NEW PRODUCT

SBR40U300CT

40A SBR®
SUPER BARRIER RECTIFIER

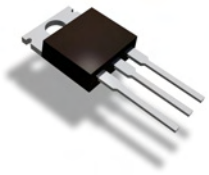
Please click here to visit our online spice models database.

Features

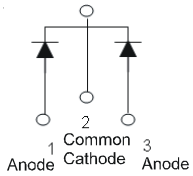
- Ultra Low Forward Voltage Drop
- Low Leakage Current
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 175ºC Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant (Note 2)**

Mechanical Data

- Case: TO-220AB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Matte Tin Finish annealed over Copper lead frame. Solderable per MIL-STD-202, Method 208 e3
- Polarity: As Marked on Body
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 2.1 grams (approximate)



Top View



Package Pin Out Configuration

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
RMS Reverse Voltage	$V_{R(RMS)}$	212	V
Average Rectified Output Current @ T_C = 140ºC	I_O	40	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	235	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance (per leg)	$R_{\theta JA}$	52	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
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	300	-	-	V	I_R = 0.04mA
Forward Voltage Drop (per leg)	V_F	-	0.84 0.73	0.89 0.78	V	I_F = 20A, T_J = 25ºC I_F = 20A, T_J = 125ºC
Leakage Current (Note 1)	I_R	-	5 2	100 10	µA mA	V_R = 300V, T_J = 25ºC V_R = 300V, T_J = 125ºC
Reverse Recovery Time	t_{rr}	-	32	50	ns	I_F = 0.5A, I_R = 1A, I_{RR} = 0.25A
		-	26	35		I_F = 1A, V_R = 30V di/dt = 100A/µs, T_J = 25ºC

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.*

SBR is a registered trademark of Diodes Incorporated.

NEW PRODUCT

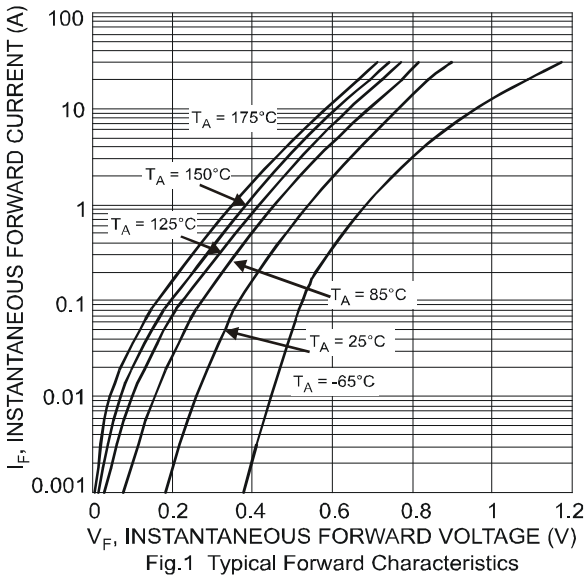


Fig.1 Typical Forward Characteristics

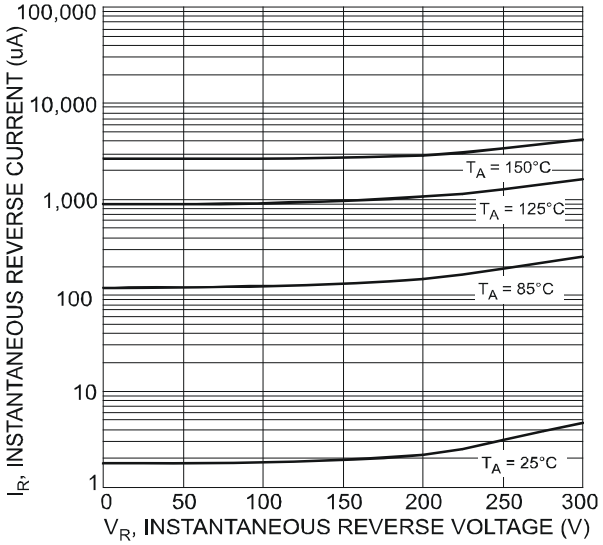


Fig. 2 Typical Reverse Characteristics

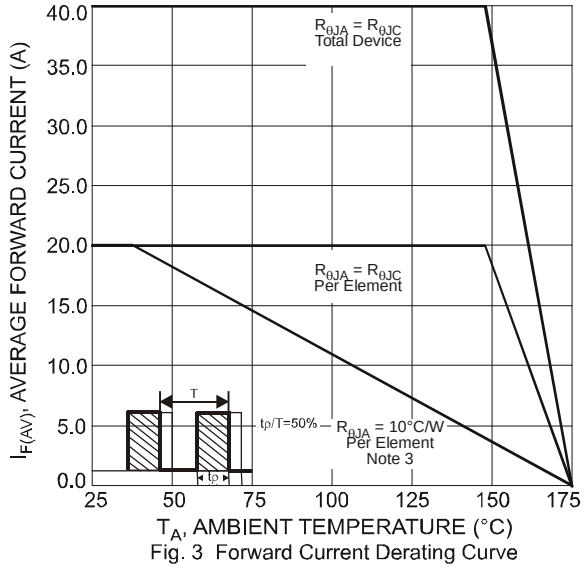


Fig. 3 Forward Current Derating Curve

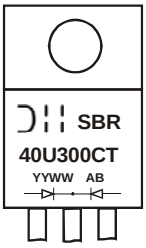
Notes: 3. Black Aluminium Heatsink; length 37mm, width 15mm, height 50mm

Ordering Information (Note 3)

Part Number	Case	Packaging
SBR40U300CT	TO-200AB	50 pieces/tube

Notes: 3. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information

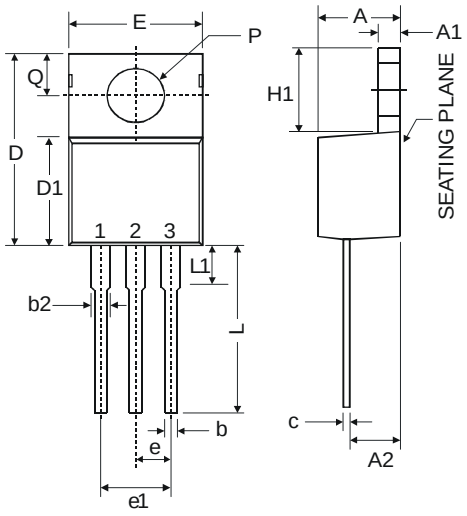


SBR40U300CT = Product Type Marking Code
AB = Foundry and Assembly Code
YYWW = Date Code Marking
YY = Last two digits of year, ex: 07 = 2007
WW = Week (01-52)

SBR is a registered trademark of Diodes Incorporated.

NEW PRODUCT

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
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			