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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Product Summary

V_{RRM} (V)	I_O (A)	V_F Max (V) @ +25°C	I_R Max (mA) @ +25°C
45	20 (Per leg) 40 (Total)	0.52	0.6

Description

The SBR40U45CT provides very low V_F and excellent reverse leakage stability at high temperatures.

Applications

It is ideal for use as a rectifier, freewheel diode or blocking diode in:

- DC-DC Converters
- AC-DC Adaptors

Features and Benefits

- Patented SBR® technology provides superior avalanche capability versus Schottky diodes, ensuring more rugged and reliable end applications.
- Reduced ultra-low forward voltage drop (V_F); Better efficiency and cooler operation.
- Reduced high-temperature reverse leakage; Increased reliability against thermal runaway failure in high-temperature operation.
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

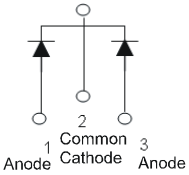
Mechanical Data

- Case: TO-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 208e3
- Weight: TO-220AB – 1.85 grams (Approximate)

TO-220AB

Top View

Bottom View



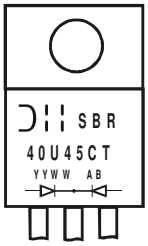
Package Pin Out Configuration

Ordering Information (Notes 4 & 5)

Part Number	Case	Packaging
SBR40U45CT	TO-220AB	50 pieces/tube
SBR40U45CT-G	TO-220AB	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/quality/lead_free.html 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: SBR40U45CT-G.
5. For packaging details, go to our website at http"//www.diodes.com/products/packages.html.

Marking Information



SBR40U45CT = Product Type Marking Code
AB = Foundry and Assembly Code
YYWW = Date Code Marking
YY = Last Two Digits of Year (ex: 15 = 2015)
WW = Week (01-52)

Maximum Ratings (Per Leg) (@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}	45	V
Average Rectified Output Current	(Per Leg) (Total)	I_O	20 40	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		I_{FSM}	280	A

Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 6)	$R_{\theta JC}$	2	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	°C

Electrical Characteristics (Per Leg) (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V_F	— —	0.47 —	0.52 0.49	V	I_F = 20A, T_J = +25°C I_F = 20A, T_J = +125°C
Leakage Current (Note 7)	I_R	— —	0.2 —	0.6 200	mA	V_R = 45V, T_J = +25°C V_R = 45V, T_J = +125°C

Notes: 6. Test with Aluminum heatsink 50 x 50 x 23mm.
7. Short duration pulse test used to minimize self-heating effect.

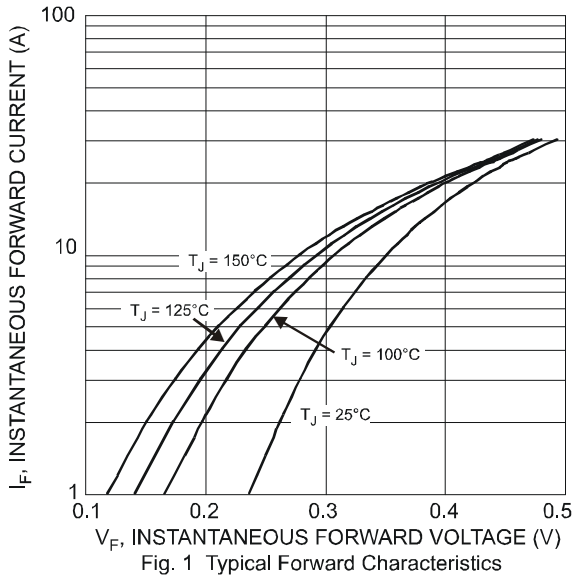


Fig. 1 Typical Forward Characteristics

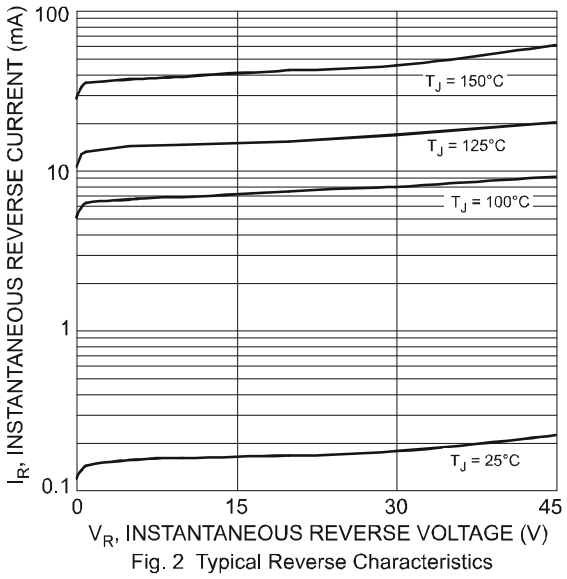


Fig. 2 Typical Reverse Characteristics

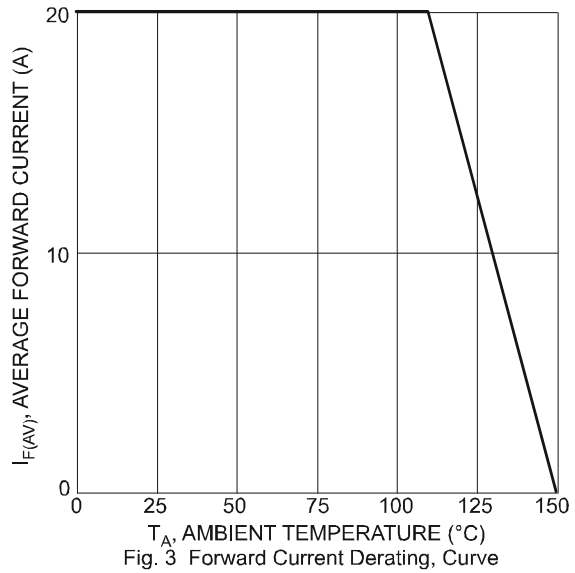
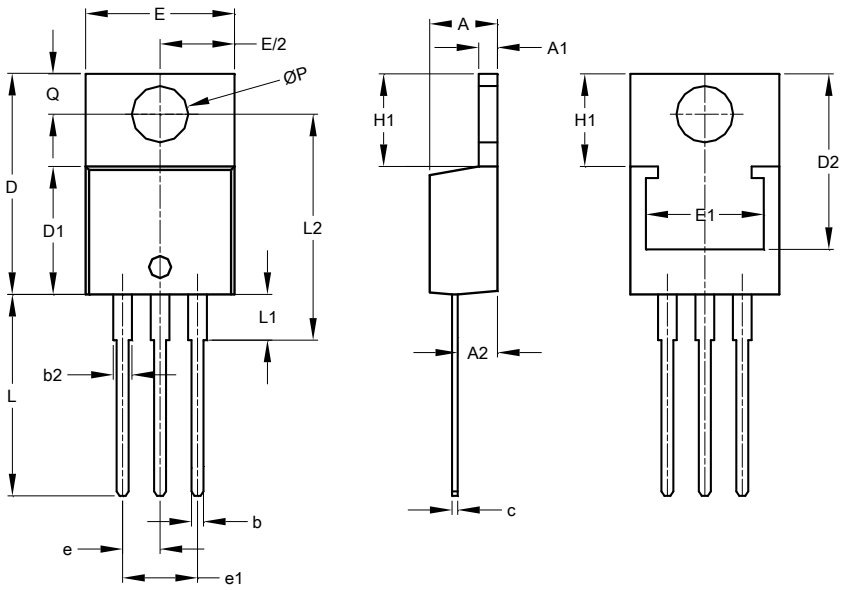


Fig. 3 Forward Current Derating, Curve

Package Outline Dimensions

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.

TO-220AB



TO-220AB			
Dim	**Min**	**Max**	**Typ**
A	3.56	4.82	—
A1	0.51	1.39	—
A2	2.04	2.92	—
b	0.39	1.01	0.81
b2	1.15	1.77	1.24
c	0.356	0.61	—
D	14.22	16.51	—
D1	8.39	9.01	—
D2	11.45	12.87	—
e	—	—	2.54
e1	—	—	5.08
E	9.66	10.66	—
E1	6.86	8.89	—
H1	5.85	6.85	—
L	12.70	14.73	—
L1	—	6.35	—
L2	15.80	16.20	16.00
P	3.54	4.08	—
Q	2.54	3.42	—
All Dimensions in mm			

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