



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

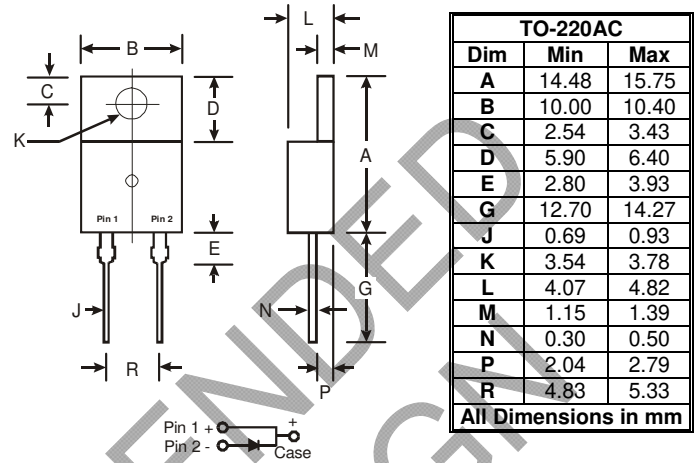


Features

- Schottky Barrier Chip
- Guard Ring for Transient Protection
- Low Power Loss, High Efficiency
- High Current Capability, Low V_F
- High Surge Capability
- 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-220AC
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Polarity: See Diagram
- Terminals: Finish – Bright Tin. Solderable per MIL-STD-202, Method 208
- Marking: Type Number
- Weight: 2.3 grams (approximate)



Maximum Ratings and Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | SBL 830 | SBL 835 | SBL 840 | SBL 845 | SBL 850 | SBL 860 | 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) @ $T_C = 95^{\circ}C$ | I_O | 8 | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 200 | | | | | | A |
| Forward Voltage @ $I_F = 8A, T_C = 25^{\circ}C$ | V_{FM} | 0.55 | | | 0.70 | | | V |
| Peak Reverse Current @ $T_C = 25^{\circ}C$ | I_{RM} | 0.5 | | | | | | mA |
| at Rated DC Blocking Voltage @ $T_C = 100^{\circ}C$ | | 50 | | | | | | |
| Typical Junction Capacitance (Note 2) | C_j | 700 | | | | | | pF |
| Typical Thermal Resistance Junction to Case (Note 1) | $R_{\theta JC}$ | 6.9 | | | | | | $^{\circ}C/W$ |
| Operating and Storage Temperature Range | T_j, T_{STG} | -65 to +150 | | | | | | $^{\circ}C$ |

- Notes:
1. Thermal resistance junction to case mounted on heatsink.
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 3. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see *EU Directive Annex Notes 5 and 7*.

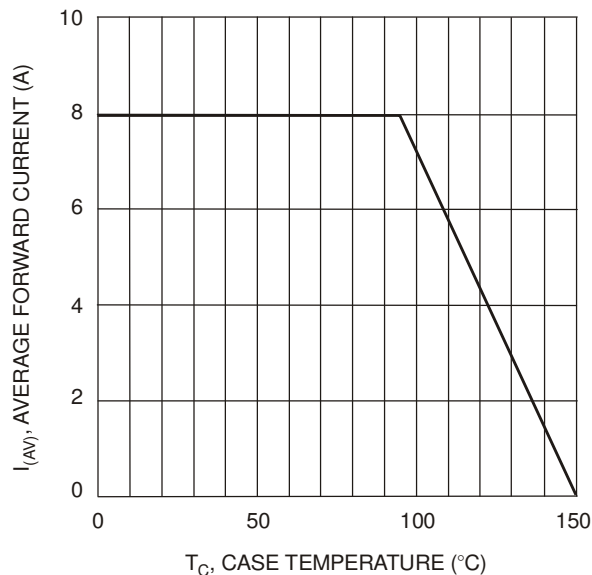


Fig. 1 Fwd Current Derating Curve

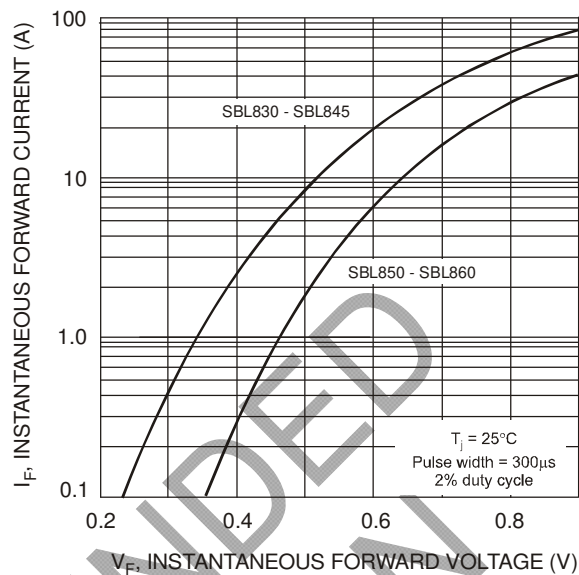


Fig. 2 Typical Forward Characteristics

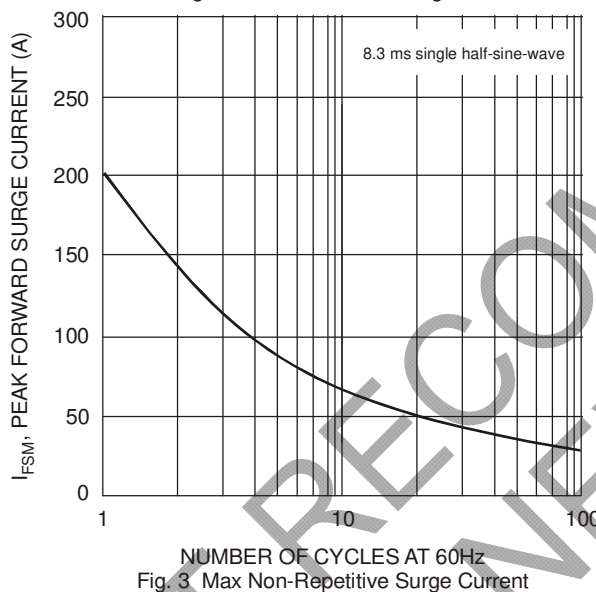


Fig. 3 Max Non-Repetitive Surge Current

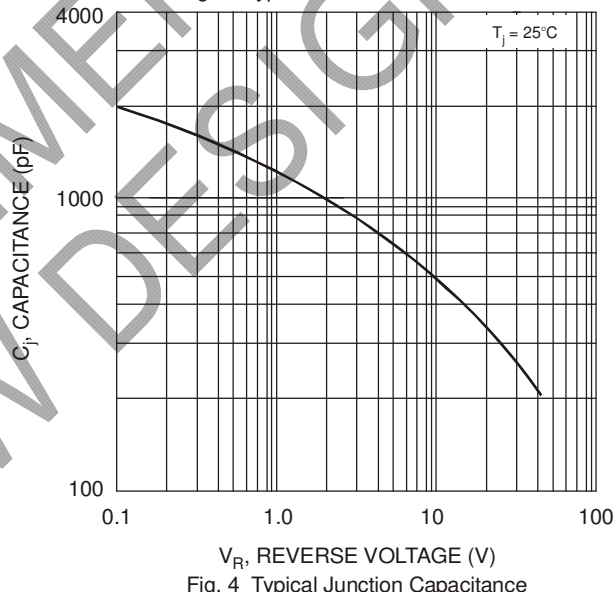


Fig. 4 Typical Junction Capacitance

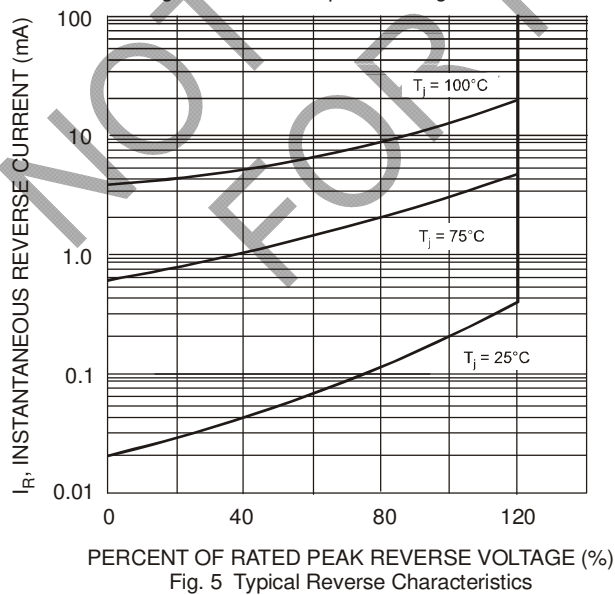


Fig. 5 Typical Reverse Characteristics

Ordering Information (Note 4)

| Device | Packaging | Shipping |
|---------|-----------|----------|
| SBL8xx* | TO-220AC | 50/Tube |

* xx = Device type, e.g. SBL845

Notes: 4. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>.

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