

#### 30A SBR<sup>®</sup> 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-220AB, ITO-220AB
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- 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: TO-220AB 2.1 grams (approximate) ITO-220AB – 1.9 grams (approximate)





ITO-220AB

Anode Cathode Anode Package Pin Out Configuration

Common 3

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

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>		
Working Peak Reverse Voltage	V <sub>RWM</sub>	150	V
DC Blocking Voltage	V <sub>RM</sub>		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	106	V
Average Rectified Output Current @ T <sub>C</sub> = 150°C	Ιο	30	А
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	250	А
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I <sub>RRM</sub>	3	Α

## **Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance (per leg) Package = TO-220AB Package = ITO-220AB	$R_{ ext{ heta}JC}$	2 4	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175	°C

### **Electrical Characteristics** $@T_A = 25^{\circ}C$ unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	V <sub>(BR)R</sub>	150	-	-	V	I <sub>R</sub> = 0.1mA
Forward Voltage Drop	VF	-	- 0.67	0.88 0.74	V	I <sub>F</sub> = 15A, T <sub>J</sub> = 25°C I <sub>F</sub> = 15A, T <sub>J</sub> = 125°C
Leakage Current (Note 1)	I <sub>R</sub>	-	-	0.1 10	mA	$V_R = 150V, T_J = 25^{\circ}C$ $V_R = 150V, T_J = 125^{\circ}C$

Notes: 1. Short duration pulse test used to minimize self-heating effect.

2. RoHS revision 13.2.2003. High temperature solder exemption applied, see EU Directive Annex Note 7.

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TO-220AB



## SBR30A150CT SBR30A150CTFP

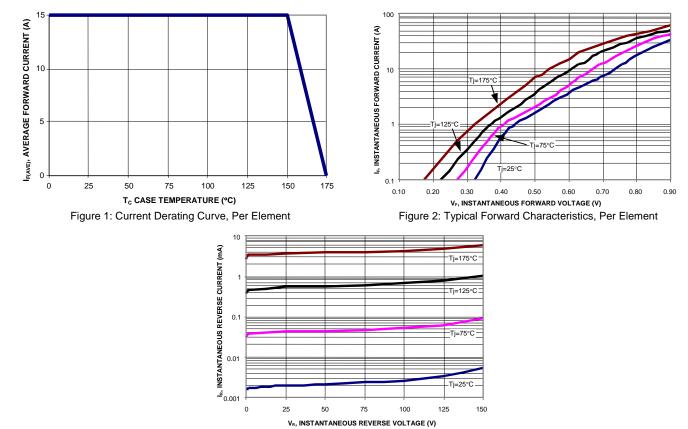


Figure 3: Typical Reverse Characteristics, Per Element

## Ordering Information (Note 3)

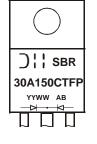
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Part Number	Case	Packaging
SBR30A150CT	TO-220AB	50 pieces/tube
SBR30A150CTFP	ITO-220AB	50 pieces/tube

Notes: 3. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

## **Marking Information**



SBR30A150CT = Product Type Marking Code AB = Foundry and Assembly Code YYWW = Date Code Marking YY = Last two digits of year, ex: 06 = 2006 WW = Week (01-52)



SBR30A150CTFP = Product Type Marking Code AB = Foundry and Assembly Code YYWW = Date Code Marking YY = Last two digits of year, ex: 06 = 2006 WW = Week (01-52)

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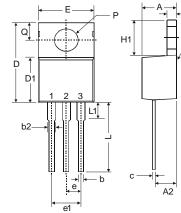
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# Package Outline Dimensions

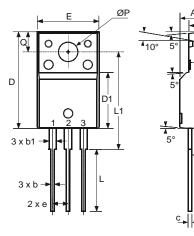
A1

SEATING PLANE



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

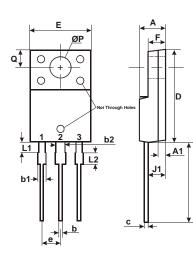
All Dimensions in mm



ITO-220AB (Note 4)						
Dim	· · · ·					
Α	4.50	4.70	4.90			
A1	3.04	3.24	3.44			
A2	2.56	2.76	2.96			
b	0.50	0.60	0.75			
b1	1.10	1.20	1.35			
С	0.50	0.60	0.70			
D	15.67 15.87 16.0					
D1	8.99 9.19 9.39					
е	2.54					
E	9.91	10.11	10.31			
L	9.45	9.75	10.05			
L1	15.80 16.00 16.2					
Ρ	2.98	3.18	3.38			
Q	3.10	3.30	3.50			
All Dimensions in mm						

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	ITO-220AB					
	ALTERNATE					
		(Note 4)	-			
	DIM.	MIN.	MAX.			
	Α	4.30	4.70			
	A1	1	.3			
	b	0.50	0.75			
	b1	1.10	1.35			
	b2	1.50	1.75			
	C	0.50	0.75			
	D	14.80	15.20			
_	Е	9.96	10.36			
	е	2.54	1 typ			
	F	2.80	3.20			
L	J1	2.50	2.90			
	L	12.80	13.60			
	L1	1.70	1.90			
-	L2	1.90	2.10			
	ØP	3.50 typ				
	Q	2.70 typ				
	All Dimensions in mm					

Notes: 4. For product manufactured with Date Code 0733 (week 33, 2007) and newer, please refer to ITO-220AB dimensions. For product manufactured prior to Date Code 0733, please refer to ITO-220AB ALTERNATE dimensions.

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