LITEON LITE-ON SEMICONDUCTORS

# GBU15L06

## GLASS PASSIVATED BRIDGE RECTIFIERS

**REVERSE VOLTAGE – 600Volts**
**FORWARD CURRENT – 15 Amperes**

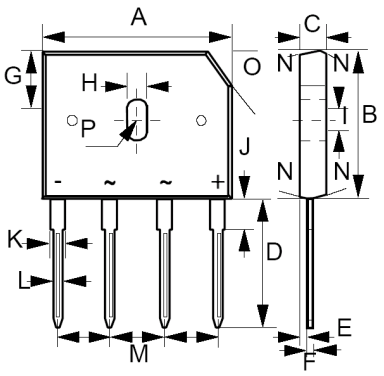
### FEATURES

- Low forward voltage drop
- Ideal for printed circuit board
- High surge current capability
- UL recognition file # E95060

### MECHANICAL DATA

- Case: GBU
- Case Material: Plastic material, UL flammability classification 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Lead free plating (Tin finish), Solderable per MIL-STD-202, Method 208
- Polarity indicator: As marked on the body
- Weight: 0.15 ounces, 4.0 grams
- Component in accordance to RoHs 2002/95/EC

**GBU**




| GBU | | |
|---|---|---|
| DIM. | MIN. | MAX. |
| A | 21.80 | 22.30 |
| B | 18.30 | 18.80 |
| C | 3.30 | 3.56 |
| D | 17.50 | 18.00 |
| E | 0.76 | 1.00 |
| F | 0.46 | 0.56 |
| G | 7.40 | 7.90 |
| H | 3.50 | 4.10 |
| I | 1.65 | 2.16 |
| J | 2.25 | 2.75 |
| K | 1.95 | 2.35 |
| L | 1.02 | 1.27 |
| M | 4.83 | 5.33 |
| N | 7.0° TYPICAL | |
| O | 3.2 x 45° | |
| P | 1.90 RADIUS | |
| All Dimensions in millimeter | | |

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

| PARAMETER | | SYMBOL | GBU15L06 | UNIT |
|---|---|---|---|---|
| Device marking code | | Note | GBU15L06 | --- |
| Maximum Repetitive Peak Reverse Voltage | | $V_{RRM}$ | 600 | V |
| Average Rectified Output Current | With heatsink Tc=115℃<br>Without heatsink Tc=115℃ | $I_{F(AV)}$ | 15<br>3.7 | A |
| Peak Forward Surge Current<br>8.3ms single half sine-wave | @ Tj = 25 ℃<br>@ $T_J$ = 125℃ | $I_{FSM}$ | 200<br>170 | A |
| Peak Forward Surge Current<br>1.0ms single half sine-wave | @ Tj =25 ℃<br>@ $T_J$=125℃ | $I_{FSM}$ | 550<br>450 | A |
| $I^2t$ Rating for fusing (3ms≦t ≦8.3ms) | | $I^2t$ | 166 | $A^2S$ |
| Storage temperature range | | $T_{STG}$ | -55 to +150 | °C |
| Operating junction temperature range | | $T_J$ | -40 to +150 | °C |

| PARAMETER | TEST CONDITIONS | | SYMBOL | Min. | Typ. | Max. | UNIT |
|---|---|---|---|---|---|---|---|
| Breakdown voltage | IR=10uA | Tj=25°C | $V_B$ | 600 | --- | --- | V |
| Forward Voltage (1) | IF=7.5A | Tj=25°C | $V_F$ | --- | 0.86 | 0.90 | V |
| Leakage Current | VR=600V | Tj=25°C | $I_R$ | --- | --- | 10 | uA |

| THERMAL CHARACTERISTIC | SYMBOL | Typical | UNIT |
|---|---|---|---|
| Typical Junction Capacitance per element (Note 1) | Cj | 80 | pF |
| Typical thermal resistance_Junction to Case (2) | $R_{\Theta JC}$ | 1.3 | °C/W |
| Typical thermal resistance_Junction to Lead (3) | $R_{\Theta JL}$ | 3 | °C/W |

Note : (1) 300us Pulse Width, 2% Duty Cycle.
(2) Thermal Resistance Junction to Case, device mounted on 200 x 200 x 2 mm copper plate.
(3) Thermal Resistance Junction to Lead, device mounted on 200 x 200 x2 mm copper plate.

REV. 2, Dec-2010, KBDJ09

FIG.1- FORWARD CURRENT DERATING CURVE

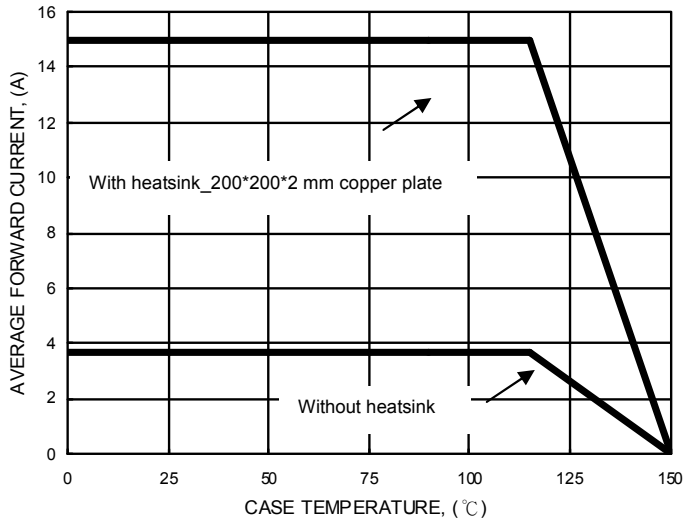



FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

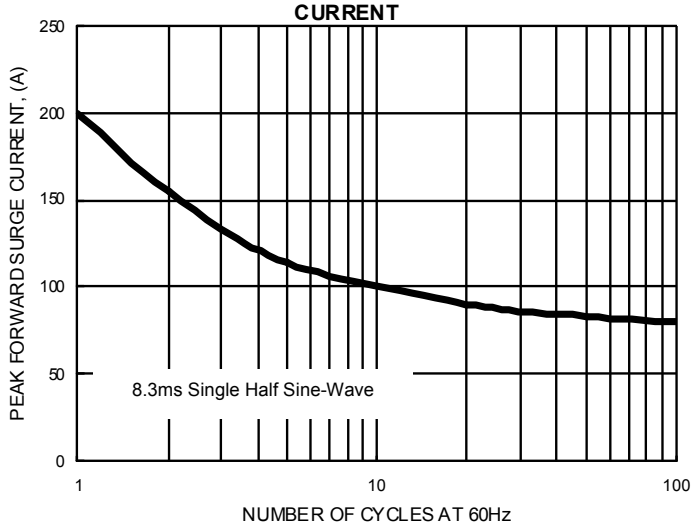



FIG.3- TYPICAL FORWARD CHARACTERISTICS

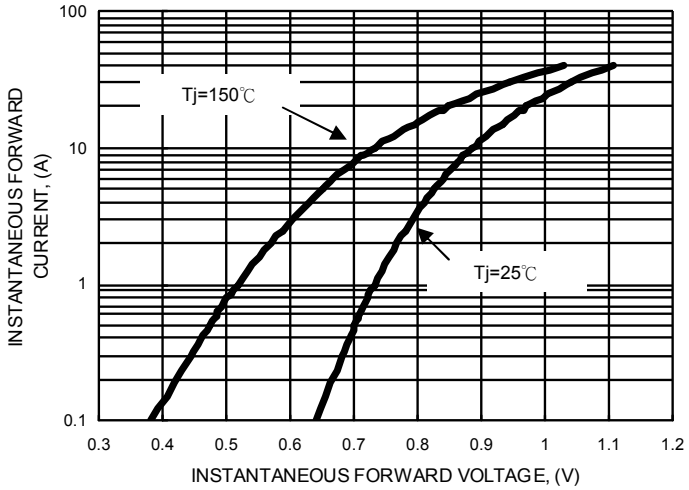



FIG.4- TYPICAL JUNCTION CAPACITANCE

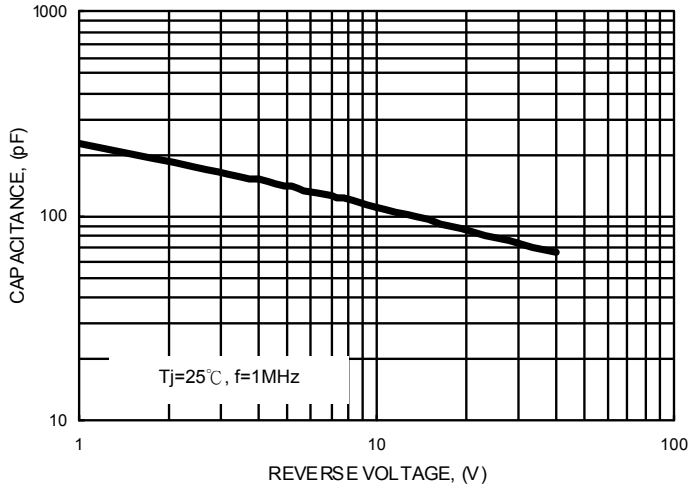



FIG.5- TYPICAL REVERSE CHARACTERISTICS

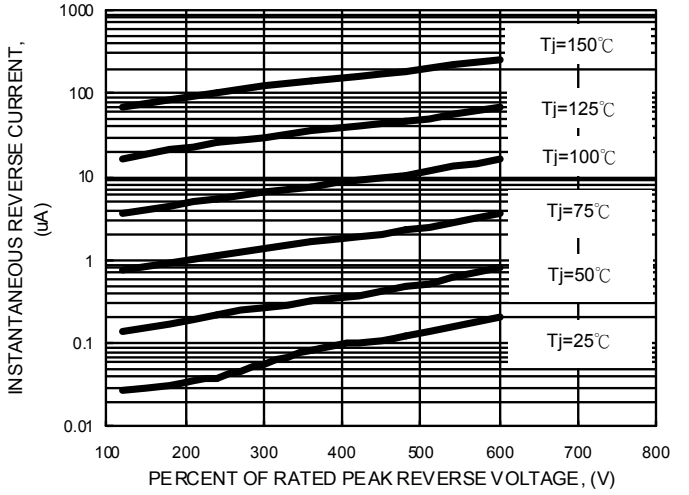



FIG.6- FORWARD POWER DISSIPATION

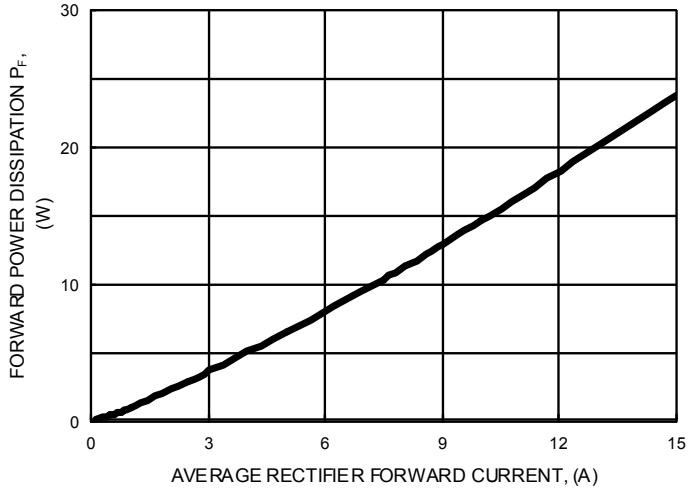
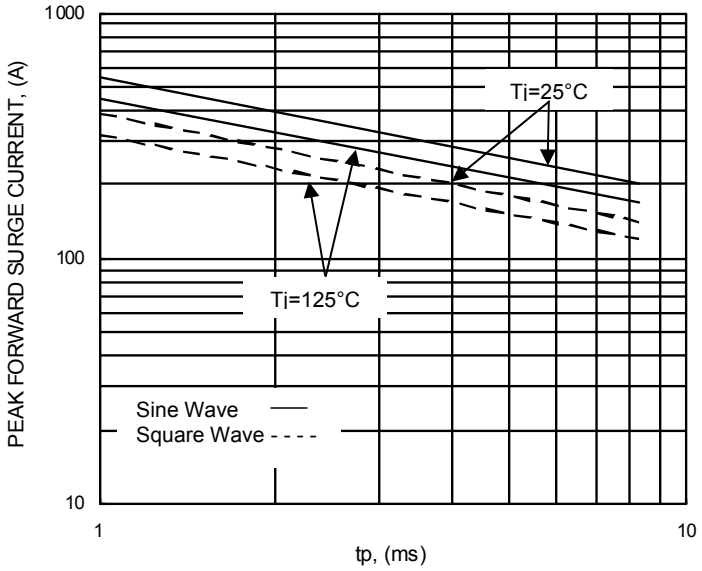


FIG.7_NON-REPETITIVE SURGE CURRENT



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