

## 40A SBR<sup>®</sup> SUPER BARRIER RECTIFIER

### **Features**

- Ultra Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150°C Operating Junction Temperature
- Lead Free Finish, RoHS Compliant (Note 2)
- Also Available in Green Molding Compound (Note 5)

### **Mechanical Data**

- Case: TO-220AB
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 📵
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 1.85 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	$V_{RRM}$		
Working Peak Reverse Voltage	V <sub>RWM</sub>	100	V
DC Blocking Voltage	$V_{RM}$		
Average Rectified Output Current @ T <sub>C</sub> = 150°C	I <sub>O</sub>	40	Α
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	235	А
Isolation Voltage (ITO-220AB Only) From terminal to heatsink t = 3 sec.	V <sub>AC</sub>	2000	V

# **Thermal Characteristics**

Characteristic	Comple of	Value	I I m i t
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance (per leg)			°C/W
Thermal Resistance Junction to Case (Note 3)	$R_{ heta JC}$	2	°C/VV
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

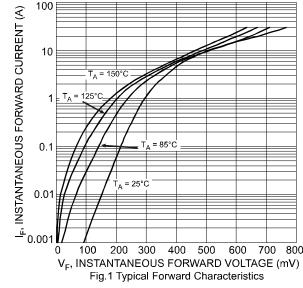
### **Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

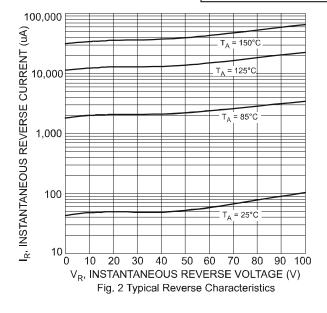
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Forward Voltage Drop (per leg)	VF	-	0.67 0.60	0.72 0.64	l V	I <sub>F</sub> = 20A, T <sub>J</sub> = 25°C I <sub>F</sub> = 20A, T <sub>J</sub> = 125°C
Leakage Current (Note 1)	I <sub>R</sub>	-	-	0.5 40	mA	$V_R = 100V, T_J = 25^{\circ}C$ $V_R = 100V, T_J = 125^{\circ}C$

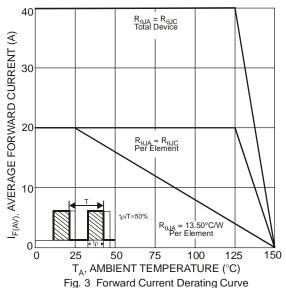
Notes:

- 1. Short duration pulse test used to minimize self-heating effect.
- 2. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.









# Ordering Information (Notes 3 and 4)

Part Number	Case	Packaging
SBR40U100CT	TO-220AB	50 pieces/tube
SBR40U100CT-G	TO-220AB	50 pieces/tube

Notes:

- For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.
   For Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR40U100CT-G

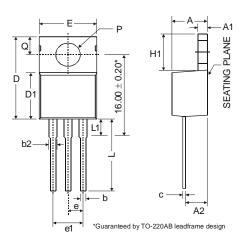
# Marking Information



SBR40U100CT = 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)



# **Package Outline Dimensions**



TO-220AB				
Dim	Min	Тур	Max	
Α	3.56	-	4.82	
A1	0.51		1.39	
A2	2.04	1	2.92	
b	0.39	0.81	1.01	
b2	1.15	1.24	1.77	
С	0.356		0.61	
D	14.22	1	16.51	
D1	8.39		9.01	
е	2.54			
e1	5.08			
Е	9.66	1	10.66	
H1	5.85	-	6.85	
L	12.70		14.73	
L1	-	-	6.35	
Р	3.54	-	4.08	
Q	2.54	1	3.42	
All Dimensions in mm				

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