Sooner Power Semiconductor CO., LTD

# SBL6040PT thru 6060PT

| SCHOTTKY BARRIER RECTIFIERS | REVERSE VOLTAGE - 40 to 60 Volts<br>FORWARD CURRENT - 60 Ampere |
|---|---|

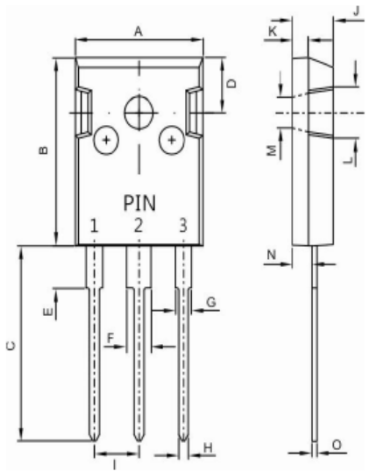
## FEATURES

- Metal of silicon rectifier, majority carrier conducton
- Guard ring for transient protection
- Low power loss, high efficiency
- High current capability, low VF
- High surge capacity
- Plastic package has UL flammability classification 94V-0
- For use in low voltage, high frequence inverters, free wheeling, and polarity protection applications

## MECHANICAL DATA

- Case : TO-3P molded plastic
- Polarity : As marked on the body
- Weight : 0.2 ounces, 5.6 grams
- Mounting position : Any

TO-247AB




| Dim. | Min. | Max. |
|---|---|---|
| A | 15.45 | 16.25 |
| B | 20.30 | 21.75 |
| C | 20.10 | 19.60 |
| D | 6.50 Typ. | |
| E | 3.70 | 4.38 |
| F | 3.00 | 3.40 |
| G | 1.80 | 2.20 |
| H | 1.00 | 1.40 |
| I | 5.45 Typ. | |
| J | 4.85 | 5.15 |
| K | 1.90 | 2.10 |
| L | 3.50 Typ. | |
| M | 3.20 Typ. | |
| N | 2.20 | 2.60 |
| O | 0.51 | 0.76 |
| All Dimensions in millimeter | | |

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%

| CHARACTERISTICS | SYMBOL | SBL 6040PT | SBL 6060PT | UNIT |
|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 40 | 60 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 28 | 42 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 40 | 60 | V |
| Maximum Average Forward Rectified Current @$T_C$=100℃ | $I_{(AV)}$ | 60 | | A |
| Peak Forward Surge current 8.3ms single half sine-wave super imposed on rated load (JEDEC METHOD) | $I_{FSM}$ | 450 | | A |
| Maximum forward Voltage at 30A DC @$T_J$=25℃ | $V_F$ | 0.55 | 0.70 | V |
| Maximum DC Reverse Current @$T_J$=25℃<br>at Rated DC Blocking Voltage @$T_J$=100℃ | $I_R$ | 10<br>200 | | mA |
| Typical Junction Capacitance per element (Note 1) | $C_J$ | 1000 | 550 | pF |
| Typical Thermal Resistance (Note 2) | $R_{\theta JC}$ | 0.5 | | ℃/W |
| Operating Temperature Range | $T_J$ | -55 to +125 | | ℃ |
| Storage Temperature Range | $T_{STG}$ | -55 to +150 | | ℃ |

NOTES : 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
2. Thermal Resistance Junction to Case.

REV.0, 01.-Oct-2013

## RATING AND CHARACTERISTIC CURVES
## SBL6040PT thru SBL6060PT

FIG. 1 - FORWARD CURRENT DERATING CURVE

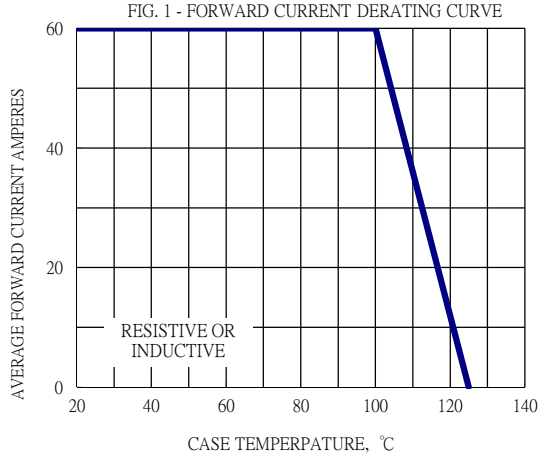



FIG.2 - MIXMUM NON-REPETITIVE SURGE CURRENT

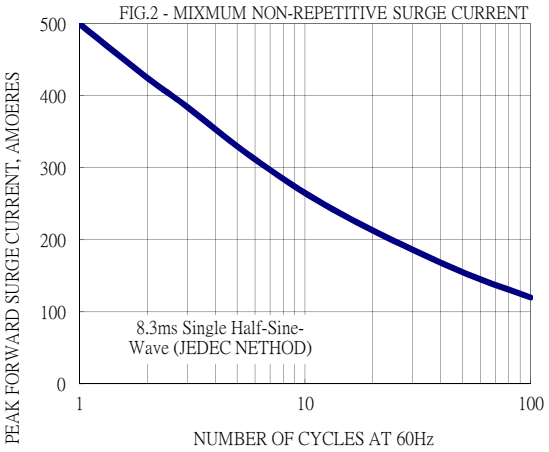



FIG.3 - TYPICAL REVERSE CHARACTERISTICS

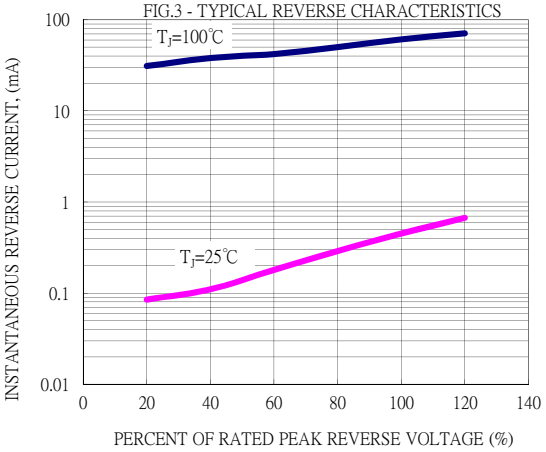



FIG.4 - TYPICAL FORWARD CHARACTERISTICS

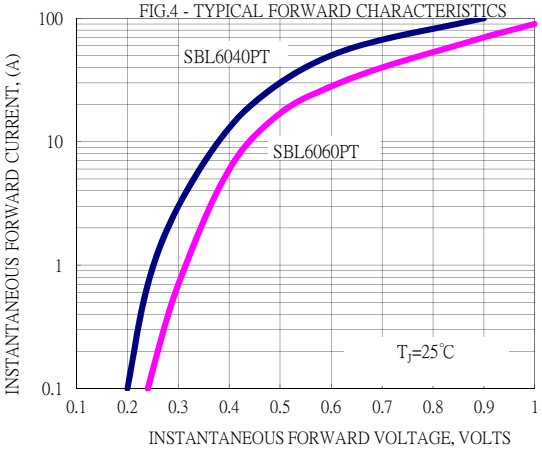



FIG.5 - TYPICAL JUNCTION CAPACITANCE