10A SBR®
SUPER BARRIER RECTIFIER

Features

- 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

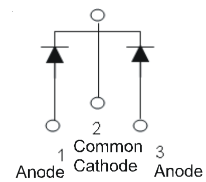
- Case: TO-220AB, ITO-220AB
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Weight: TO-220AB – 1.85 grams (approximate)
  ITO-220AB - 1.65 grams (approximate)

TO-220AB
Top View

TO-220AB
Bottom View

ITO-220AB
Top View

ITO-220AB
Bottom View



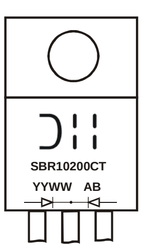
Package Pin-Out
Configuration

Ordering Information (Notes 4 and 5)

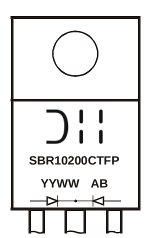
	Part Number	Case	Packaging
	SBR10200CT	TO-220AB	50 pieces/tube
	SBR10200CT-G	TO-220AB	50 pieces/tube
	SBR10200CTFP	ITO-220AB	50 pieces/tube
	SBR10200CTFP-G	ITO-220AB	50 pieces/tube
	SBR10200CTFP-JT	ITO-220AB (Alternate)	50 pieces/tube

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: SBR10200CT-G.
5. For packaging details, go to our website at http://www.diodes.com.

Marking Information



SBR10200CT = 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)



SBR10200CTFP = 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)

*For products manufactured with date code 0806 and newer, the diode marking symbol is changing from filled ► to unfilled ▷.

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}	200	V
Average Rectified Output Current @ T_C = 115ºC	I_O	10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	110	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 +150	ºC

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop (per leg)	V_F	-	- 0.69	0.90 0.74	V	I_F = 5A, T_J = 25ºC I_F = 5A, T_J = 125ºC
Leakage Current (Note 6)	I_R	-	5 1	100 25	µA mA	V_R = 200V, T_J = 25ºC V_R = 200V, T_J = 125ºC
Reverse Recovery Time	t_{rr}	-	15	20	ns	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.

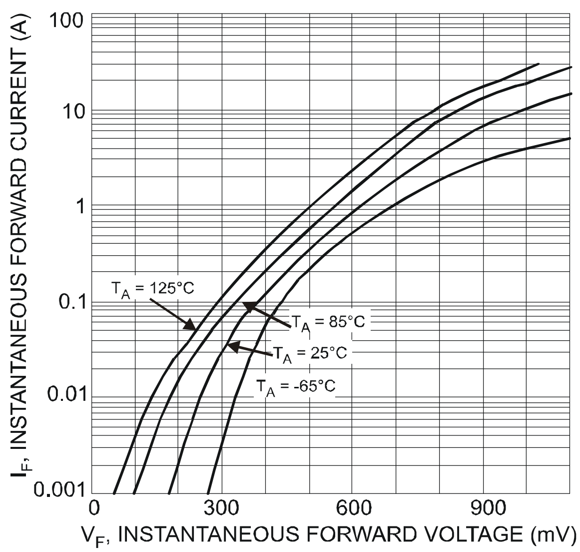


Fig. 1 Typical Forward Characteristics

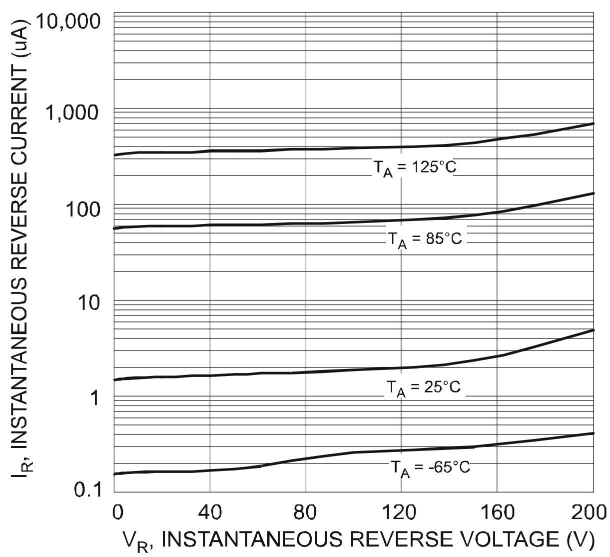


Fig. 2 Typical Reverse Characteristics

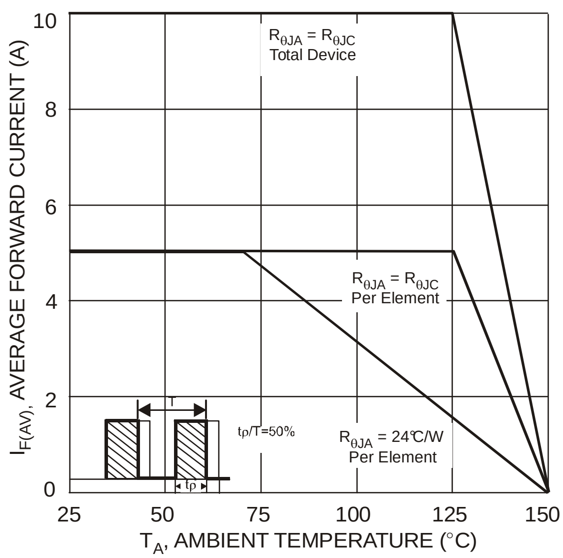
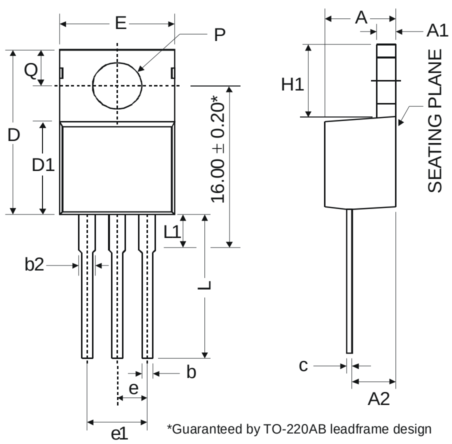
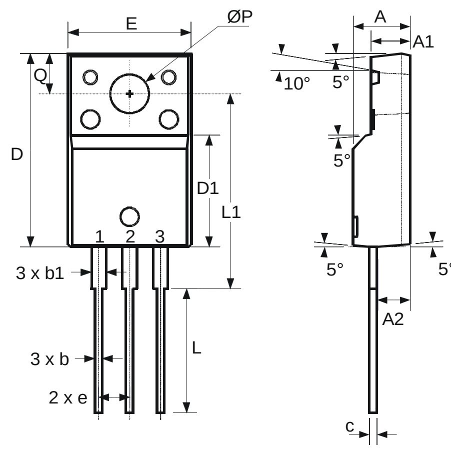


Fig. 3 Forward Current Derating Curve

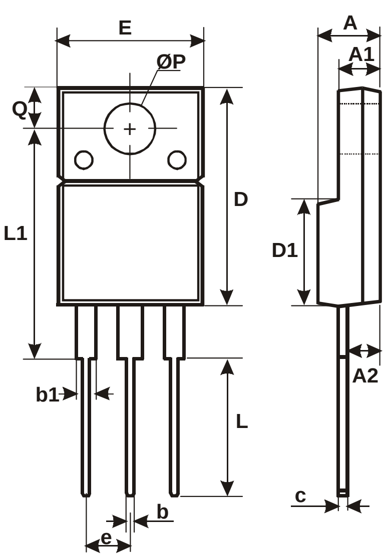
Package Outline Dimensions



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		