


**Product Summary** (@ T<sub>A</sub> = +25°C, Per Leg)

V <sub>RRM</sub> (V)	I <sub>O</sub> (A)	V <sub>F(MAX)</sub> (mV)	I <sub>R(MAX)</sub> (mA)
45	10	600	0.5

**Applications**

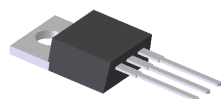
- SMPS
- Freewheeling Rectifiers
- DC-DC Converter

**Features**

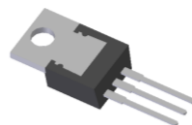
- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- UL Approval in Accordance with UL 1557, Reference No.E94661
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**

**Mechanical Data**

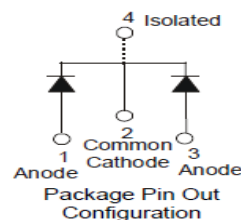
- Case: ITO-220S
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 (E)
- Weight: 1.335 grams ITO-220S (Approximate)



Top View



Bottom View


**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](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)** (@ $T_A = +25^\circ\text{C}$ , 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	$V_{RRM}$	45	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_{RM}$		
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

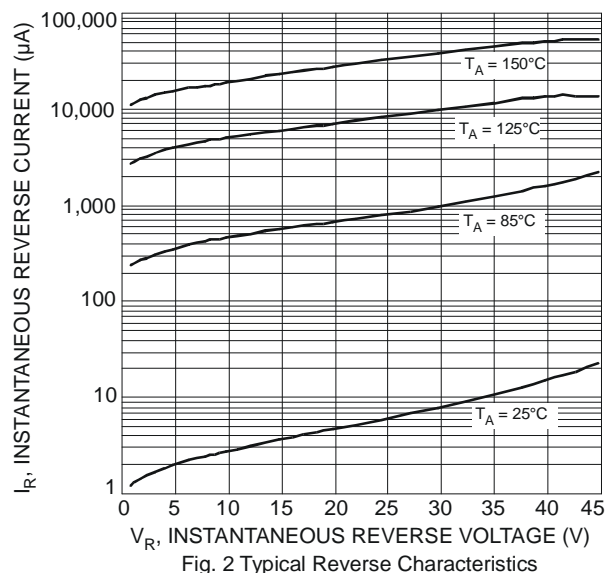
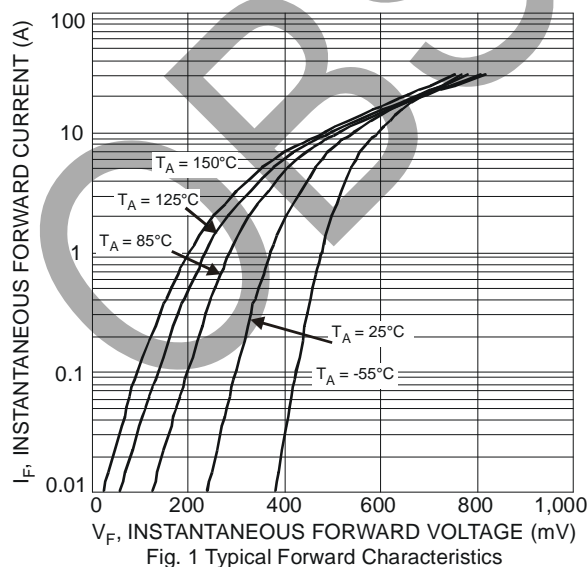
**Thermal Characteristics (Per Leg)**

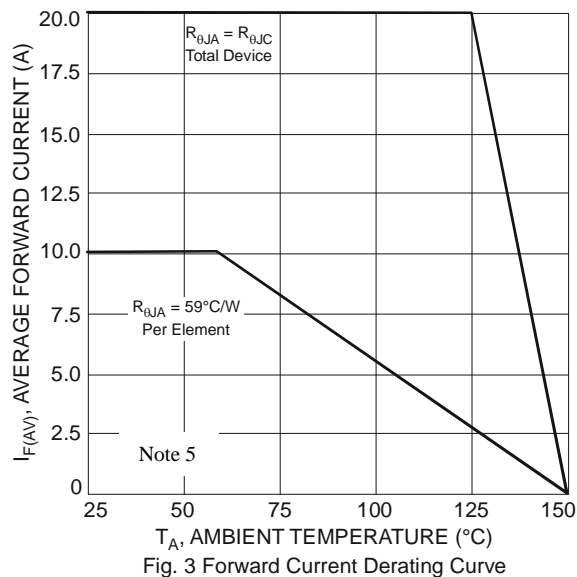
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 5)	$R_{\theta JC}$	3	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	$^\circ\text{C}$

**Electrical Characteristics (Per Leg)** (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	$V_F$	—	— 0.50	0.60 0.55	V	$I_F = 10\text{A}, T_J = +25^\circ\text{C}$ $I_F = 10\text{A}, T_J = +125^\circ\text{C}$
Leakage Current (Note 4)	$I_R$	—	—	0.5 50	mA	$V_R = 45\text{V}, T_J = +25^\circ\text{C}$ $V_R = 45\text{V}, T_J = +100^\circ\text{C}$

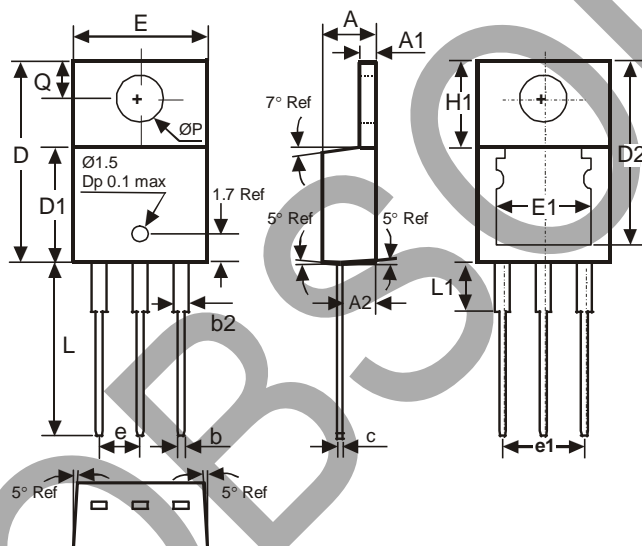
Notes: 4. Short duration pulse test used to minimize self-heating effect.  
 5. Device mounted on heatsink (Black Aluminum, 45mm\*20mm\*12mm).





## 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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