LITE-ON SEMICONDUCTORS

# SBL3030CT thru 3045CT

## SCHOTTKY BARRIER RECTIFIERS

**REVERSE VOLTAGE – 30 to 45 Volts**
**FORWARD CURRENT – 30 Amperes**

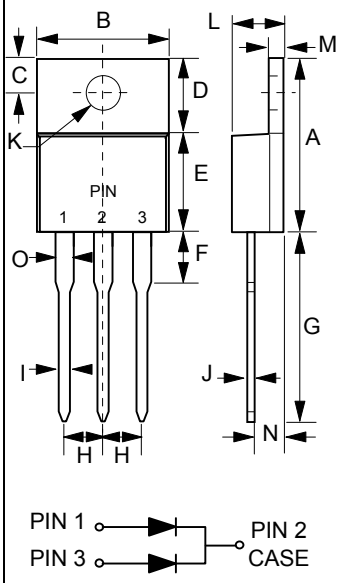
### FEATURES

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

### MECHANICAL DATA

- Case: TO-220AB molded plastic
- Polarity : As marked on the body
- Weight: 0.08 ounces, 2.24 grams
- Mounting position: Any
- Max. mounting torque=0.5 N.m(5.1 Kgf.cm)

### TO-220AB




| TO-220AB | | |
|---|---|---|
| DIM. | MIN. | MAX. |
| A | 14.40 | 15.20 |
| B | 9.65 | 10.67 |
| C | 2.54 | 3.43 |
| D | 5.84 | 6.86 |
| E | 8.26 | 9.28 |
| F | - | 4.20 |
| G | 12.70 | 14.73 |
| H | 2.29 | 2.79 |
| I | 0.51 | 1.14 |
| J | 0.30 | 0.64 |
| K | 3.53 ⌀ | 4.09 ⌀ |
| L | 3.56 | 4.83 |
| M | 1.14 | 1.40 |
| N | 2.03 | 2.92 |
| O | 1.14 | 1.70 |
| All Dimensions in millimeter | | |

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**
Ratings at 25°C ambient temperature unless otherwise specified.

| PARAMETER | SYMBOL | SBL3030CT | SBL3040CT | SBL3045CT | UNIT |
|---|---|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 30 | 40 | 45 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 21 | 28 | 31 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 30 | 40 | 45 | V |
| Average Rectified Output Current @TC=95°C | $I_F$ | 30 | | | A |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load | $I_{FSM}$ | 250 | | | A |
| Maximum Forward Voltage (Note 1) IF=15A@ Tj=25°C | $V_F$ | 0.55 | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage Tj=25°C / Tj=100°C | IR | 0.5 / 50 | | | mA |
| Typical Junction Capacitance per element (Note 2) | $C_J$ | 450 | | | pF |
| Typical thermal resistance Junction to Case (Note 3) | $R_{\Theta JC}$ | 1.8 | | | °C/W |
| Operating junction temperature range | $T_J$ | -55 to +125 | | | °C |
| Storage temperature range | $T_{STG}$ | -55 to +150 | | | °C |

REV.4, May-2012, KTHC62

Note :

(1) 300us Pulse Width, 2% Duty Cycle.
(2) Measured at 1.0MHz and applied reverse voltage of 4.0 $V_{DC}$.
(3) Thermal Resistance Junction to Case, device mounted on L200xW200xH2mm_copper heat sink.

## RATING AND CHARACTERISTIC CURVES
## SBL3030CT thru SBL3045CT

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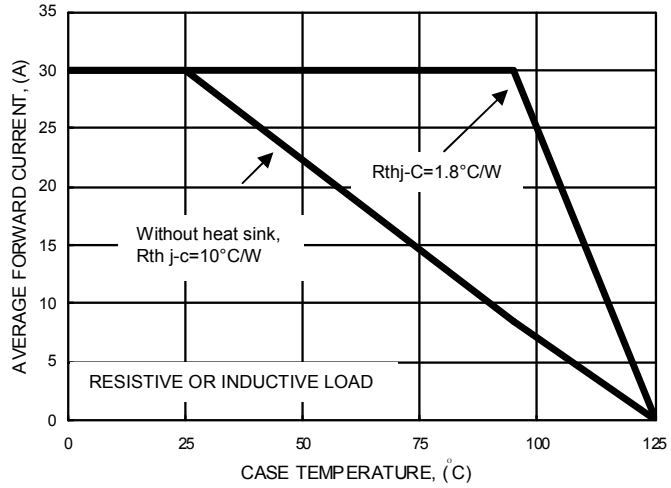
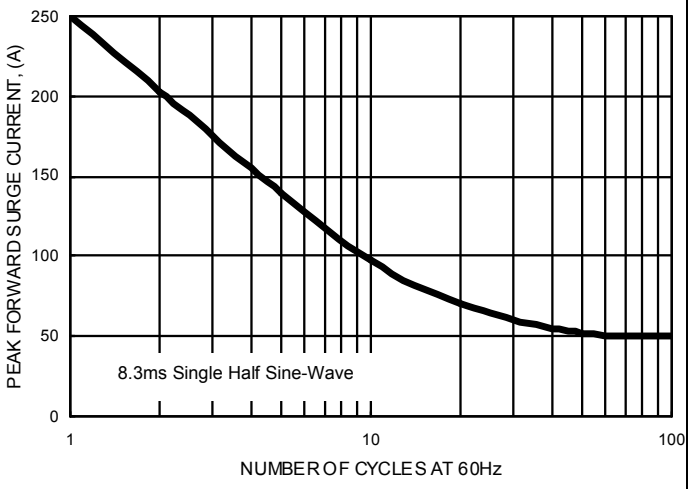
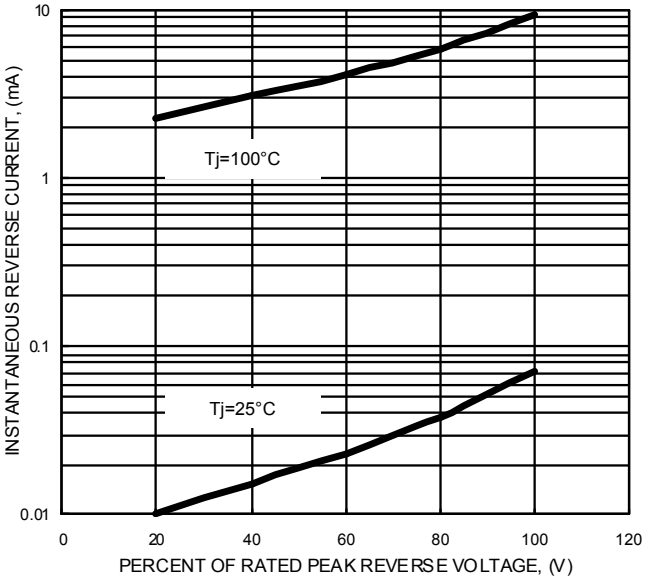
### FIG.1- FORWARD CURRENT DERATING CURVE



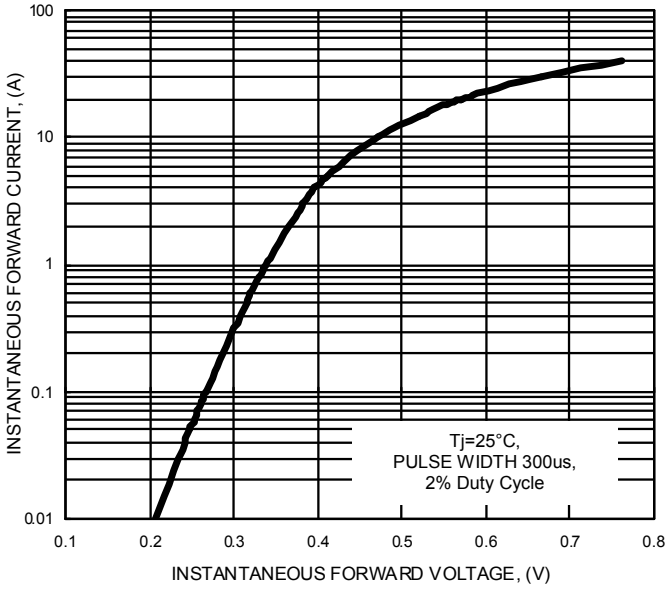

### FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT



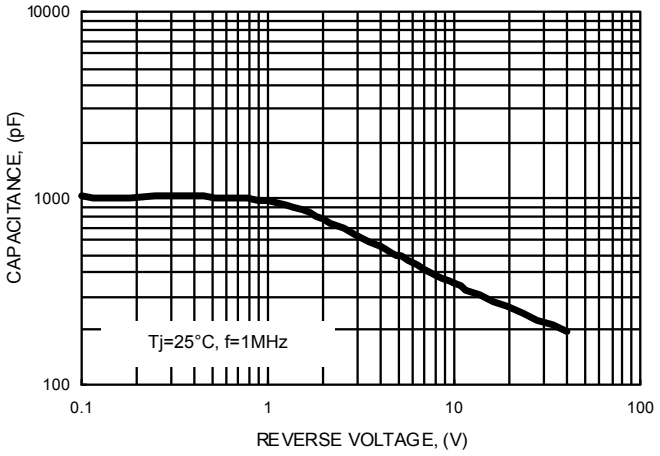

### FIG.3- TYPICAL REVERSE CHARACTERISTICS



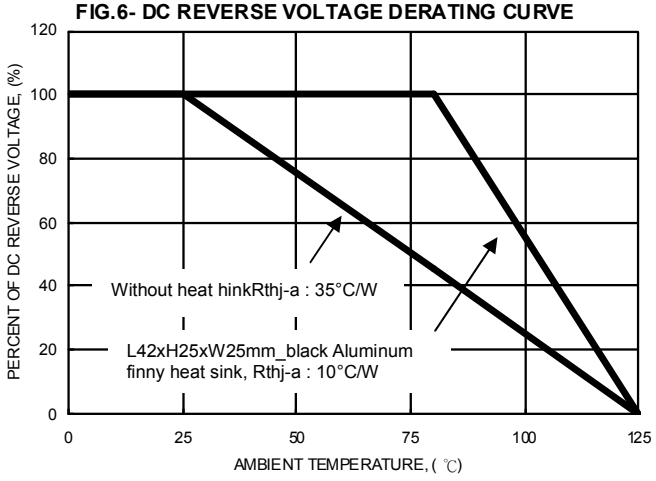

### FIG.4- TYPICAL FORWARD CHARACTERISTICS




### FIG.5- TYPICAL JUNCTION CAPACITANCE




### FIG.6- DC REVERSE VOLTAGE DERATING CURVE



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