

SBR20A100CT SBR20A100CTFP

20A 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 (Notes 1 & 2)
- Also Available in Green Molding Compound (Note 3)
 - Halogen and Antimony Free. "Green" Device (Note 4)

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)







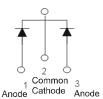
TO-220AB Bottom View



ITO-220AB Top View



ITO-220AB Bottom View



Package Pin Out Configuration

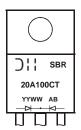
Ordering Information (Notes 3 & 4)

Part Number	Case	Packaging
SBR20A100CT	TO-220AB	50 pieces/tube
SBR20A100CTFP	ITO-220AB	50 pieces/tube
SBR20A100CT-G	TO-220AB	50 pieces/tube
SBR20A100CTFP-G	ITO-220AB	50 pieces/tube
SBR20A100CTFP-JT-G	ITO-220AB (Alternate)	50 pieces/tube

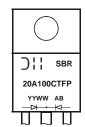
Notes:

- 1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
- 2. See http://www.diodes.com for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- 3. For Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR20A100CT-G.
- 4. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Marking Information



SBR20A100CT = 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)



SBR20A100CTFP = 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}	100	V
DC Blocking Voltage	V_{RM}		
Average Rectified Output Current per Device (Per Leg)	lo	10	А
(Total)	10	20	Α.
Non-Repetitive Peak Forward Surge Current 8.3ms	I	250	Λ
Single Half Sine-Wave Superimposed on Rated Load	IFSM	230	A
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I _{RRM}	3	Α
Isolation Voltage (ITO-220AB Only)	V _{AC}	2000	V
From Terminal to Heatsink t = 3 sec			V

Thermal Characteristics (Per Leg)

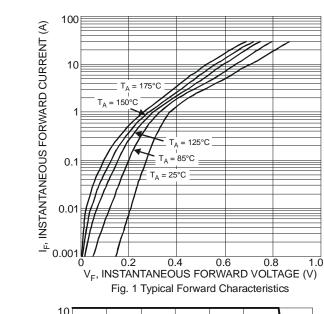
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Package = TO-220AB Package = ITO-220AB	$R_{ hetaJC}$	2 4	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +175	°C

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

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Forward Voltage Drop	V _F	-	- 0.60 -	0.75 0.64 0.85	V	I _F = 10A, T _J = 25°C I _F = 10A, T _J = 125°C I _F = 20A, T _J = 25°C
Leakage Current (Note 5)	I _R	-	-	0.1 10	mA	$V_R = 100V, T_J = 25^{\circ}C$ $V_R = 100V, T_J = 125^{\circ}C$

Notes: 5. Short duration pulse test used to minimize self-heating effect.





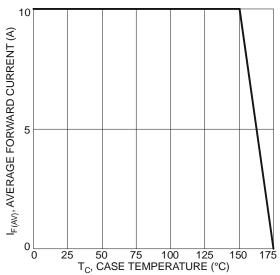
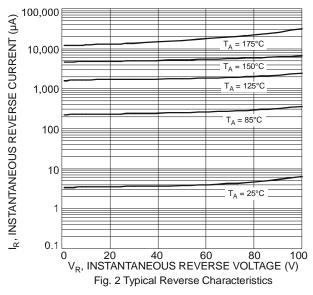
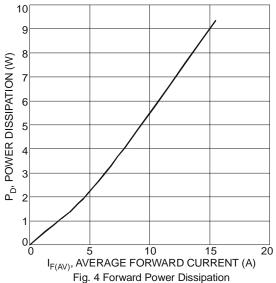


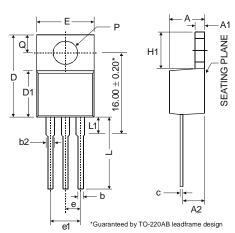
Fig. 3 Forward Current Derating Curve, Per Element



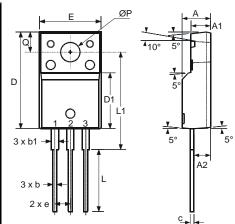




Package Outline Dimensions



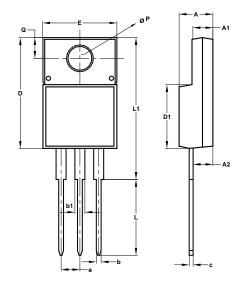
TO-220AB			
Dim	Min	Тур	Max
Α	3.56	1	4.82
A1	0.51	-	1.39
A2	2.04	-	2.92
b	0.39	0.81	1.01
b2	1.15	1.24	1.77
C	0.356	1	0.61
D	14.22	-	16.51
D1	8.39	1	9.01
е	2.54		
e1	5.08		
Е	9.66	-	10.66
H1	5.85	-	6.85
L	12.70	-	14.73
L1	-		6.35
Р	3.54		4.08
ø	2.54	-	3.42
All Dimensions in mm			



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		
Е	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			

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ITO220AB				
Alternate (Note 6)				
Dim	Min	Max		
Α	4.36	4.77		
A1	2.54	3.10		
A2	2.54	2.80		
b	0.55	0.75		
b1	1.20	1.50		
С	0.38	0.68		
D	14.50	15.50		
D1	8.38	8.89		
е	2.41	2.67		
Е	9.72	10.27		
L	9.87	10.67		
L1	15.8	17.00		
Р	3.08	3.39		
Q	2.60	3.00		
All Dimensions in mm				

Notes: 6. 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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