SBR10U300CT
SBR10U300CTFP

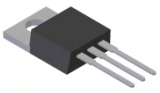
10A SBR®
SUPER BARRIER RECTIFIER

Features

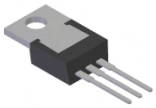
- Ultra Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Also Available in Green Molding Compound**
  - **Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

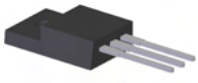
- Case: TO-220AB and ITO-220AB
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 e3
- Weight: TO-220AB – 1.85 grams (approximate)
  ITO-220AB -1.65 grams (approximate)



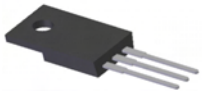
TO-220AB
Top View



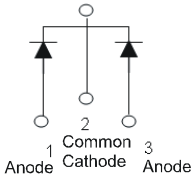
TO-220AB
Bottom View



ITO-220AB
Top View



ITO-220AB
Bottom View



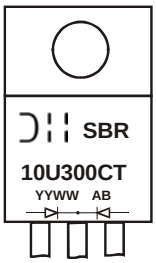
Package Pin-Out
Configuration

Ordering Information (Notes 4 and 5)

Part Number	Case	Packaging
SBR10U300CT	TO-220AB	50 pieces/tube
SBR10U300CT-G	TO-220AB	50 pieces/tube
SBR10U300CTFP	ITO-220AB	50 pieces/tube
SBR10U300CTFP-G	ITO-220AB	50 pieces/tube
SBR10U300CTFP-JT	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. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. For Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR10U300CT-G.
5. For packaging details, go to our website at http://www.diodes.com.

Marking Information



SBR10U300CT = 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)

SBR10U300CTFP = 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 @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}	300	V
Average Rectified Output Current @T_C = 150ºC	I_O	10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	150	A
Peak Repetitive Reverse Surge Current (2µS-1kHz)	I_{RRM}	3	A
Isolation Voltage (ITO-220AB Only) From terminal to heatsink t = 3 sec.	V_{AC}	2000	V

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance (per leg) Package = TO-220AB Package = ITO-220AB	$R_{\theta JC}$	 2 4	ºC/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175	ºC

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V_F	-	- 0.64 -	0.86 0.71 0.92	V	I_F = 5A, T_J = 25ºC I_F = 5A, T_J = 125ºC I_F = 10A, T_J = 25ºC
Leakage Current (Note 6)	I_R	-	-	0.2 25	mA	V_R = 300V, T_J = 25ºC V_R = 300V, T_J = 125ºC
Reverse Recovery Time	t_{rr}	- -	25 28	30 35	ns	I_F = 0.5A, I_R = 1A, I_{RR} = 0.25A I_F = 1A, V_R = 30V di/dt = 100A/µs, T_J = 25ºC

Notes: 6. Short duration pulse test used to minimize self-heating effect.
7. Using heatsink (by Black Aluminum 45mm * 20mm * 12mm).

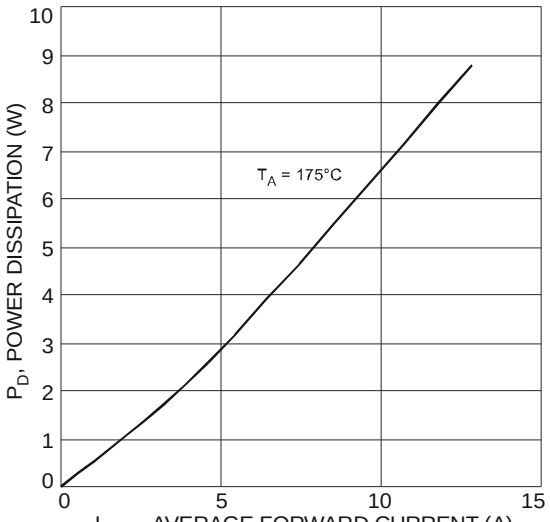


Fig. 1 Forward Power Dissipation

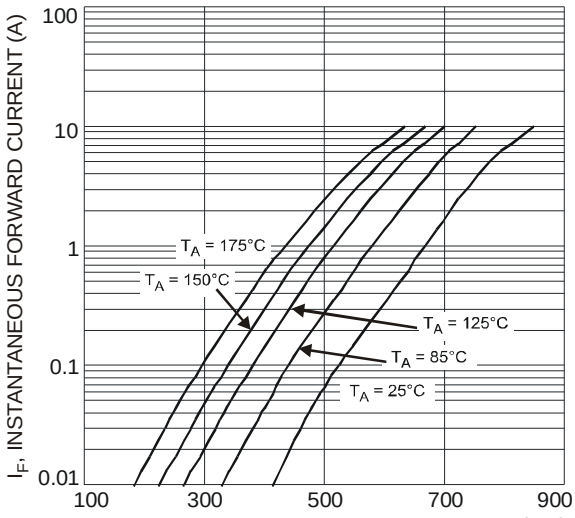


Fig. 2 Typical Forward Characteristics

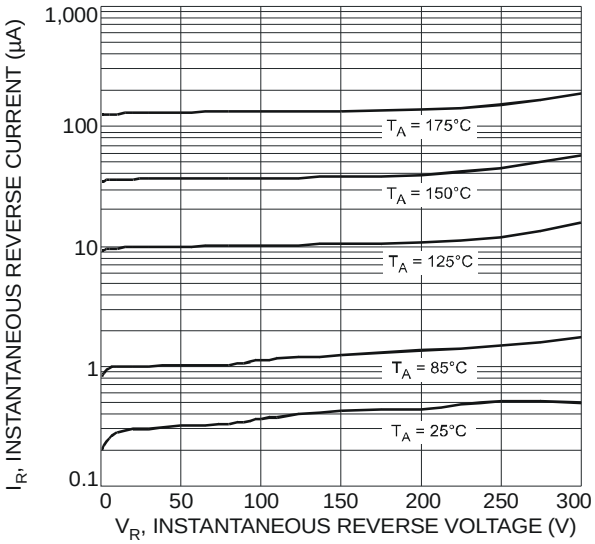


Fig. 3 Typical Reverse Characteristics

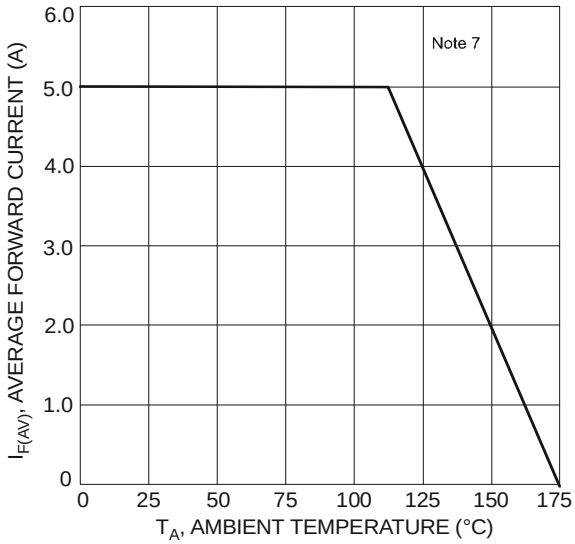


Fig. 4 Forward Current Derating Curve

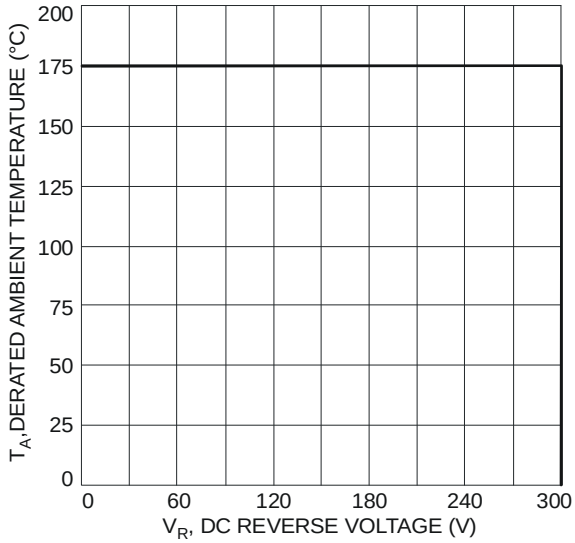
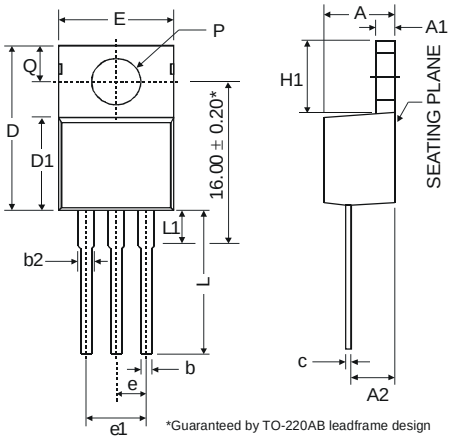
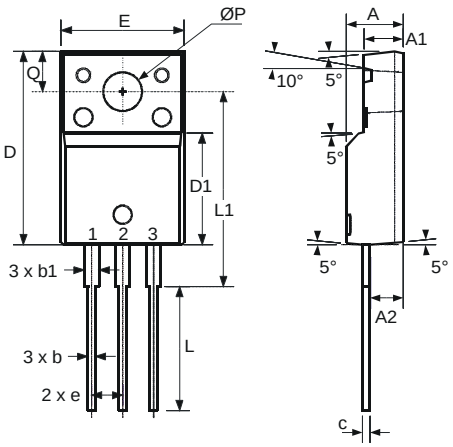


Fig. 5 Operating Temperature Derating

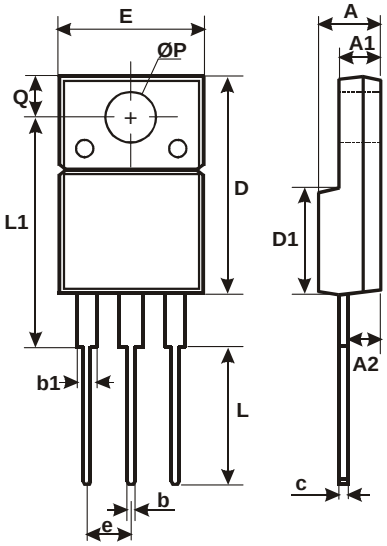
Package Outline Dimensions



TO-220AB			
Dim	Min	Typ	Max
A	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
e	2.54		
e1	5.08		
E	9.66	-	10.66
H1	5.85	-	6.85
L	12.70	-	14.73
L1	-	-	6.35
P	3.54	-	4.08
Q	2.54	-	3.42
All Dimensions in mm			



ITO-220AB			
Dim	Min	Typ	Max
A	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
c	0.50	0.60	0.70
D	15.67	15.87	16.07
D1	8.99	9.19	9.39
e	2.54		
E	9.91	10.11	10.31
L	9.45	9.75	10.05
L1	15.80	16.00	16.20
P	2.98	3.18	3.38
Q	3.10	3.30	3.50
All Dimensions in mm			



ITO-220AB Alternate		
Dim	Min	Max
A	4.36	4.77
A1	2.54	3.1
A2	2.54	2.8
b	0.55	0.75
b1	1.2	1.5
c	0.38	0.68
D	14.5	15.5
D1	8.38	8.89
E	9.72	10.27
e	2.41	2.67
L	9.87	10.67
L1	15.8	17
ØP	3.08	3.39
Q	2.6	3.0
All Dimensions in mm		

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2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

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www.diodes.com

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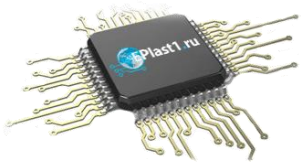
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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