SBR20A300CT
SBR20A300CTFP

20A SBR®
Super Barrier Rectifier

NEW PRODUCT

Features

- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Super Barrier Design
- Soft, Fast Switching Capability
- Molded Plastic TO-220AB and ITO-220AB packages
- **Lead Free Finish, RoHS Compliant (Note 2)**

Mechanical Data

- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 e3
- Marking: See Page 3
- Ordering Information: See Page 3

Maximum Ratings @ T_A = 25ºC unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive 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
RMS Reverse Voltage	$V_{R(RMS)}$	212	V
Average Rectified Output Current @ T_C = 150ºC	I_O	20	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	180	A
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	3	A
Maximum Thermal Resistance (per leg) Package = TO-220AB Package = ITO-220AB	$R_{\Theta JC}$	 2 4	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175	ºC

Electrical Characteristics @ T_A = 25ºC unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	300	-	-	V	I_R = 0.1 mA
Forward Voltage Drop	V_F	-	- 0.70 -	0.92 0.78 1.06	V	I_F = 10A, T_J = 25ºC I_F = 10A,T_J = 125ºC I_F = 20A, T_J = 25ºC
Leakage Current (Note 1)	I_R	-	-	0.1 10	mA	V_R = 300V, T_J = 25 ºC V_R = 300V, T_J = 125 ºC

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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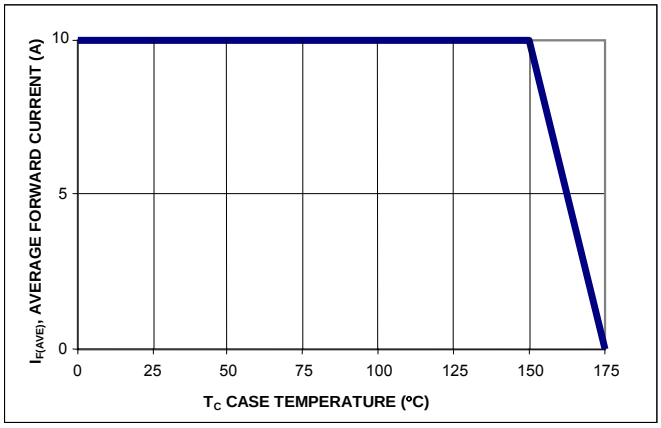


Figure 1: Current Derating Curve, Per Element

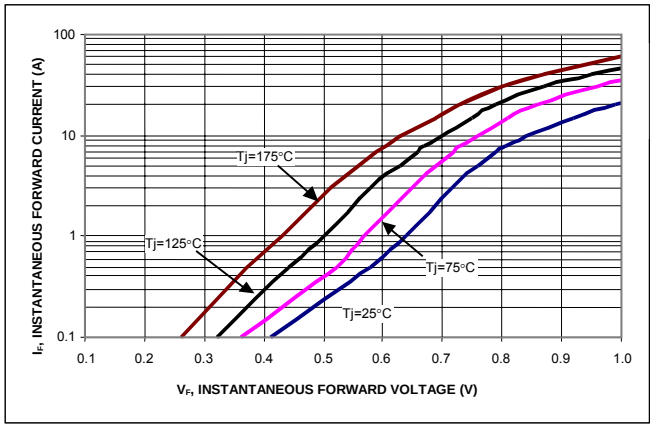


Figure 2: Typical Forward Characteristics, Per Element

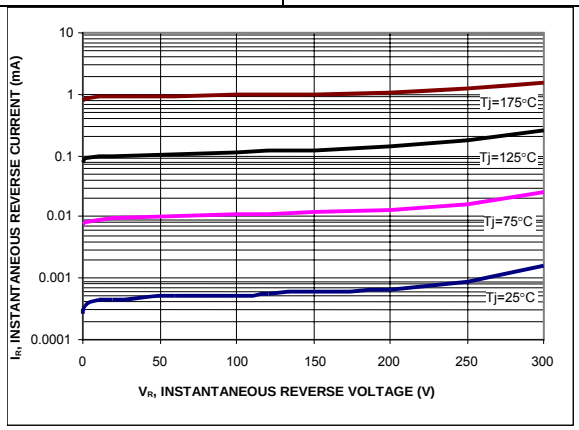
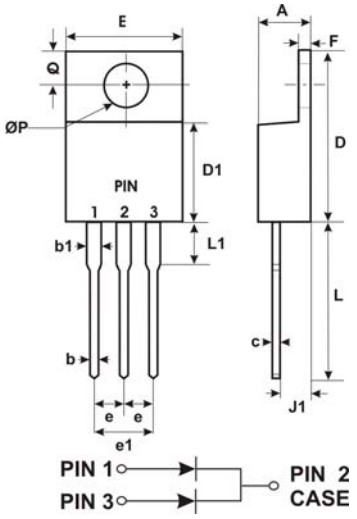


Figure 3: Typical Reverse Characteristics, Per Element

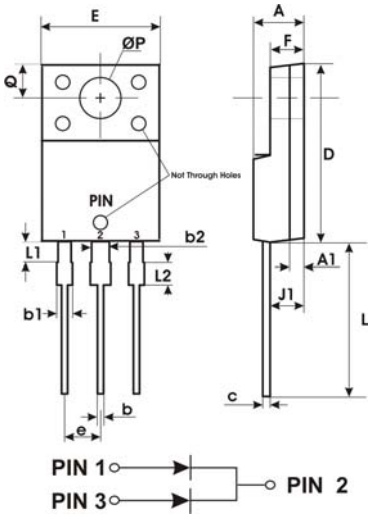
Package Outline Drawings

TO-220AB



TO-220AB		
DIM.	MIN.	MAX.
A	4.47	4.67
b	0.71	0.91
b1	1.17	1.37
c	0.31	0.53
D	14.65	15.35
D1	8.50	8.90
E	10.01	10.31
e	2.54 typ	
e1	4.98	5.18
F	1.17	1.37
J1	2.52	2.82
L	13.40	13.80
L1	3.56	3.96
ØP	3.735	3.935
Q	2.59	2.89
All Dimensions in Millimeters		

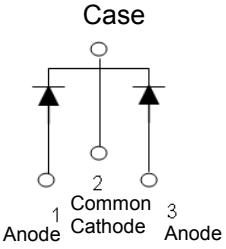
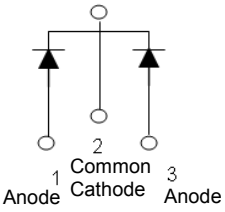
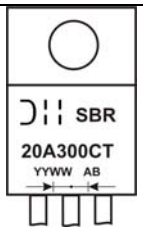
ITO-220AB



ITO-220AB		
DIM.	MIN.	MAX.
A	4.30	4.70
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
E	9.96	10.36
e	2.54 typ	
F	2.80	3.20
J1	2.50	2.90
L	12.80	13.60
L1	1.70	1.90
ØP	3.50 typ	
Q	2.70 typ	
All Dimensions in Millimeters		

NEW PRODUCT

Marking, Polarity, Weight & Ordering Information

	SBR20A300CT	SBR20A300CTFP
Case Style	 TO-220AB	 ITO-220AB
Polarity		
Marking		
Weight	2.1g	1.9g

Ordering Information	SBR20A300CT 50 pieces/tube	SBR20A300CTFP 50 pieces/tube
Date Code	YY = Last two digits of year, ex = 06 = 2006 WW = Week (01-52)	
Other Marking Information	A = Foundry Code B = Assembly Code	