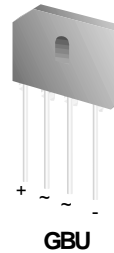




## GBU6A - GBU6M

### Features

- Glass passivated junction.
- Surge overload rating: 175 amperes peak.
- Reliable low cost construction utilizing molded plastic technique.
- Ideal for printed circuit board.
- UL certified, UL #E111753.



### Bridge Rectifiers

#### Absolute Maximum Ratings\*

$T_A = 25^\circ\text{C}$  unless otherwise noted

| Symbol      | Parameter                                                                 | Value       |     |     |     |     |     |      | Units            |
|-------------|---------------------------------------------------------------------------|-------------|-----|-----|-----|-----|-----|------|------------------|
|             |                                                                           | 6A          | 6B  | 6D  | 6G  | 6J  | 6K  | 6M   |                  |
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage                                        | 50          | 100 | 200 | 400 | 600 | 800 | 1000 | V                |
| $V_{RMS}$   | Maximum RMS Bridge Input Voltage                                          | 35          | 70  | 140 | 280 | 420 | 560 | 700  | V                |
| $V_R$       | DC Reverse Voltage (Rated $V_R$ )                                         | 50          | 100 | 200 | 400 | 600 | 800 | 1000 | V                |
| $I_{F(AV)}$ | Average Rectified Forward Current, @ $T_A = 100^\circ\text{C}$            | 6.0         |     |     |     |     |     |      | A                |
| $I_{FSM}$   | Non-repetitive Peak Forward Surge Current<br>8.3 ms Single Half-Sine-Wave | 175         |     |     |     |     |     |      | A                |
| $T_{stg}$   | Storage Temperature Range                                                 | -55 to +150 |     |     |     |     |     |      | $^\circ\text{C}$ |
| $T_J$       | Operating Junction Temperature                                            | -55 to +150 |     |     |     |     |     |      | $^\circ\text{C}$ |

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Thermal Characteristics

| Symbol          | Parameter                                         | Value | Units                     |
|-----------------|---------------------------------------------------|-------|---------------------------|
| $P_D$           | Power Dissipation                                 | 12    | W                         |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient,* per leg | 18.6  | $^\circ\text{C}/\text{W}$ |
| $R_{\theta JL}$ | Thermal Resistance, Junction to Lead,** per leg   | 3.1   | $^\circ\text{C}/\text{W}$ |

\* Device mounted on PCB with  $0.5 \times 0.5"$  ( $12 \times 12$  mm).

\*\* Device mounted on Al plate with  $2.6 \times 1.4" \times 0.06"$  ( $6.5 \times 3.5 \times 0.15$  cm).

### Electrical Characteristics

$T_A = 25^\circ\text{C}$  unless otherwise noted

| Symbol | Parameter                                                                                           | Device     | Units                          |
|--------|-----------------------------------------------------------------------------------------------------|------------|--------------------------------|
| $V_F$  | Forward Voltage, per element @ 6.0 A                                                                | 1.0        | V                              |
| $I_R$  | Reverse Current, per element @ rated $V_R$<br>$T_A = 25^\circ\text{C}$<br>$T_A = 125^\circ\text{C}$ | 5.0<br>500 | $\mu\text{A}$<br>$\mu\text{A}$ |
|        | $I^2t$ rating for fusing $t < 8.35$ ms                                                              | 127        | $\text{A}^2\text{s}$           |

Typical Characteristics

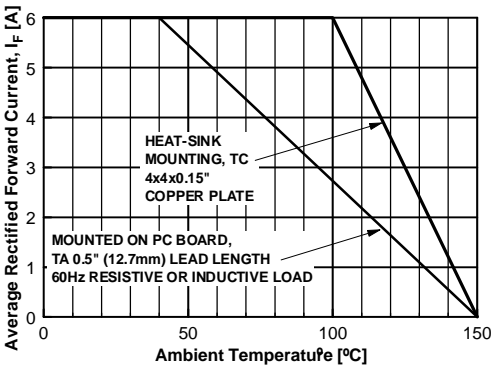


Figure 1. Forward Current Derating Curve

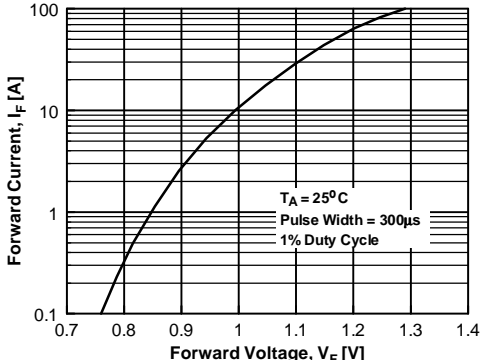


Figure 2. Forward Voltage Characteristics

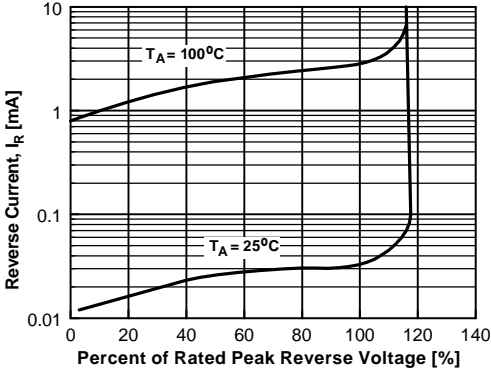


Figure 3. Reverse Current vs Reverse Voltage

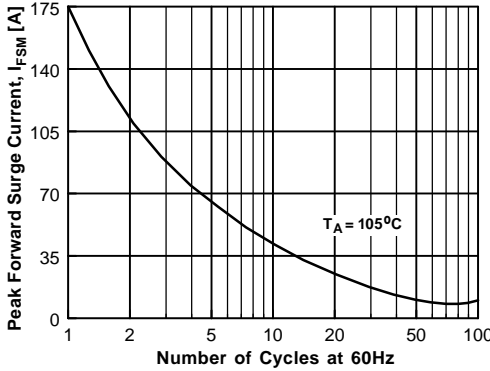


Figure 4. Non-Repetitive Surge Current

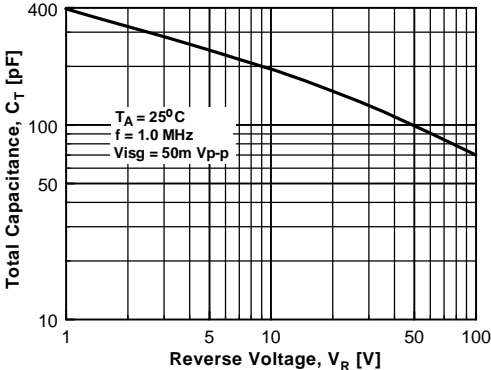


Figure 5. Total Capacitance

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