



THE DATASHEET OF SBL850

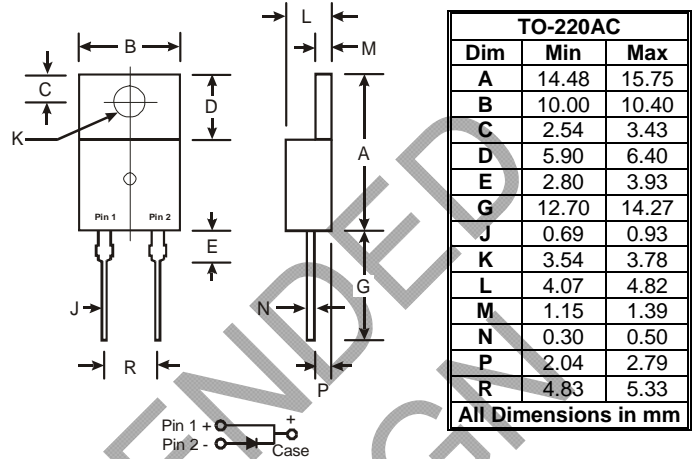


Features

- 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

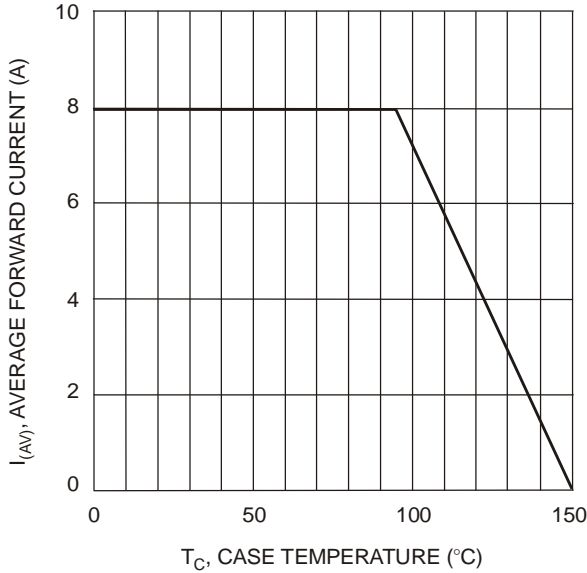
- Case: TO-220AC
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Polarity: See Diagram
- Terminals: Finish – Bright Tin. Solderable per MIL-STD-202, Method 208
- Marking: Type Number
- Weight: 2.3 grams (approximate)



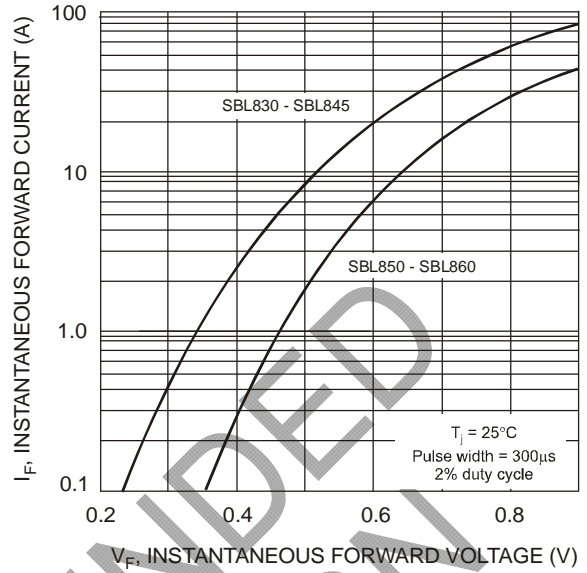
Maximum Ratings and Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	SBL 830	SBL 835	SBL 840	SBL 845	SBL 850	SBL 860	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	30	35	40	45	50	60	V
Working Peak Reverse Voltage	V_{RWM}							
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)	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	V_{FM}	0.55			0.70			V
Peak Reverse Current	I_{RM}	0.5						mA
at Rated DC Blocking Voltage		50						
Typical Junction Capacitance (Note 2)	C_j	700						pF
Typical Thermal Resistance Junction to Case (Note 1)	$R_{\theta JC}$	6.9						$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150						$^\circ\text{C}$

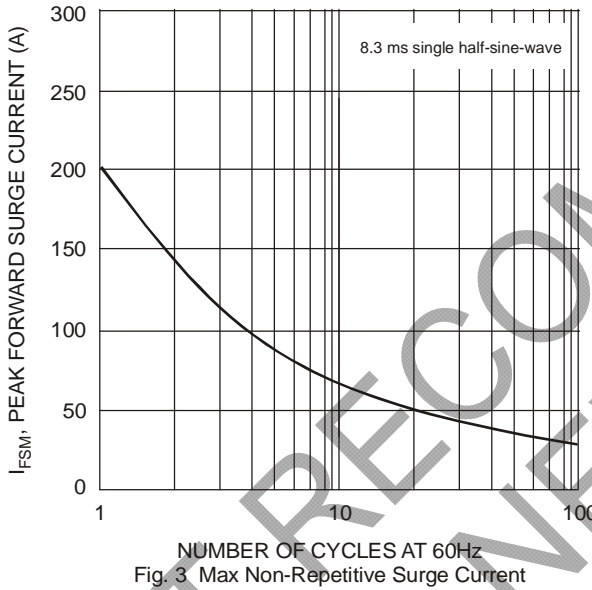
- Notes:
1. Thermal resistance junction to case mounted on heatsink.
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 3. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see *EU Directive Annex Notes 5 and 7*.



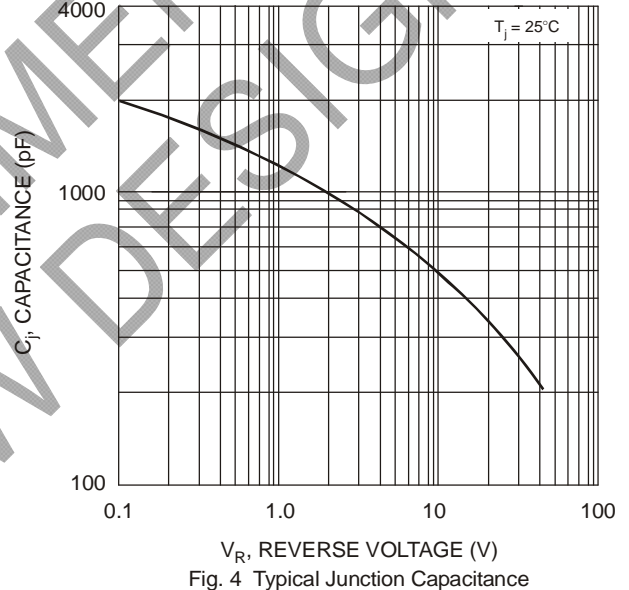
T_C , CASE TEMPERATURE (°C)
Fig. 1 Fwd Current Derating Curve



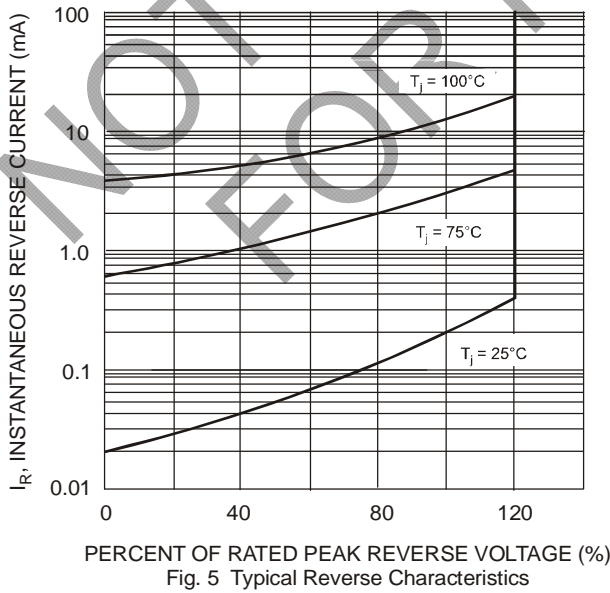
V_F , INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 2 Typical Forward Characteristics



NUMBER OF CYCLES AT 60Hz
Fig. 3 Max Non-Repetitive Surge Current



V_R , REVERSE VOLTAGE (V)
Fig. 4 Typical Junction Capacitance



PERCENT OF RATED PEAK REVERSE VOLTAGE (%)
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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