SBR40150CT SBR40150CTFP

40A SBR[®] SUPER BARRIER RECTIFIER

Features

- Low Forward Voltage Drop
- 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 63
- Weight: TO-220AB 1.85 grams (approximate)
 ITO-220AB 1.65 grams (approximate)







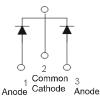
TO-220AB Bottom View



ITO-220AB Top View



ITO-220AB Bottom View



Package Pin Out Configuration

Ordering Information (Notes 4 and 5)

	Part Number	Case	Packaging
Pb)	SBR40150CT	TO-220AB	50 pieces/tube
Pb.,	SBR40150CT-G	TO-220AB	50 pieces/tube
Pb)	SBR40150CTFP	ITO-220AB	50 pieces/tube
Pb	SBR40150CTFP-G	ITO-220AB	50 pieces/tube
Pb)	SBR40150CTFP-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: SBR40150CT-G.
- 5. For packaging details, go to our website at http://www.diodes.com.

Marking Information



SBR40150CT = 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)



SBR40150CTFP = 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)



Maximum Ratings (Per Leg) @TA = 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_RRM		
Working Peak Reverse Voltage	V_RWM	150	V
DC Blocking Voltage	V_{RM}		
Average Rectified Output Current Per Device (Per Leg) (Total)	Io	20 40	А
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	280	А
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I _{RRM}	2	Α
Isolation Voltage (ITO-220AB Only) From terminal to heatsink t = 3 sec.	V _{AC}	2000	V

Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Package = TO-220AB Package = ITO-220AB	R _e Jc	2 4	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +175	ōС

Electrical Characteristics (Per Leg) @TA = 25°C unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Forward Voltage Drop	V _F	-	-	0.90	ı v	$I_F = 20A, T_J = 25^{\circ}C$
Torward Voltage Drop			0.71	0.77		I _F = 20A, T _J = 125 ^o C
Lackage Current (Note 6)	I _R	-	-	0.1	mA	V _R = 150V, T _J = 25 ^o C
Leakage Current (Note 6)				10		V _R = 150V, T _J = 125 ^o C

Notes: 6. Short duration pulse test used to minimize self-heating effect.

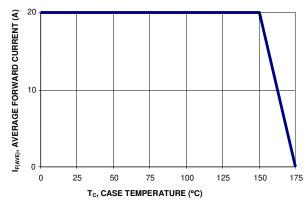


Figure 1: Current Derating Curve, Per Element

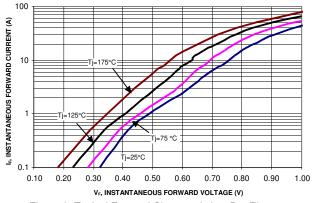


Figure 2: Typical Forward Characteristics, Per Element

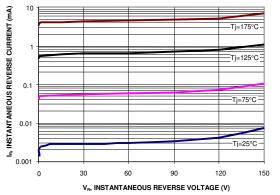
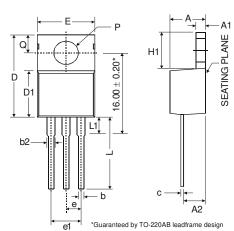


Figure 3: Typical Reverse Characteristics, Per Element

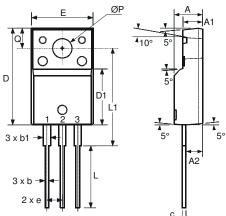
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Package Outline Dimensions



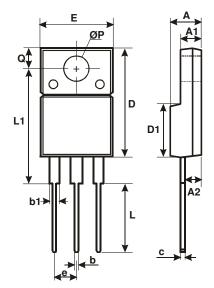
	TO-220AB				
Dim	Min	Тур	Max		
Α	3.56	1	4.82		
A 1	0.51	1	1.39		
A2	2.04	-	2.92		
b	0.39	0.81	1.01		
b2	1.15	1.24	1.77		
С	0.356	-	0.61		
D	14.22	-	16.51		
D1	8.39	1	9.01		
е	2.54				
e1		5.08			
Е	9.66	-	10.66		
H1	5.85	1	6.85		
L	12.70	-	14.73		
L1	-	1	6.35		
Р	3.54	-	4.08		
Q	2.54	1	3.42		
All Dimensions in mm					



	ITO-220AB (Note 7)				
Dim	Min	Тур	Max		
Α	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		
С	0.50	0.60	0.70		
D	15.67	15.87	16.07		
D1	8.99	9.19	9.39		
е	2.54				
E	9.91	10.11	10.31		
L	9.45	9.75	10.05		
L1	15.80	16.00	16.20		
Р	2.98	3.18	3.38		
Q	3.10	3.30	3.50		
All C	All Dimensions in mm				

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ITO-220AB						
Alternate						
	(Note 7)					
Dim	Dim Min Max					
Α	4.36	4.77				
A 1	2.54	3.1				
A2	2.54	2.8				
b	0.55	0.75				
b1	1.2	1.5				
С	0.38	0.68				
D	14.5	15.5				
D1	8.38	8.89				
Е	9.72	10.27				
е	2.41	2.67				
L	9.87	10.67				
L1	15.8	17				
ØΡ	3.08	3.39				
Q	2.6	3.0				
All Dimensions in mm						

Notes: 7. For product manufactured with Date Code 0733 (week 33, 2007) and newer, please refer to ITO-220AB dimensions. For product manufactured prior to Date Code 0733, please refer to ITO-220AB ALTERNATE dimensions.



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