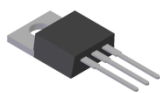


## Features

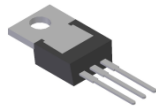
- Low-Forward Voltage Drop
- Excellent High-Temperature Stability
- Patented Super Barrier Rectifier Technology (SBR<sup>®</sup>)
- Soft, Fast Switching Capability
- TO220AB and ITO220AB
  - **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- Available in "Green" Package: ITO220AB
  - **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
  - **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](https://www.diodes.com/quality/product-definitions/) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

## Mechanical Data

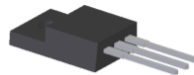
- Package: TO220AB, ITO220AB
- Package Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 (E3)
- Weight: TO220AB – 1.85 grams (Approximate)  
ITO220AB – 1.65 grams (Approximate)



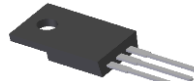
TO220AB  
Top View



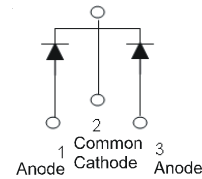
TO220AB  
Bottom View



ITO220AB  
Top View



ITO220AB  
Bottom View



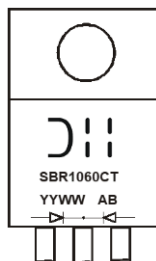
Package Pin-Out  
Configuration

## Ordering Information (Notes 4 and 5)

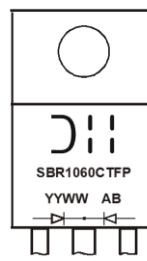
Part Number	Package	Packing	
		Qty.	Carrier
SBR1060CT	TO220AB	50 Pieces	Tube
SBR1060CTFP	ITO220AB	50 Pieces	Tube
SBR1060CTFP-G	ITO220AB	50 Pieces	Tube

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  2. See <https://www.diodes.com/quality/lead-free/> 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 packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.
  5. For Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR1060CTFP-G.

## Marking Information



SBR1060CT = Product Type Marking Code  
AB = Foundry and Assembly Code  
YYWW = Date Code Marking  
YY = Last Two Digits of Year (ex: 23 = 2023)  
WW = Week (01 to 53)



SBR1060CTFP = Product Type Marking Code  
AB = Foundry and Assembly Code  
YYWW = Date Code Marking  
YY = Last Two Digits of Year (ex: 23 = 2023)  
WW = Week (01 to 53)

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

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	60	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_{RM}$		
Average Rectified Output Current Per Device	(Per Leg) (Total) $I_O$	5 10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load	$I_{FSM}$	120	A
Peak Repetitive Reverse Surge Current (2 $\mu$ S-1kHz)	$I_{RRM}$	2	A
Isolation Voltage (ITO220AB Only) From Terminal to Heatsink $t = 3$ sec.	$V_{AC}$	2000	V

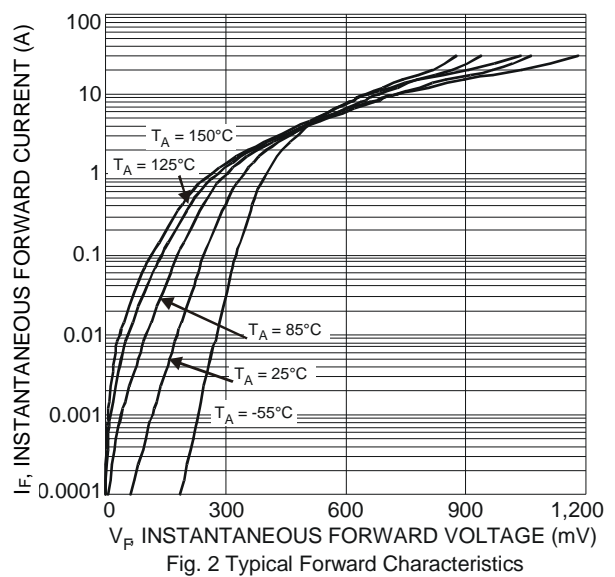
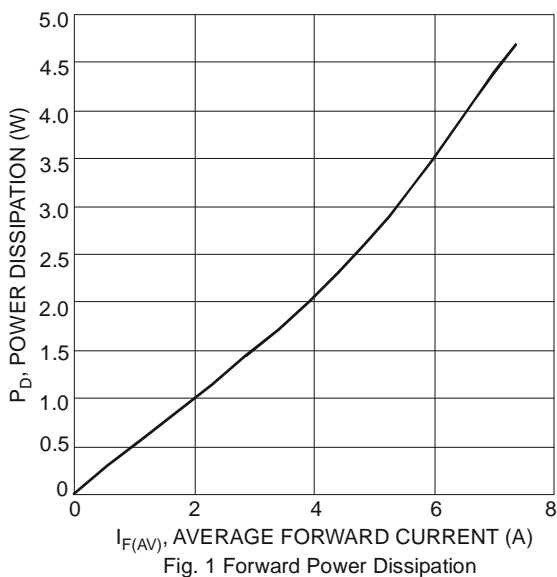
**Thermal Characteristics (Per Leg)**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Package = TO220AB Package = ITO220AB	$R_{\theta JC}$	2 4	$^\circ\text{C/W}$
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	$V_F$	—	—	0.68 0.57	V	$I_F = 5\text{A}, T_J = +25^\circ\text{C}$ $I_F = 5\text{A}, T_J = +125^\circ\text{C}$
Leakage Current (Note 6)	$I_R$	—	—	0.5 100	mA	$V_R = 60\text{V}, T_J = +25^\circ\text{C}$ $V_R = 60\text{V}, T_J = +125^\circ\text{C}$

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



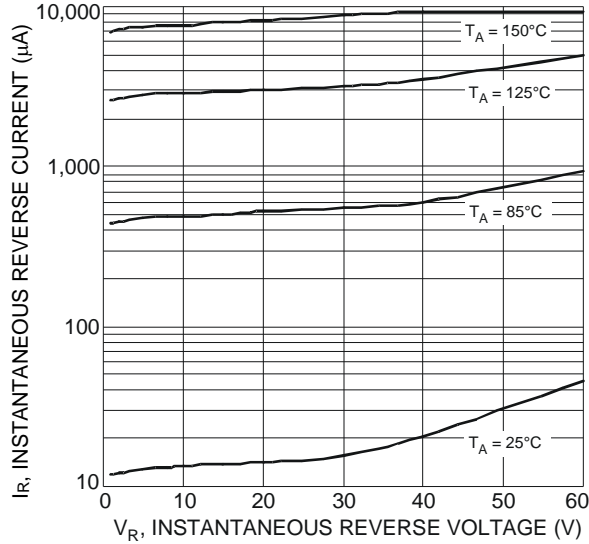


Fig. 3 Typical Reverse Characteristics

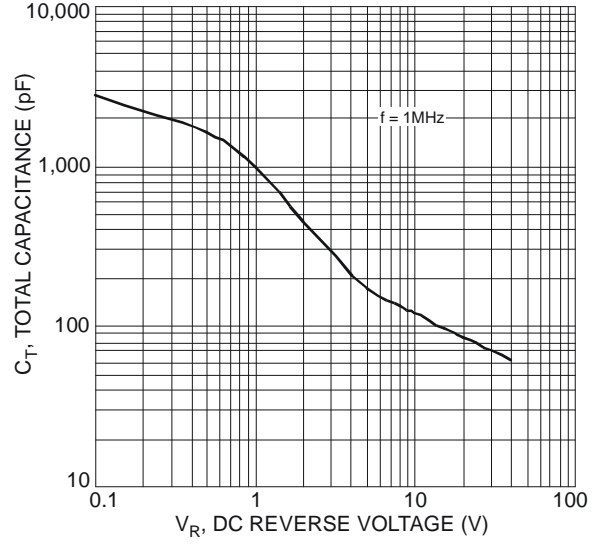


Fig. 4 Total Capacitance vs. Reverse Voltage

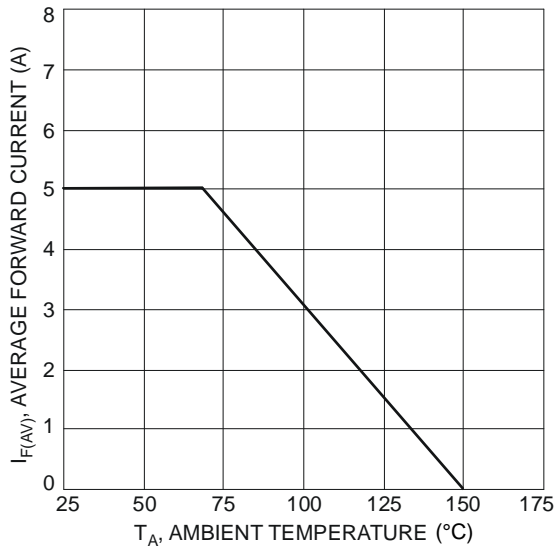


Fig. 5 Forward Current Derating Curve

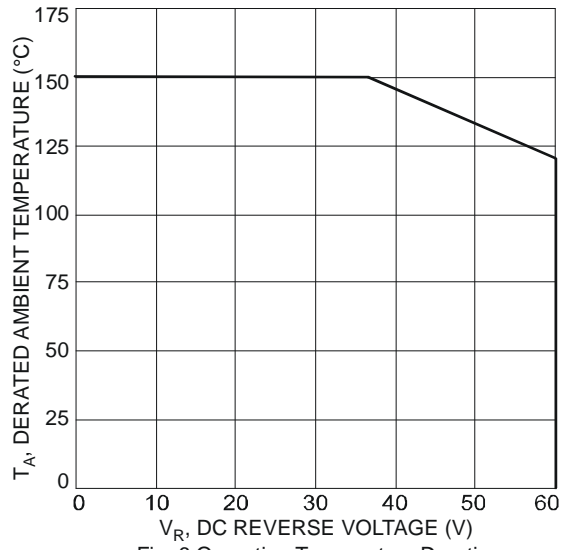


Fig. 6 Operating Temperature Derating

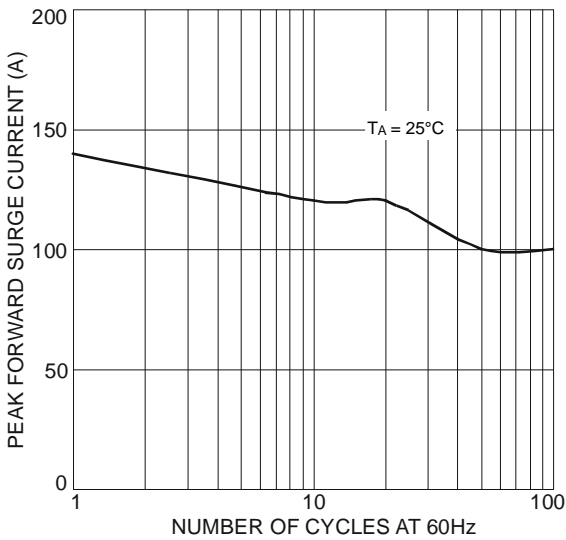
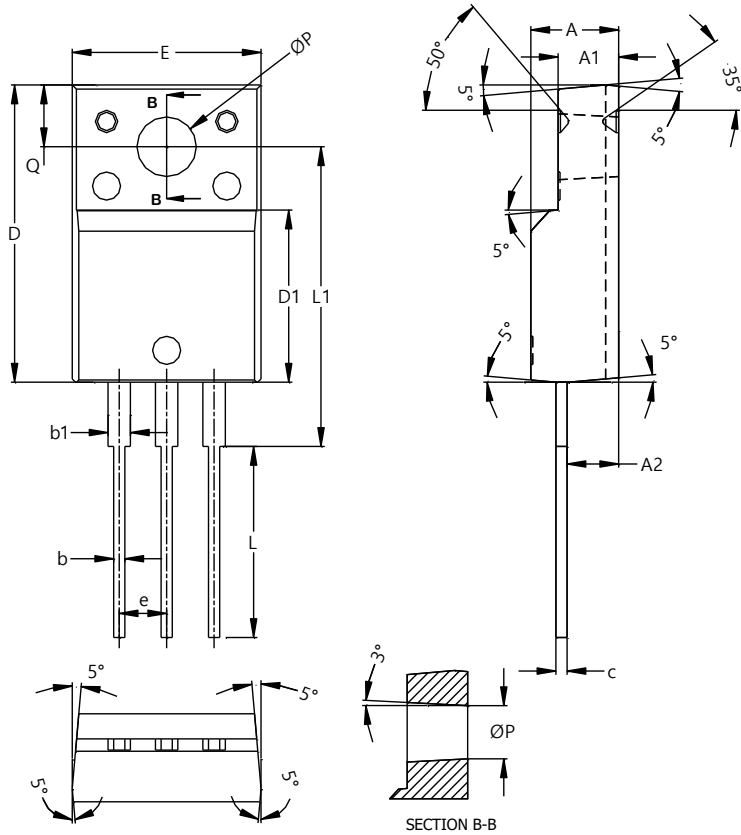


Fig. 7 Maximum Repetitive Surge Current

**Package Outline Dimensions**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**ITO220AB**

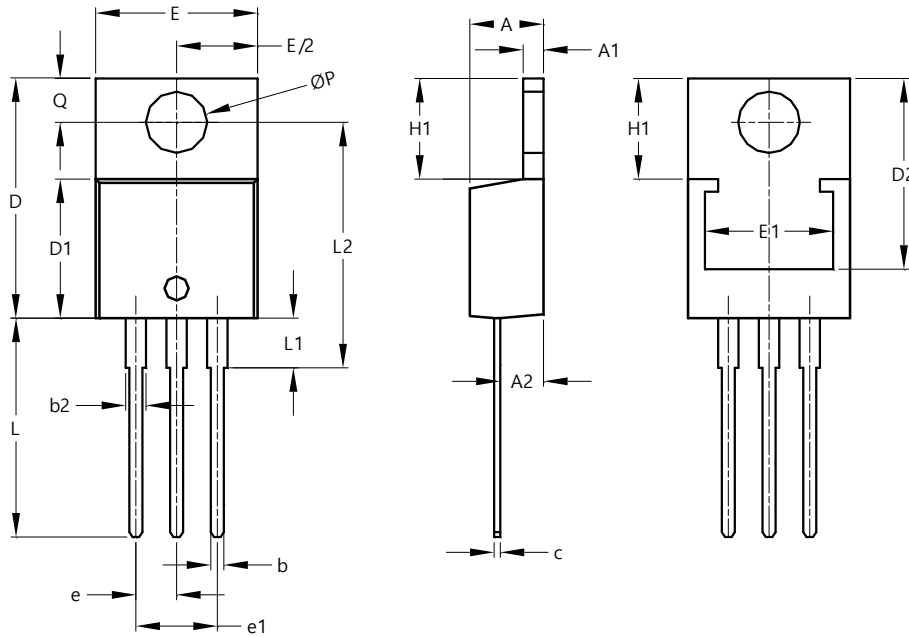


ITO220AB			
Dim	Min	Max	Typ
A	4.50	4.90	4.70
A1	3.04	3.44	3.24
A2	2.56	2.96	2.76
b	0.50	0.75	0.60
b1	1.10	1.35	1.20
c	0.50	0.70	0.60
D	15.67	16.07	15.87
D1	8.99	9.39	9.19
E	9.91	10.31	10.11
e	--	--	2.54
L	9.45	10.05	9.75
L1	15.80	16.20	16.00
P	2.98	3.38	3.18
Q	3.10	3.50	3.30
All Dimensions in mm			

**Package Outline Dimensions** (continued)

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**TO220AB**



TO220AB			
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	-	4.42	-
L2	15.80	17.51	16.00
P	3.54	4.08	-
Q	2.54	3.42	-
All Dimensions in mm			

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