

30A 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 1)
- Also Available in Green Molding Compound (Note 2)

Mechanical Data

- Case: TO-220AB, ITO-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 63
- Weight: TO-220AB 1.85 grams (approximate)
 ITO-220AB 1.65 grams (approximate)







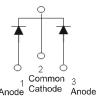
TO-220AB Bottom View



ITO-220AB Top View



ITO-220AB Bottom View



Package Pin Out Configuration

Ordering Information (Notes 2 & 3)

Part Number	Case	Packaging
SBR30300CT	TO-220AB	50 pieces/tube
SBR30300CT-G	TO-220AB	50 pieces/tube
SBR30300CTFP	ITO-220AB	50 pieces/tube
SBR30300CTFP-G	ITO-220AB	50 pieces/tube
SBR30300CTFP-JT	ITO-220AB (Alternate)	50 pieces/tube

Notes: 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes

2. For Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR30300CT-G.

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

Marking Information



SBR30300CT = 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 - 53)



SBR30300CTFP = 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 - 53)



Maximum Ratings (Per Leg) @TA = 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_{RWM}	300	V
DC Blocking Voltage	V_{RM}		
Average Rectified Output Current Per Device (Per Leg) (Total)	Io	15 30	А
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	200	А
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I _{RRM}	2	Α
Isolation Voltage (ITO-220AB Only) From terminal to heatsink t = 3 sec.	Vac	2000	V

Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Package = TO-220AB Package = ITO-220AB	R _e JC	2	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +175	°C

Electrical Characteristics (Per Leg) @TA = 25°C unless otherwise specified

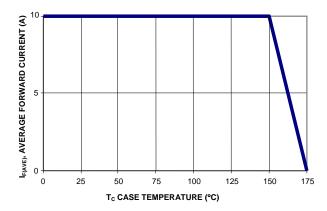
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Forward Voltage Drop	V_{F}	=	- 0.76	1.03 0.92	V	I _F = 15A, T _J = 25°C I _F = 15A, T _J = 125°C
Leakage Current (Note 4)	I _R	-	-	0.1 10	m A	V _R = 300V, T _J = 25°C V _R = 300V, T _J = 125°C
		-	25	30		$I_F = 0.5A$, $I_R = 1A$, $I_{RR} = 0.25A$
Reverse Recovery Time	t _{rr}	-	28	35	ns	$I_F = 1A$, $V_R = 30V$ di/dt = 100A/ μ s, $T_J = 25^{\circ}C$

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Notes: 4. Short duration pulse test used to minimize self-heating effect.

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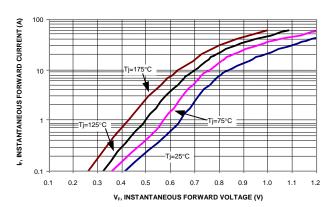


Figure 1: Current Derating Curve, Per Element

Figure 2: Typical Forward Characteristics, Per Element

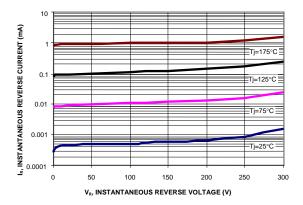
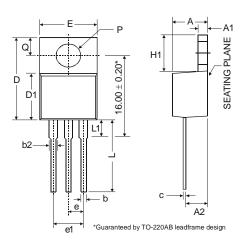


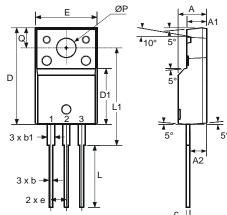
Figure 3: Typical Reverse Characteristics, Per Element



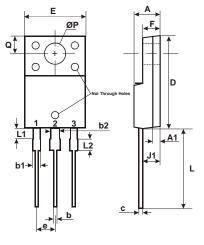
Package Outline Dimensions



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	
b2	1.15	1.24	1.77	
C	0.356	-	0.61	
D	14.22	-	16.51	
D1	8.39	-	9.01	
е	2.54			
e1	5.08			
Е	9.66	1	10.66	
H1	5.85	-	6.85	
ш	12.70		14.73	
L1	-		6.35	
Р	3.54	-	4.08	
ø	2.54		3.42	
All Dimensions in mm				



ITO-220AB						
	(Note 5)					
Dim	Min	Тур	Max			
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	16.07			
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	16.20			
Р	2.98	3.18	3.38			
Q	3.10	3.30	3.50			
All Dimensions in mm						



ITO-220AB				
A	ALTERNATE (Note 5)			
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		
С	0.50	0.75		
D	14.80	15.20		
Е	9.96	10.36		
е	2.54 typ			
F	2.80	3.20		
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: 5. 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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