



**THE DATASHEET OF  
SBL2050PT**

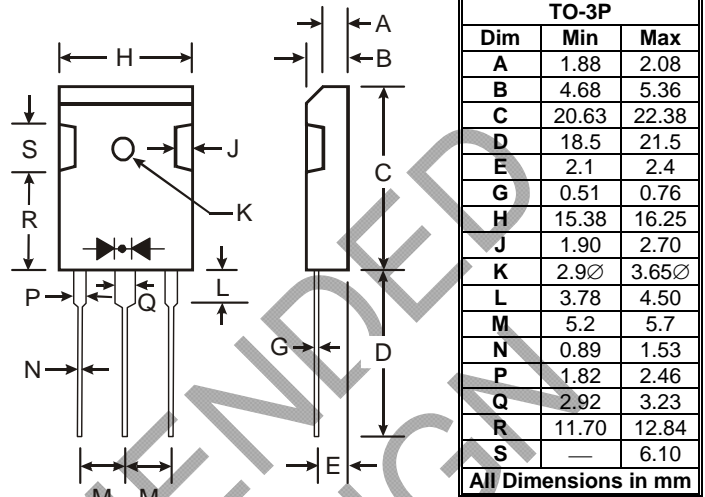


### Features

- 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 — Bright Tin. Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Ordering Information: See Last Page
- Marking: Type Number
- Weight: 5.6 grams (approximate)



### Maximum Ratings and Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	SBL 2030PT	SBL 2035PT	SBL 2040PT	SBL 2045PT	SBL 2050PT	SBL 2060PT	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>							
Working Peak Reverse Voltage	V <sub>RWM</sub>	30	35	40	45	50	60	V
DC Blocking Voltage	V <sub>R</sub>							
RMS Reverse Voltage	V <sub>R(RMS)</sub>	21	24.5	28	31.5	35	42	V
Average Rectified Output Current (Note 1)	I <sub>O</sub>	20						A
@ T <sub>C</sub> = 100°C								
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	250						A
Forward Voltage Drop	V <sub>FM</sub>	0.55			0.75			V
@ I <sub>F</sub> = 10A, T <sub>C</sub> = 25°C								
Peak Reverse Current	I <sub>RM</sub>	1.0						mA
@ T <sub>C</sub> = 25°C								
at Rated DC Blocking Voltage		50						
@ T <sub>C</sub> = 100°C								
Typical Total Capacitance (Note 2)	C <sub>T</sub>	1100						pF
Typical Thermal Resistance Junction to Case (Note 1)	R <sub>θJC</sub>	2.5						°C/W
Operating and Storage Temperature Range	T <sub>i</sub> , T <sub>STG</sub>	-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. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see *EU Directive Annex Notes 5 and 7*.

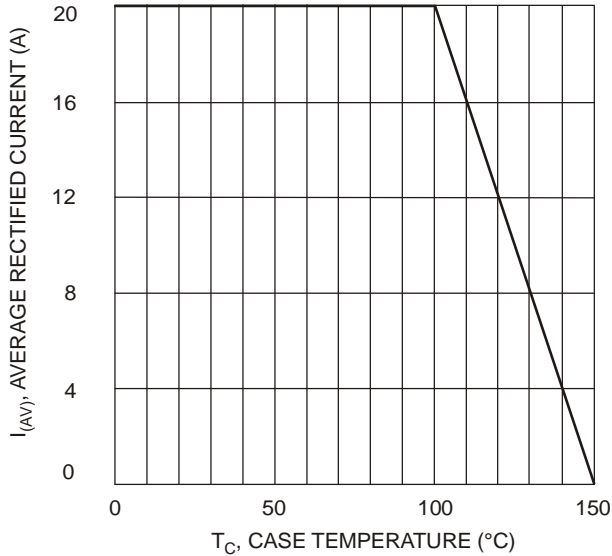


Fig. 1 Forward Current Derating Curve

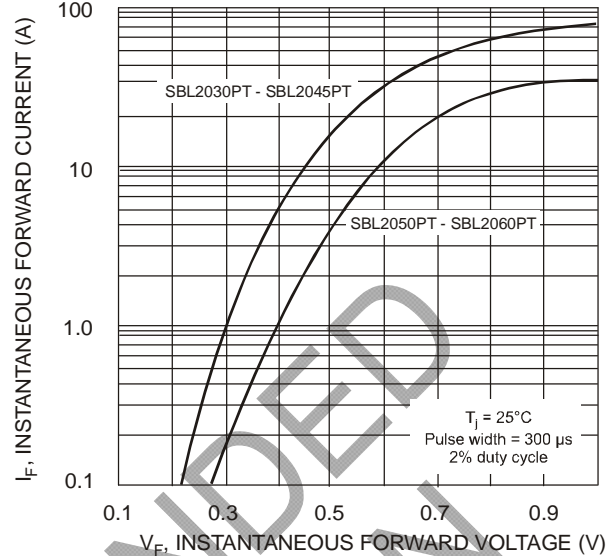


Fig. 2 Typical Forward Characteristics per Element

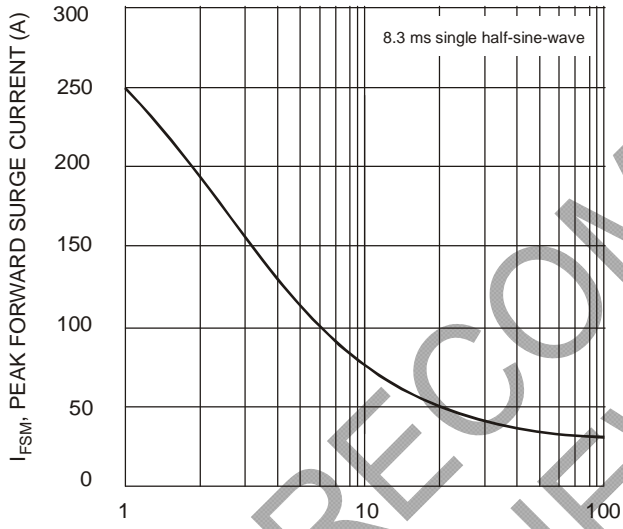


Fig. 3 Max Non-Repetitive Forward Surge Current

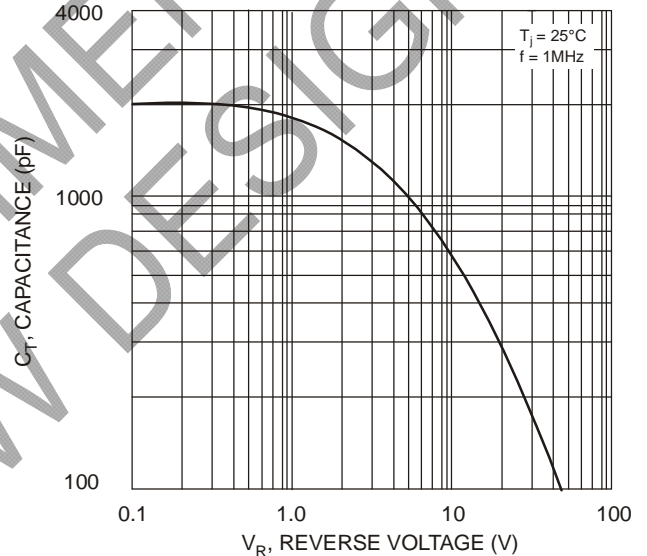


Fig. 4 Typical Total Capacitance per Element

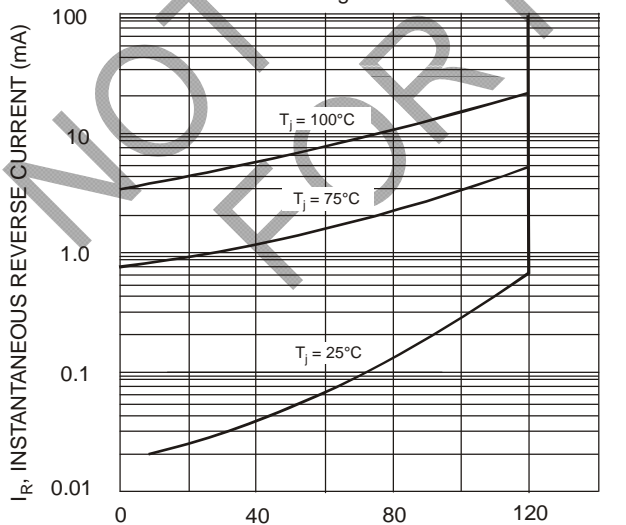


Fig. 5 Typical Reverse Characteristics per Element

**Ordering Information** (Note 4)

Device	Packaging	Shipping
SBL2030PT	TO-3P	30/Tube
SBL2035PT	TO-3P	30/Tube
SBL2040PT	TO-3P	30/Tube
SBL2045PT	TO-3P	30/Tube
SBL2050PT	TO-3P	30/Tube
SBL2060PT	TO-3P	30/Tube

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

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