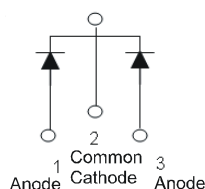


## Features

- 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
- Terminal: Finish — Bright Tin. Plated Leads Solderable per MIL-STD-202, Method 208 <sup>e3</sup>
- 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 @ $T_A = 25^\circ\text{C}$ 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	$V_{RRM}$	45	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_{RM}$		
RMS Reverse Voltage	$V_{R(RMS)}$	32	V
Average Rectified Output Current @ $T_C = 140^\circ\text{C}$	$I_O$	60	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	280	A

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance (per leg) (Note 3)	$R_{\theta JA}$	2	$^\circ\text{C/W}$
Maximum Thermal Resistance Junction to Ambient (Note 3)			
Maximum Thermal Resistance Junction to Case (Note 3)			
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)	$V_{(BR)R}$	45	-	-	V	$I_R = 1\text{mA}$
Forward Voltage Drop (per leg)	$V_F$	-	-	0.58 0.55	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)	$I_R$	-	-	1 200	mA	$V_R = 45\text{V}, T_J = 25^\circ\text{C}$ $V_R = 45\text{V}, T_J = 125^\circ\text{C}$

- 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/products/lead\\_free.html](http://www.diodes.com/products/lead_free.html).
  3. Device mounted on heatsink (Black Aluminum, 50mm x 30mm x 23mm)

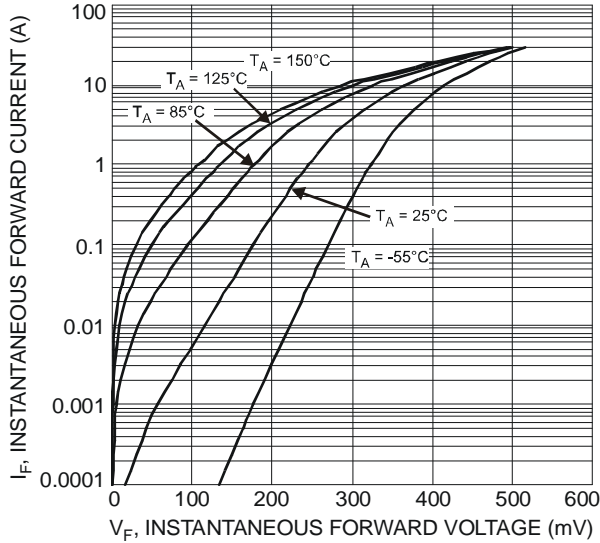


Fig. 1 Typical Forward Characteristics

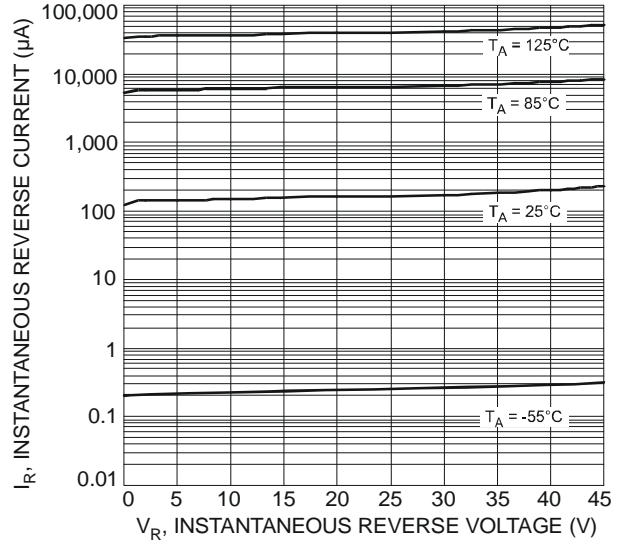


Fig. 2 Typical Reverse Characteristics

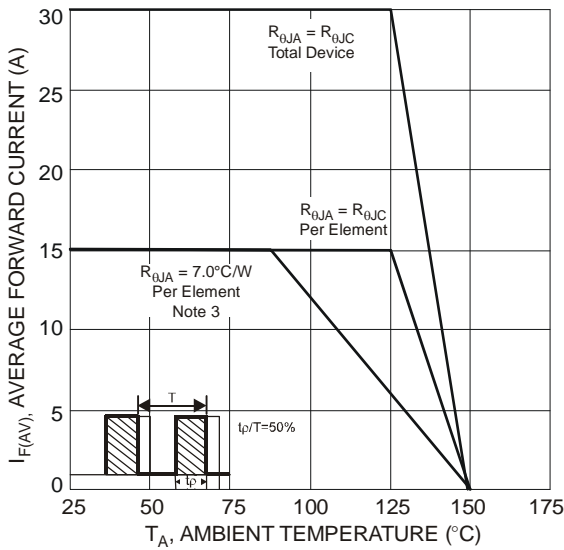


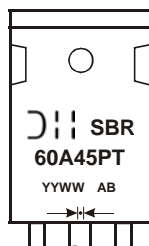
Fig. 3 Forward Current Derating Curve

**Ordering Information** (Note 4)

Part Number	Case	Packaging
SBR60A45PT	TO-247	30 pieces/tube

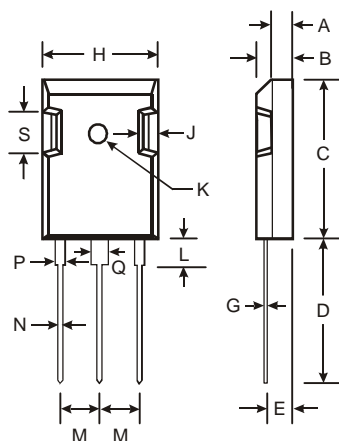
Notes: 4. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



60A45PT = Product Type Marking Code  
 AB = Foundry and Assembly Code  
 YYWW = Date Code Marking  
 YY = Last two digits of year (ex: 08 = 2008)  
 WW = Week (01-52)

## 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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SBR60A45PT

Document number: DS31349 Rev. 6 - 4

3 of 3

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April 2012

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