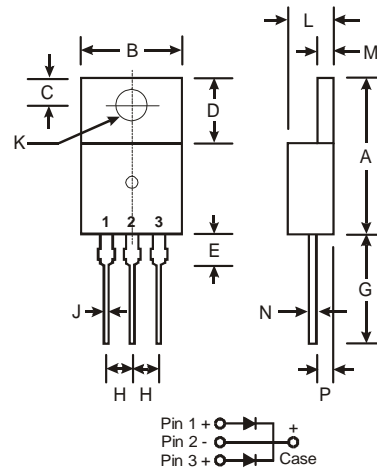


Features

- 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 (Note 3)**

Mechanical Data

- Case: TO-220AB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Polarity: As Marked on Body
- Terminals: Finish – Tin. Solderable per MIL-STD-202, Method 208 (63)
- Marking: Type Number
- Weight: 2.24 grams (approximate)



| TO-220AB | | |
|----------------------|-------|-------|
| Dim | Min | Max |
| A | 14.48 | 15.75 |
| B | 10.00 | 10.40 |
| C | 2.54 | 3.43 |
| D | 5.90 | 6.40 |
| E | 2.80 | 3.93 |
| G | 12.70 | 14.27 |
| H | 2.40 | 2.70 |
| J | 0.69 | 0.93 |
| K | 3.54 | 3.78 |
| L | 4.07 | 4.82 |
| M | 1.15 | 1.39 |
| N | 0.30 | 0.50 |
| P | 2.04 | 2.79 |
| All Dimensions in mm | | |

Maximum Ratings and Electrical Characteristics @T_A = 25°C unless otherwise specified

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

| Characteristic | Symbol | SBL 2030CT | SBL 2035CT | SBL 2040CT | SBL 2045CT | SBL 2050CT | SBL 2060CT | Unit |
|---|-----------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|------|
| Peak Repetitive Reverse Voltage | V _{RRM} | | | | | | | |
| Working Peak Reverse Voltage | V _{RWM} | 30 | 35 | 40 | 45 | 50 | 60 | V |
| DC Blocking Voltage | V _R | | | | | | | |
| RMS Reverse Voltage | V _{R(RMS)} | 21 | 24.5 | 28 | 31.5 | 35 | 42 | V |
| Average Rectified Output Current (Note 1) @ T _C = 95°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 = 10A, T _C = 25°C | V _{FM} | 0.55 | | | | 0.75 | | V |
| Peak Reverse Current @ T _C = 25°C | I _{RM} | 1.0 | | | | | | mA |
| at Rated DC Blocking Voltage @ T _C = 100°C | | 50 | | | | | | |
| Typical Junction Capacitance (Note 2) | C _j | 650 | | | | | | pF |
| Typical Thermal Resistance Junction to Case (Note 1) | R _{θJC} | 2.8 | | | | | | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +150 | | | | | | °C |

- Notes:
1. Thermal resistance junction to case mounted on heatsink.
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 3. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.

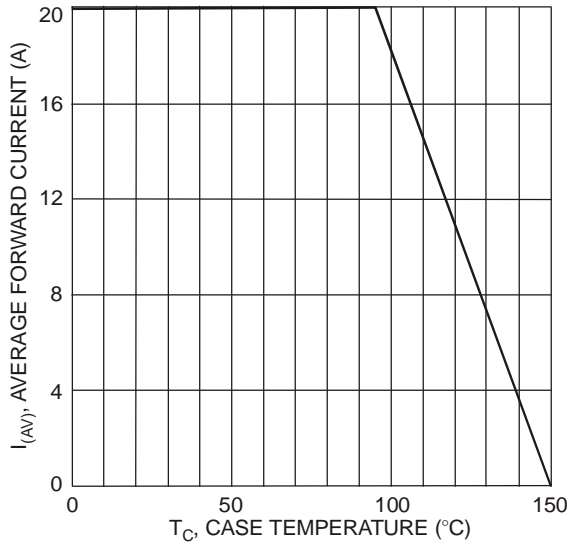


Fig. 1 Forward Current Derating Curve

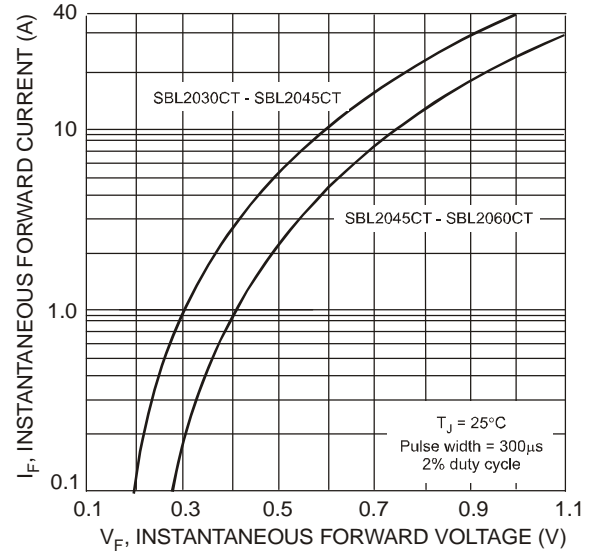


Fig. 2 Typical Forward Voltage

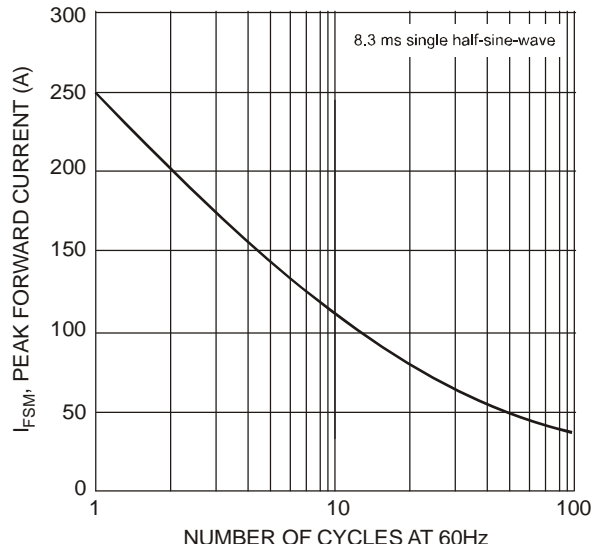


Fig. 3 Maximum Non-Repetitive Surge Current

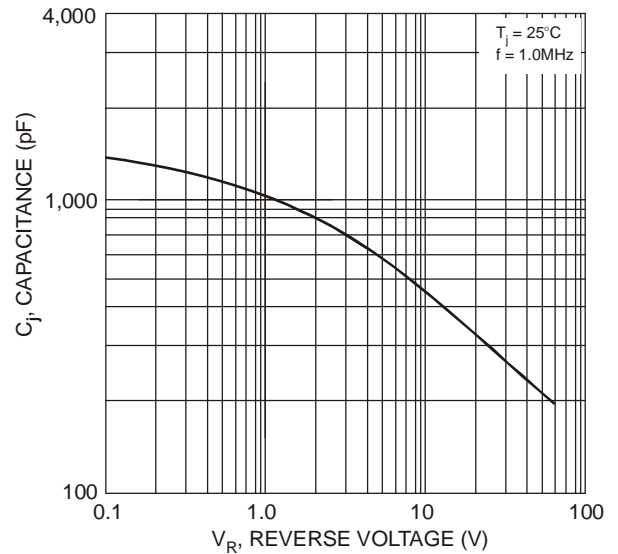


Fig. 4 Typical Junction Capacitance

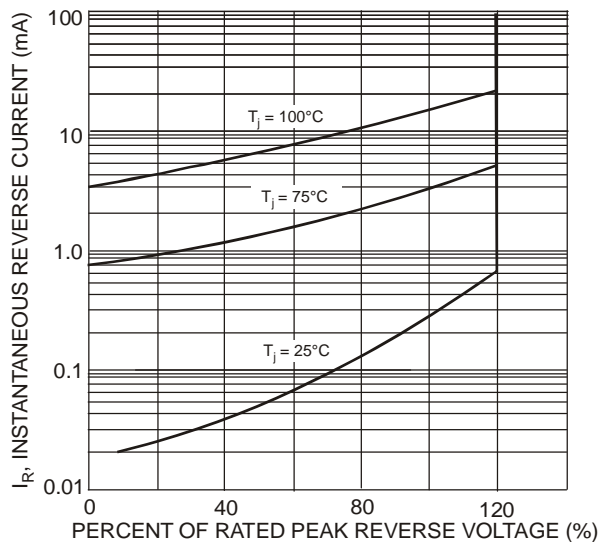


Fig. 5 Typical Reverse Characteristics

Ordering Information (Note 4)

| Device | Packaging | Shipping |
|------------|-----------|----------|
| SBL20xxCT* | TO-220AB | 50/Tube |

* xx = Device type, e.g. SBL2045CT

Notes: 4. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

IMPORTANT NOTICE

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Diodes Incorporated:](#)

[SBL2040CT](#) [SBL2045CT](#)