

SBR60A300PT

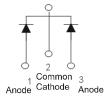
## 60A SBR® **SUPER BARRIER RECTIFIER**

### **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 @3
- Polarity: As Marked on Body
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 5.6 grams (approximate)



Package Pin Out Configuration

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

### Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance (per leg) (Note 3) Maximum Thermal Resistance (total) (Note 3)	$R_{ heta JC} \ R_{ heta JC}$	1.0 0.55	°C/W
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

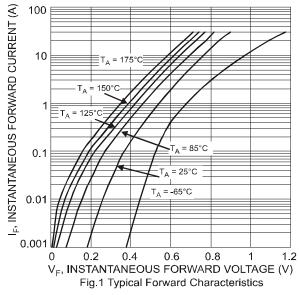
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	V <sub>(BR)R</sub>	300	-	-	V	$I_R = 100 \mu A$
Forward Voltage Drop (per leg)	V <sub>F</sub>	-	0.89 0.78	0.94 0.82	V	I <sub>F</sub> = 30A, T <sub>J</sub> = 25°C I <sub>F</sub> = 30A, T <sub>J</sub> = 125°C
Leakage 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	50		$I_F = 0.5A$ , $I_R = 1A$ , $I_{RR} = 0.25A$
		-	26	35		$I_F = 1A$ , $V_R = 30V$ $di/dt = 100A/\mu s$ , $T_J = 25^{\circ}C$

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.

  3. Device mounted on heatsink (Black Aluminum, 37mm x 15mm x 50mm)





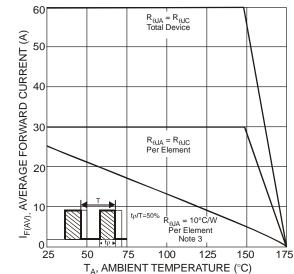
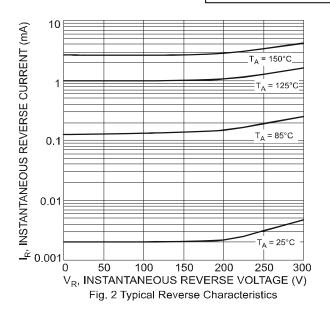


Fig. 3 Forward Current Derating Curve



# 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**

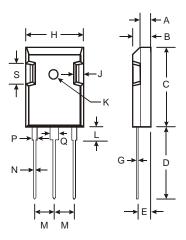


SBR60A300PT = Product Type Marking Code AB = Foundry and Assembly Code YYWW = Date Code Marking YY = Last two digits of year (ex: 07 = 2007) WW = Week (01-52)

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## **Package Outline Dimensions**



TO-247				
Dim	Min	Max		
Α	1.9	2.1		
В	4.85	5.15		
С	20.3	21.75		
D	19.60	20.1		
E	2.2	2.6		
G	0.51	0.76		
Н	15.45	16.25		
J	1.93	2.18		
K	2.9∅	3.2∅		
L	3.78	4.38		
M	5.2	5.7		
N	1.0	1.4		
Р	1.8	2.2		
Q	2.8	3.2		
S	4.4 Typ			
All Di	All Dimensions in mm			

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