SBL2045CTP

20A SCHOTTKY BARRIER RECTIFIER

Product Summary (@ T_A = +25°C, Per Leg)

V_{RRM} (V)	I_O (A)	$V_{F(MAX)}$ (mV)	$I_{R(MAX)}$ (mA)
45	10	600	0.5

Features

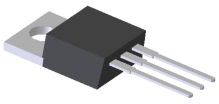
- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- UL Approval in Accordance with UL 1557, Reference No.E94661
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**

Applications

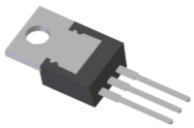
- SMPS
- Freewheeling Rectifiers
- DC-DC Converter

Mechanical Data

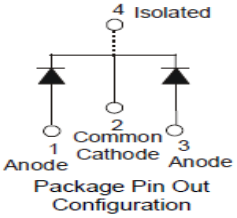
- Case: ITO-220S
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 e3
- Weight: 1.335 grams ITO-220S (Approximate)



Top View



Bottom View



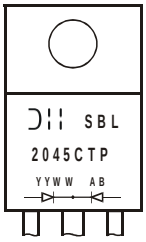
Package Pin Out Configuration

Ordering Information (Note 3)

Part Number	Case	Packaging
SBL2045CTP	ITO-220S	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. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information



SBL2045CTP = Product Type Marking Code
AB = Foundry and Assembly Code
YYWW = Date Code Marking
YY = Last Two Digits of Year (ex: 14 = 2014)
WW = Week (01 - 53)

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	10 20	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	130	A
Isolation Voltage From Terminal Heatsink t = 1 min.	V_{AC}	2,000	V

Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 5)	$R_{\theta JC}$	3	°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	— —	— 0.50	0.60 0.55	V	I_F = 10A, T_J = +25°C I_F = 10A, T_J = +125°C
Leakage Current (Note 4)	I_R	— —	— —	0.5 50	mA	V_R = 45V, T_J = +25°C V_R = 45V, T_J = +100°C

Notes: 4. Short duration pulse test used to minimize self-heating effect.
5. Device mounted on heatsink (Black Aluminum, 45mm*20mm*12mm).

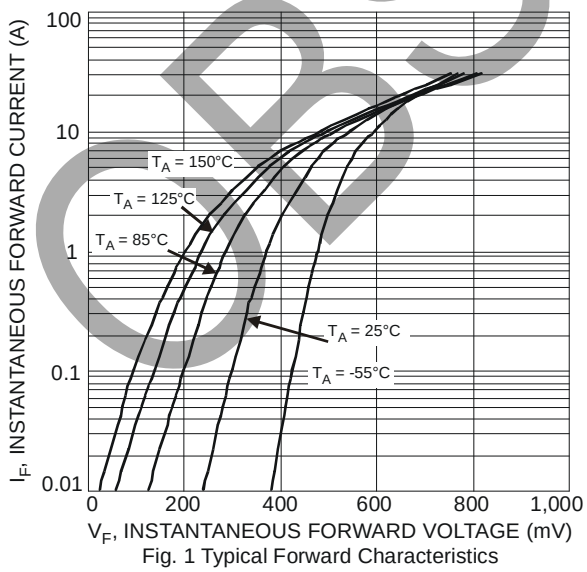


Fig. 1 Typical Forward Characteristics

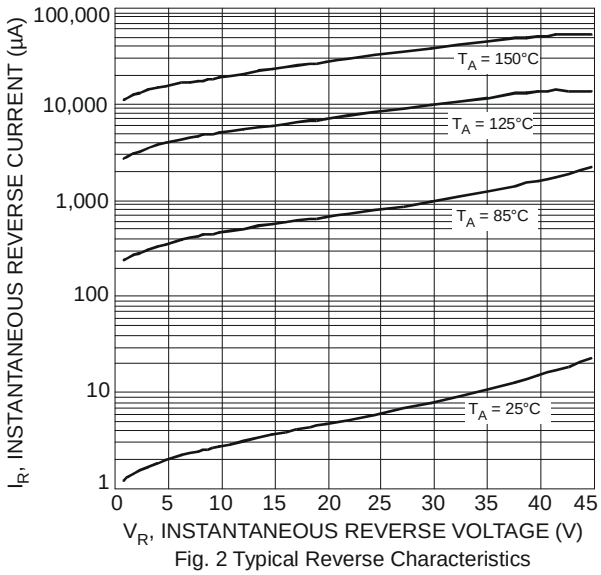


Fig. 2 Typical Reverse Characteristics

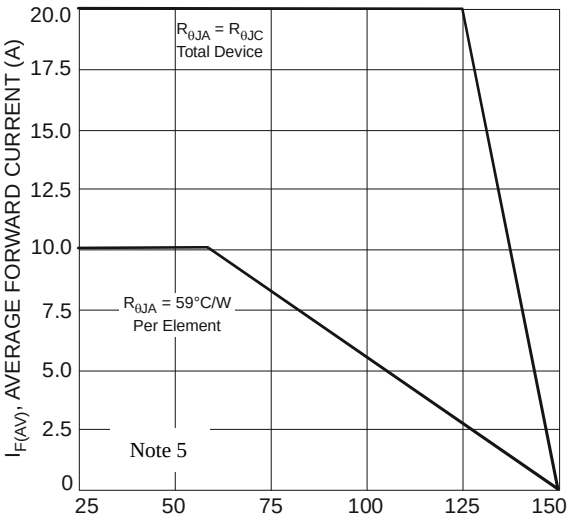
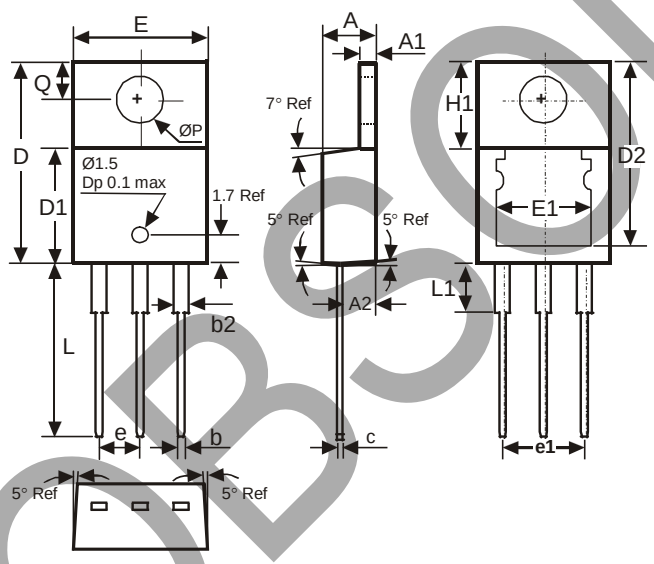


Fig. 3 Forward Current Derating Curve

Package Outline Dimensions

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



ITO-220S			
Dim	**Min**	**Max**	**Typ**
A	4.52	4.62	4.57
A1	1.17	1.39	–
A2	2.57	2.77	2.67
b	0.72	0.95	0.84
b2	1.15	1.34	1.26
c	0.356	0.61	–
D	14.22	16.51	15.00
D1	8.60	8.80	8.70
D2	13.68	14.08	–
e	2.49	2.59	2.54
e1	4.98	5.18	5.08
E	10.01	10.21	10.11
E1	6.86	8.89	–
H1	5.85	6.85	–
L	13.30	13.90	13.60
L1	–	4.00	–
P	3.54	4.08	–
Q	2.54	3.42	–
All Dimensions in mm			

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