

## Excellent Integrated System Limited

Stocking Distributor

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[Diodes Incorporated](#)  
[SBR40U300CT](#)

For any questions, you can email us directly:

[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)



**SBR40U300CT**

**40A SBR®**

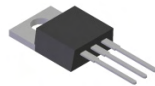
**SUPER BARRIER RECTIFIER**

## Features

- Ultra Low Forward Voltage Drop
- Low Leakage Current
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 175°C Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **Also Available in Green Molding Compound (Note 2)**

## Mechanical Data

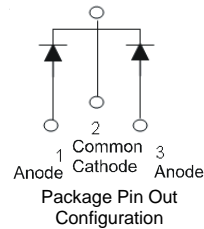
- Case: TO-220AB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper lead frame. Solderable per MIL-STD-202, Method 208 **e3**.
- Polarity: As Marked on Body
- Weight: 1.85 grams (approximate)



TO-220AB  
Top View



TO-220AB  
Bottom View

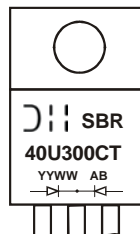


## Ordering Information (Notes 2 & 3)

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

- Notes:
1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes
  2. For Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR40U300CT-G.
  3. For packaging details, go to our website at <http://www.diodes.com>.

## 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 - 53)

SBR is a registered trademark of Diodes Incorporated.

SBR40U300CT

Document number: DS31199 Rev. 5 - 2

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**SBR40U300CT**

**Maximum Ratings (Per Leg) @T<sub>A</sub> = 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 <sub>RRM</sub>	300	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>RM</sub>		
Average Rectified Output Current Per Device (Per Leg) (Total)	I <sub>O</sub>	20 40	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	235	A

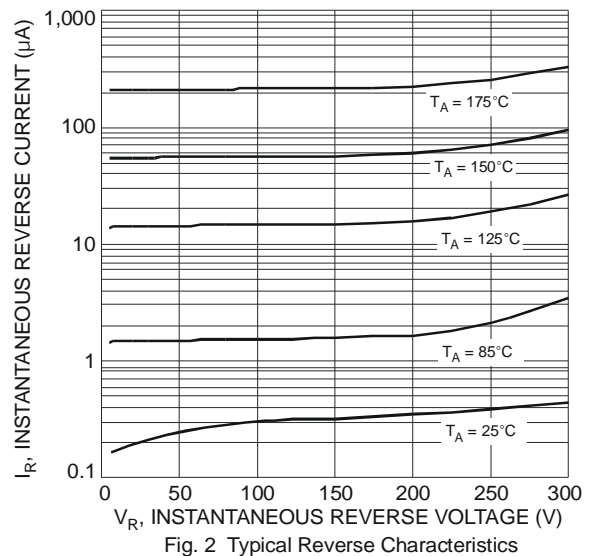
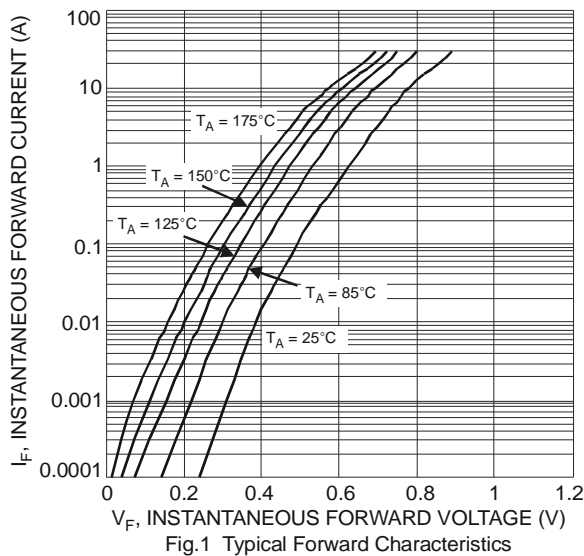
**Thermal Characteristics (Per Leg)**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance	R <sub>θJA</sub>	52	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175	°C

**Electrical Characteristics (Per Leg) @T<sub>A</sub> = 25°C unless otherwise specified**

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V <sub>F</sub>	-	0.84 0.73	0.89 0.78	V	I <sub>F</sub> = 20A, T <sub>J</sub> = 25°C I <sub>F</sub> = 20A, T <sub>J</sub> = 125°C
Leakage Current (Note 1)	I <sub>R</sub>	-	-	100 10	μA mA	V <sub>R</sub> = 300V, T <sub>J</sub> = 25°C V <sub>R</sub> = 300V, T <sub>J</sub> = 125°C
Reverse Recovery Time	t <sub>rr</sub>	-	32 26	50 35	ns	I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1A, I <sub>RR</sub> = 0.25A I <sub>F</sub> = 1A, V <sub>R</sub> = 30V di/dt = 100A/μs, T <sub>J</sub> = 25°C

Notes: 4. Short duration pulse test used to minimize self-heating effect.



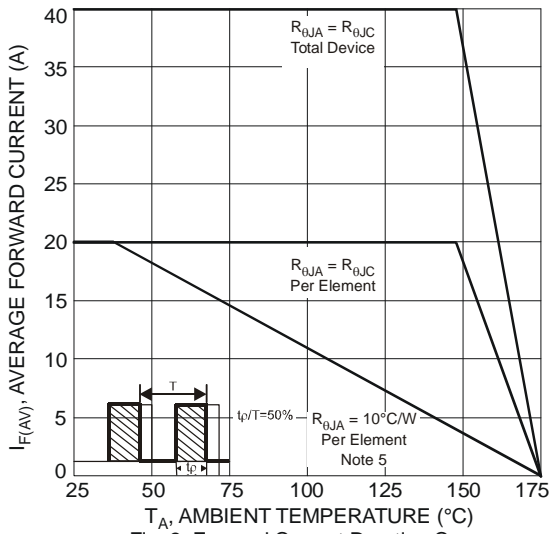
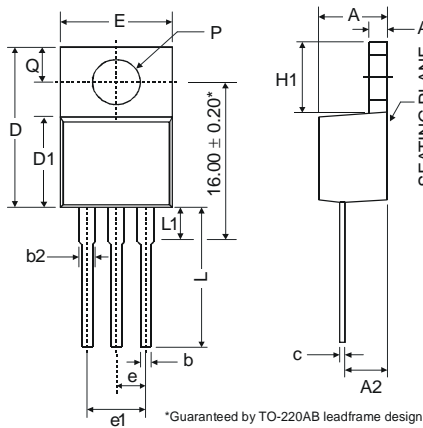


Fig. 3 Forward Current Derating Curve

Notes: 5. Black Aluminium Heatsink; length 37mm, width 15mm, height 50mm.

**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
<b>All Dimensions in mm</b>			

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