DISCONTINUED

SBR60A45PT

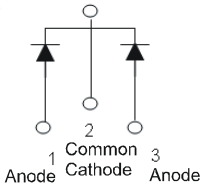
60A SBR®
SUPER BARRIER RECTIFIER

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
- Terminal: 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)



Package Pin Out
Configuration

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 Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_{RM}	45	V
RMS Reverse Voltage	$V_{R(RMS)}$	32	V
Average Rectified Output Current @ T_C = 140ºC	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) Maximum Thermal Resistance Junction to Ambient (Note 3) Maximum Thermal Resistance Junction to Case (Note 3)	 $R_{\theta JA}$ $R_{\theta JC}$	 2 7	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	ºC

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	45	-	-	V	I_R = 1mA
Forward Voltage Drop (per leg)	V_F	-	- -	0.58 0.55	V	I_F = 30A, T_J = 25ºC I_F = 30A, T_J = 125ºC
Leakage Current (Note 1)	I_R	-	-	1 200	mA	V_R = 45V, T_J = 25ºC V_R = 45V, T_J = 125ºC

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, 50mm x 30mm x 23mm)

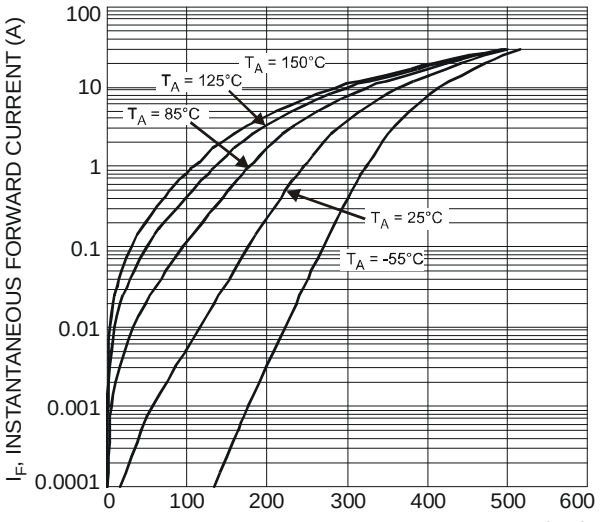


Fig. 1 Typical Forward Characteristics

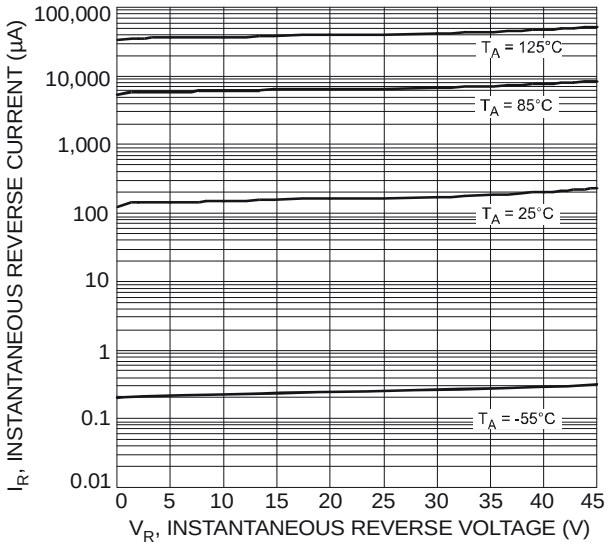


Fig. 2 Typical Reverse Characteristics

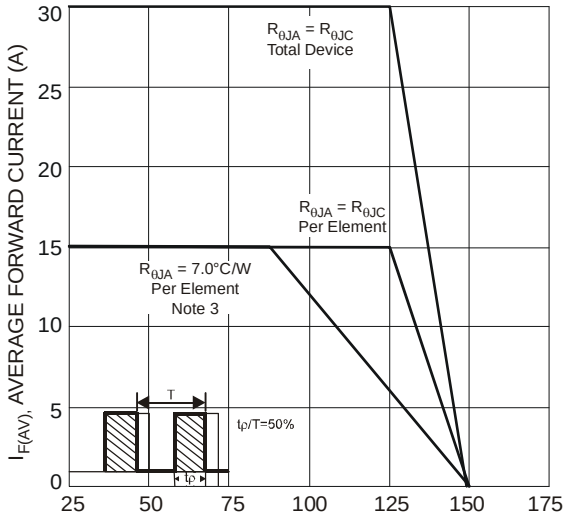


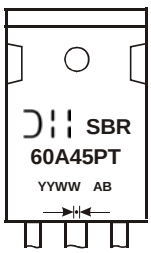
Fig. 3 Forward Current Derating Curve

Ordering Information (Note 4)

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

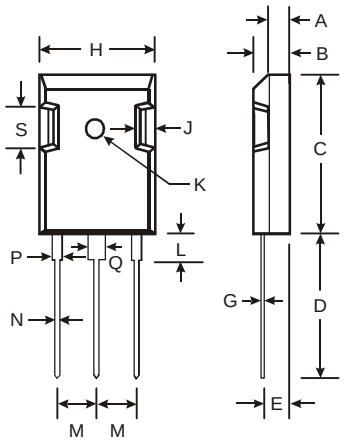
Notes: 4. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

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∅	3.2∅
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		