# SBL3030PT - SBL3060PT

## 30A SCHOTTKY BARRIER RECTIFIER

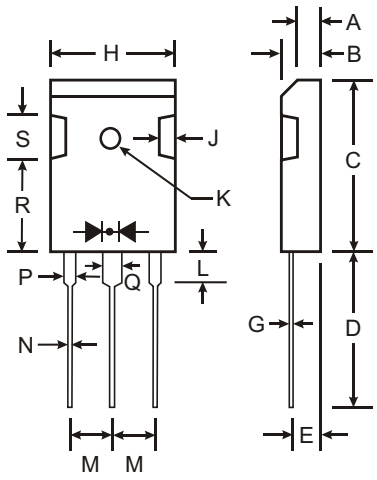
**SPICE MODELS: SBL3030PT SBL3035PT SBL3040PT SBL3045PT SBL3050PT SBL3060PT**

## 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

## Mechanical Data

- Case: Molded Plastic
- Plastic Material : UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Matte Tin Finish Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Marking: Type Number
- Weight: 5.6 grams (approx.)




| TO-3P | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 1.88 | 2.08 |
| **B** | 4.87 | 5.13 |
| **C** | 21.25 | 21.75 |
| **D** | 19.60 | 20.10 |
| **E** | 2.10 | 2.40 |
| **G** | 0.51 | 0.76 |
| **H** | 15.75 | 16.25 |
| **J** | 1.93 | 2.18 |
| **K** | 2.90∅ | 3.20∅ |
| **L** | 3.78 | 4.38 |
| **M** | 5.20 | 5.70 |
| **N** | 1.12 | 1.22 |
| **P** | 1.90 | 2.16 |
| **Q** | 2.93 | 3.22 |
| **R** | 11.70 | 12.80 |
| **S** | 4.40 Typical | |
| **All Dimensions in mm** | | |

## 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<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 30 | 35 | 40 | 45 | 50 | 60 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 21 | 24.5 | 28 | 31.5 | 35 | 42 | V |
| Average Rectified Output Current @ $T_C$ = 95°C (Note 1) | $I_O$ | 30 | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 275 | | | | | | A |
| Forward Voltage Drop @ $I_F$ = 15A, $T_C$ = 25°C | $V_{FM}$ | 0.55 | | | | 0.70 | | V |
| Peak Reverse Current @ $T_C$ = 25°C<br>at Rated DC Blocking Voltage @ $T_C$ = 100°C | $I_{RM}$ | 1.0<br>75 | | | | | | mA |
| Typical Total Capacitance (Note 2) | $C_T$ | 1100 | | | | | | pF |
| Typical Thermal Resistance Junction to Case (Note 1) | $R_{\theta Jc}$ | 2.0 | | | | | | °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.

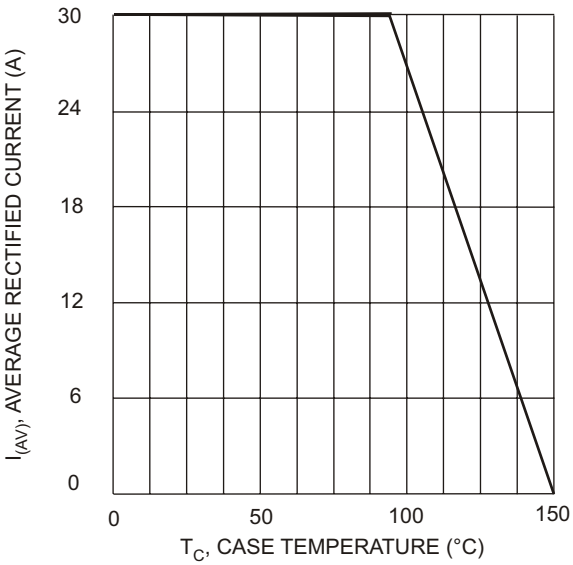


Fig. 1 Forward Derating Curve

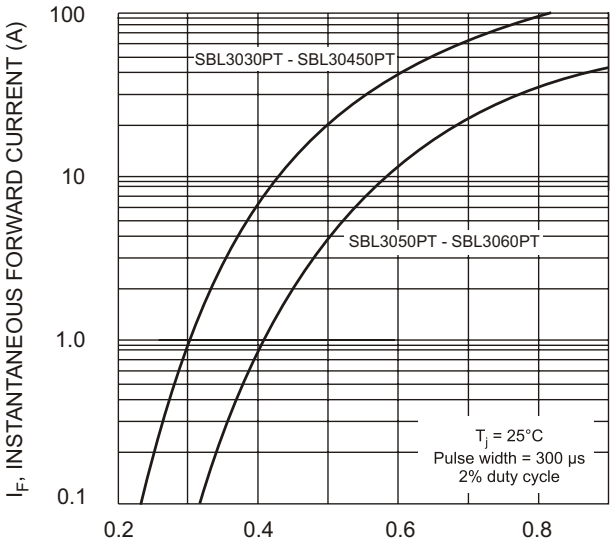


Fig. 2 Typical Fwd Characteristics per Element

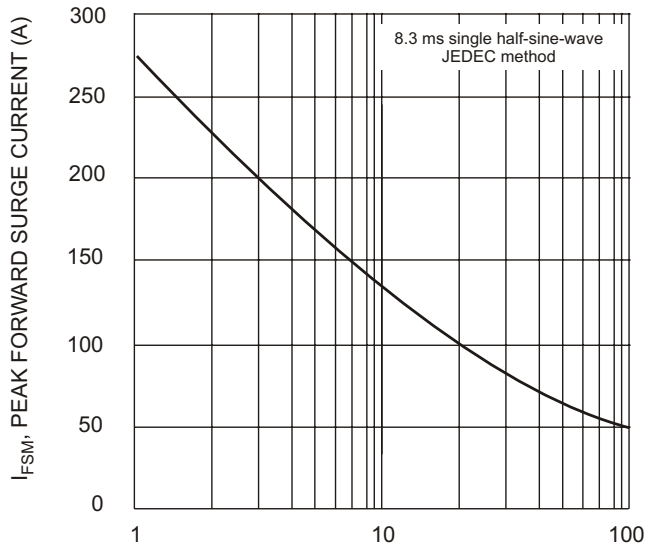


Fig. 3 Max Non-Repetitive Forward Surge Current

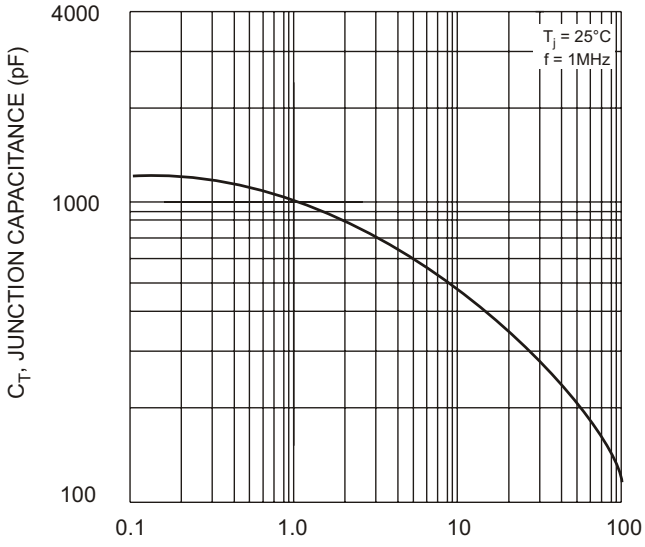


Fig. 4 Typical Capacitance per Element

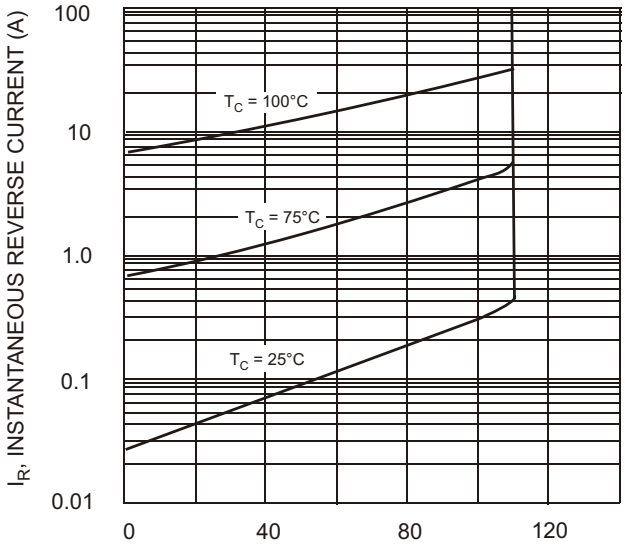


Fig. 5 Typical Reverse Characteristics per Element