C/W
Maximum Thermal Resistance (total) (Note 3)	R <sub>θJC</sub>	0.55	
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175	°C

### Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	V <sub>(BR)R</sub>	300	-	-	V	I <sub>R</sub> = 100μA
Forward Voltage Drop (per leg)	V <sub>F</sub>	-	0.89 0.78	0.94 0.82	V	I <sub>F</sub> = 30A, T <sub>J</sub> = 25°C I <sub>F</sub> = 30A, T <sub>J</sub> = 125°C
Leakage Current (Note 1)	I <sub>R</sub>	-	9 2	100 10	μA mA	V <sub>R</sub> = 300V, T <sub>J</sub> = 25°C V <sub>R</sub> = 300V, T <sub>J</sub> = 125°C
Reverse Recovery Time	t <sub>rr</sub>	-	32 26	50 35	ns	I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1A, I <sub>RR</sub> = 0.25A I <sub>F</sub> = 1A, V <sub>R</sub> = 30V di/dt = 100A/μs, T <sub>J</sub> = 25°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/products/lead\\_free.html](http://www.diodes.com/products/lead_free.html).  
3. Device mounted on heatsink (Black Aluminum, 37mm x 15mm x 50mm)

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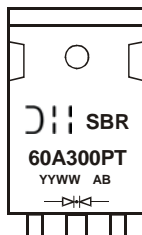


**Ordering Information** (Note 4)

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

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

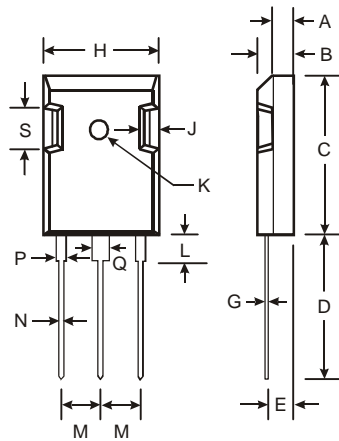
**Marking Information**



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	2.9 $\varnothing$	3.2 $\varnothing$
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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