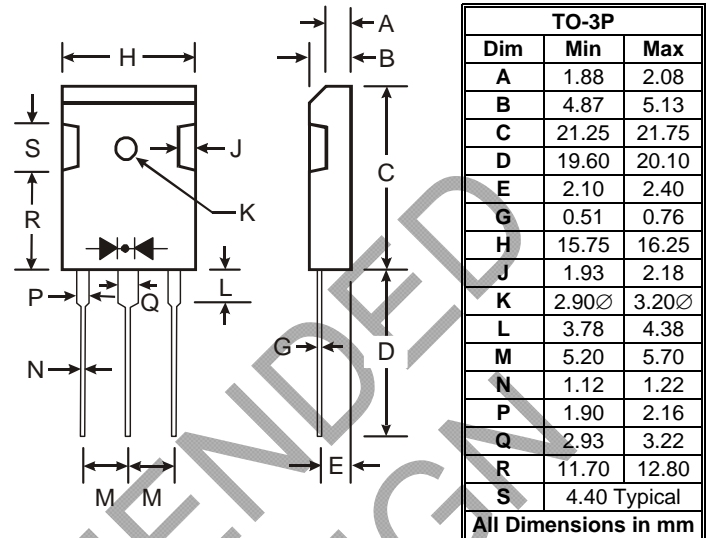


Features

- 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 Application
- **Lead Free Finish, RoHS Compliant (Note 3)**

Mechanical Data

- Case: TO-3P
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish - Tin. Solderable per MIL-STD-202, Method 208 **(E3)**
- Polarity: As Marked on Body
- Ordering Information: See Page 3
- Marking: Type Number
- Weight: 5.6 grams (approximate)



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

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

Characteristic	Symbol	SBL 3030PT	SBL 3035PT	SBL 3040PT	SBL 3045PT	SBL 3050PT	SBL 3060PT	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 @ $T_C = 95^{\circ}\text{C}$ (Note 1)	I_O	30						A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	275						A
Forward Voltage Drop @ $I_F = 15\text{A}$, $T_C = 25^{\circ}\text{C}$	V_{FM}	0.55				0.70		V
Peak Reverse Current @ $T_C = 25^{\circ}\text{C}$	I_{RM}	1.0						mA
at Rated DC Blocking Voltage @ $T_C = 100^{\circ}\text{C}$		75						
Typical Total Capacitance (Note 2)	C_T	1100						pF
Typical Thermal Resistance Junction to Case (Note 1)	$R_{\theta Jc}$	2.0						$^{\circ}\text{C/W}$
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.

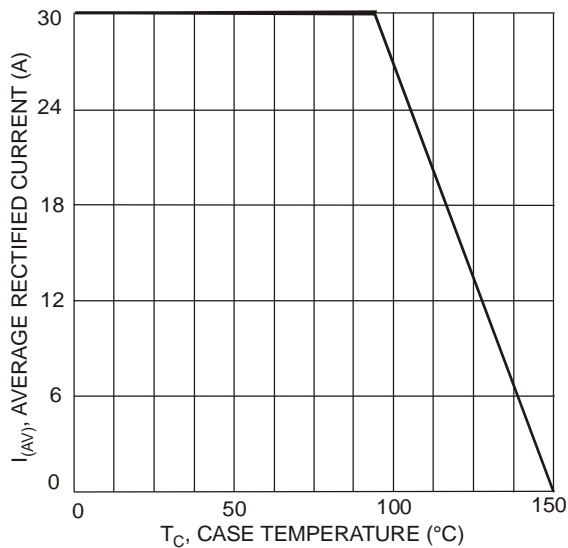


Fig. 1 Forward Derating Curve

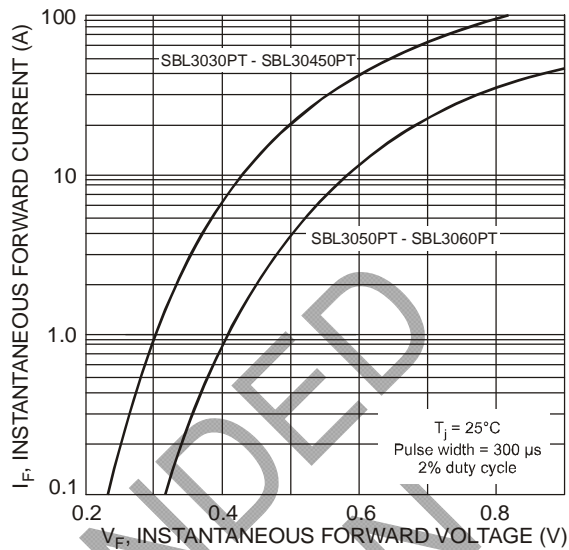


Fig. 2 Typical Fwd Characteristics per Element

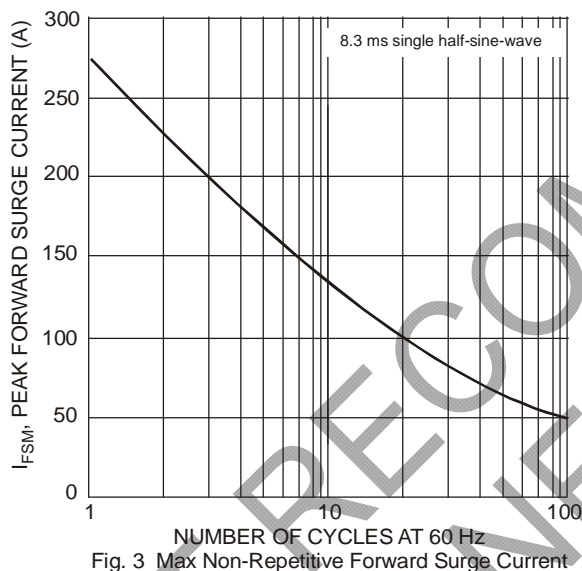


Fig. 3 Max Non-Repetitive Forward Surge Current

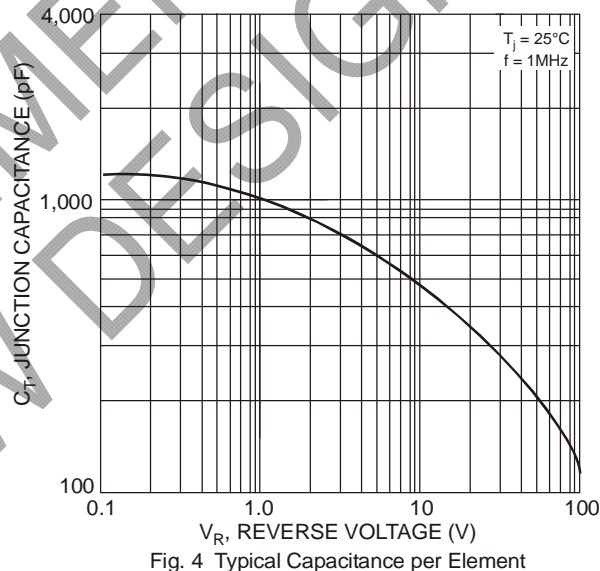


Fig. 4 Typical Capacitance per Element

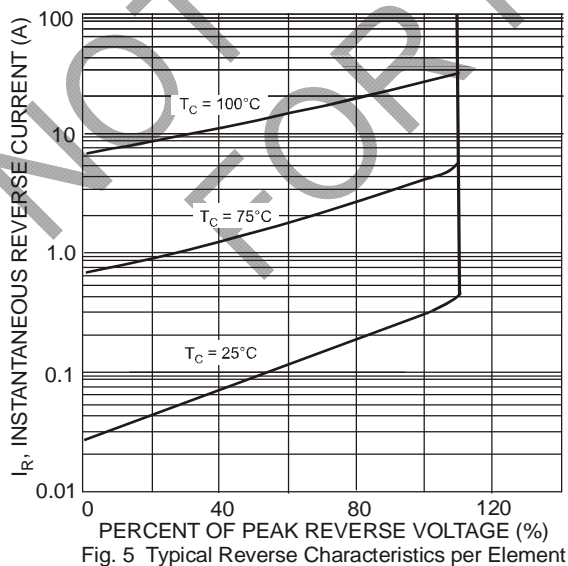


Fig. 5 Typical Reverse Characteristics per Element

Ordering Information (Note 4)

Device	Packaging	Shipping
SBL3030PT	TO-3P	30/Tube
SBL3035PT	TO-3P	30/Tube
SBL3040PT	TO-3P	30/Tube
SBL3045PT	TO-3P	30/Tube
SBL3050PT	TO-3P	30/Tube
SBL3060PT	TO-3P	30/Tube

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

IMPORTANT NOTICE

DIODES INCORPORATED MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARDS TO THIS DOCUMENT, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION).

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein. Diodes Incorporated does not assume any liability arising out of the application or use of this document or any product described herein; neither does Diodes Incorporated convey any license under its patent or trademark rights, nor the rights of others. Any Customer or user of this document or products described herein 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 Diodes Incorporated website, harmless against all damages.

Diodes Incorporated does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel. Should Customers purchase or use Diodes Incorporated products for any unintended or unauthorized application, Customers shall indemnify and hold Diodes Incorporated and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.

Products described herein may be covered by one or more United States, international or foreign patents pending. Product names and markings noted herein may also be covered by one or more United States, international or foreign trademarks.

LIFE SUPPORT

Diodes Incorporated products are specifically not authorized for use as critical components in life support devices or systems without the express written approval of the Chief Executive Officer of Diodes Incorporated. As used herein:

A. Life support devices or systems are devices or systems which:

1. are intended to implant into the body, or
2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

Customers represent that they have all necessary expertise in the safety and regulatory ramifications of their life support devices or systems, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of Diodes Incorporated products in such safety-critical, life support devices or systems, notwithstanding any devices- or systems-related information or support that may be provided by Diodes Incorporated. Further, Customers must fully indemnify Diodes Incorporated and its representatives against any damages arising out of the use of Diodes Incorporated products in such safety-critical, life support devices or systems.

Copyright © 2010, Diodes Incorporated

www.diodes.com