

## Product Summary

V <sub>RRM</sub> (V)	I <sub>O</sub> (A)	V <sub>F(MAX)</sub> (V) @ +25°C	I <sub>R(MAX)</sub> (mA) @ +25°C
60	10(Per leg) 20(Total)	0.75	1.0

## Features and Benefits

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- **Lead Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

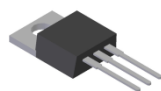
## Description and Applications

The SBL2060CT is designed to meet the stringent requirements of commercial applications such as:

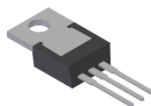
- Polarity Protection Diodes
- Re-Circulating Diodes
- Switching Diodes

## Mechanical Data

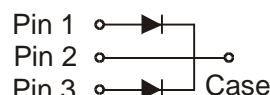
- Case: TO-220AB
- Case Material: Molded Plastic.  
UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin.  
Solderable per MIL-STD-202, Method 208 (E3)
- Polarity: As Marked on Body
- Marking: Type Number
- Weight: 2.24 grams (Approximate)



TO-220AB  
Top View



TO-220AB  
Bottom View



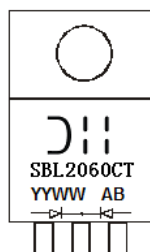
Package Pin Out  
Configuration

## Ordering Information (Note 4)

Part Number	Case	Packaging
SBL2060CT	TO-220AB	50/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. 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 <http://www.diodes.com/products/packages.html>.

## Marking Information



SBL2060CT = 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 - 53)

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

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

Characteristic	Symbol	SBL2060CT	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	60	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	42	V
Average Rectified Output Current (Note 5) @ $T_C = +95^\circ\text{C}$	$I_O$	20	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	250	A
Forward Voltage Drop @ $I_F = 10\text{A}, T_C = +25^\circ\text{C}$	$V_{FM}$	0.75	V
Peak Reverse Current @ $T_C = +25^\circ\text{C}$	$I_{RM}$	1.0	mA
at Rated DC Blocking Voltage @ $T_C = +100^\circ\text{C}$		50	
Typical Junction Capacitance (Note 6)	$C_j$	650	pF
Typical Thermal Resistance Junction to Case (Note 5)	$R_{\theta JC}$	2.8	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	$^\circ\text{C}$

Notes: 5. Thermal resistance junction to case mounted on heatsink.  
 6. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

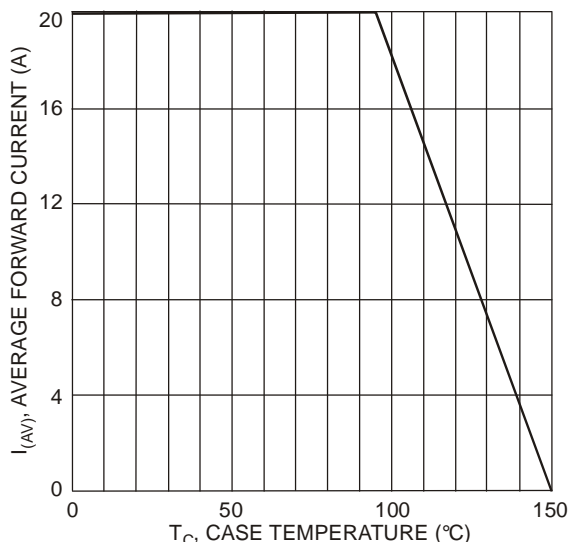


Fig. 1 Forward Current Derating Curve

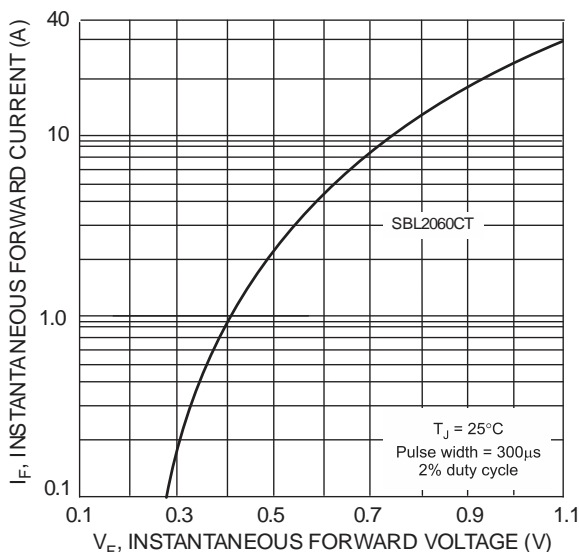


Fig. 2 Typical Forward Voltage

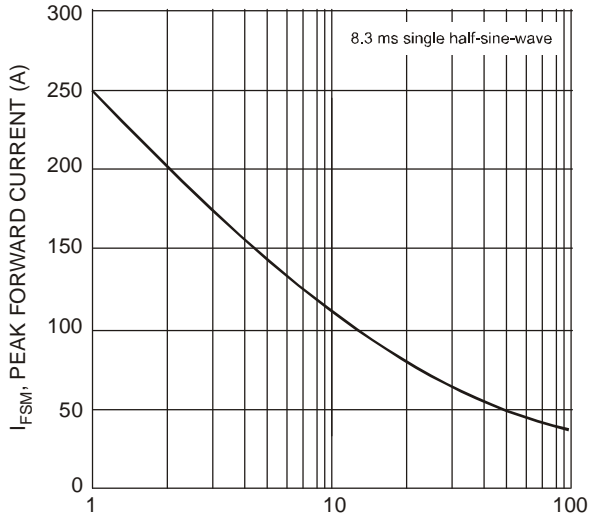


Fig. 3 Maximum Non-Repetitive Surge Current

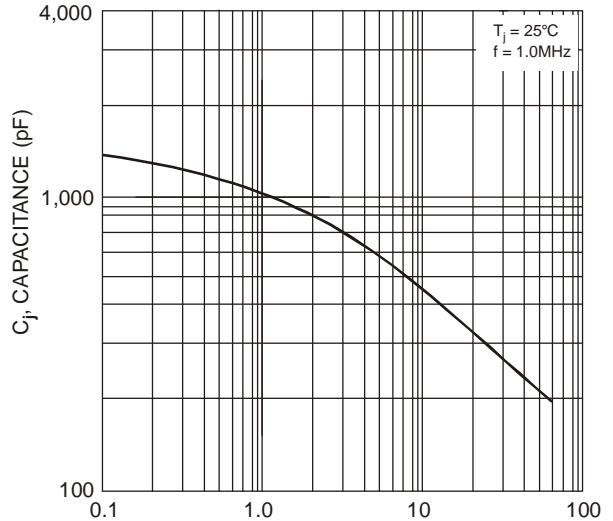


Fig. 4 Typical Junction Capacitance

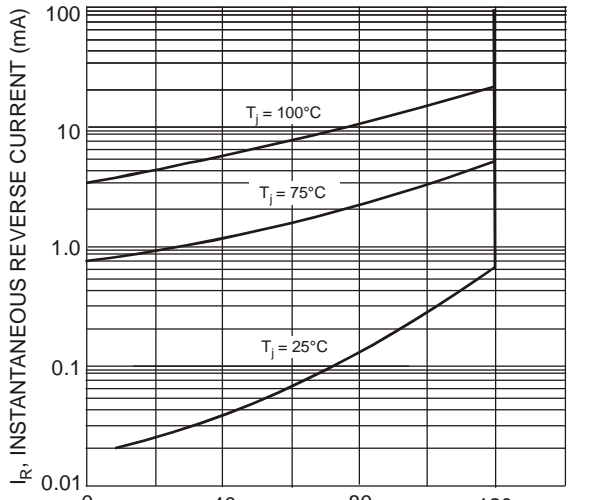
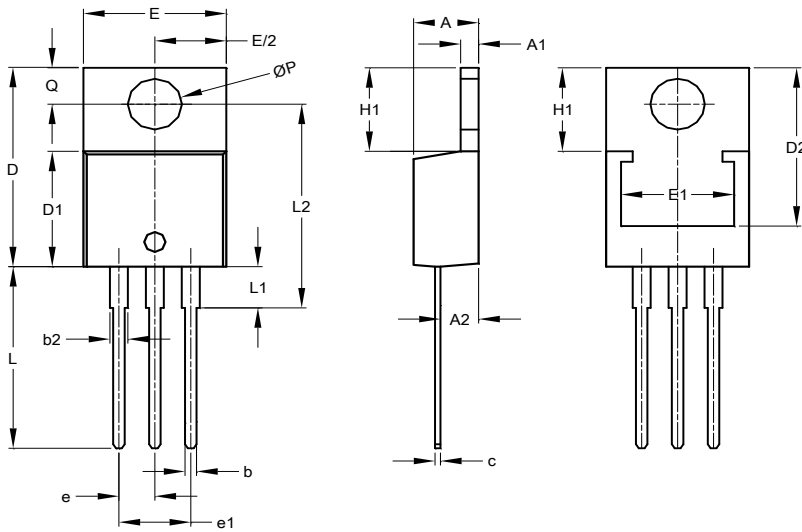


Fig. 5 Typical Reverse Characteristics

**Package Outline Dimensions**

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



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	-	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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