

GBU6A - GBU6M

Bridge Rectifiers

Features

- Glass–Passivated Junction
- Surge Overload Rating: 175 A Peak
- Reliable Low–Cost Construction Utilizing Molded Plastic Technique
- Ideal for Printed Circuit Board
- UL Certified: UL #E258596

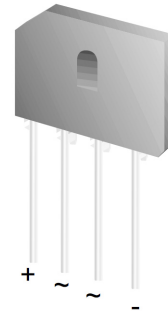
PACKAGE MARKING AND ORDERING INFORMATION

| Part Number | Marking | Package | Packing Method |
|-------------|---------|---------|----------------|
| GBU6A | GBU6A | GBU 4L | Rail |
| GBU6B | GBU6B | | |
| GBU6D | GBU6D | | |
| GBU6G | GBU6G | | |
| GBU6J | GBU6J | | |
| GBU6K | GBU6K | | |
| GBU6M | GBU6M | | |



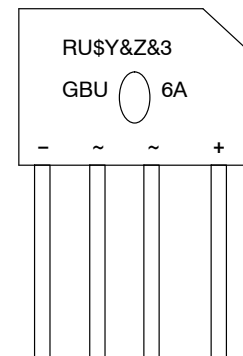
ON Semiconductor®

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SIP4
CASE 127EL

MARKING DIAGRAM



- | | |
|-------|-------------------------|
| RU | = UL Marking |
| \$Y | = ON Semiconductor Logo |
| &Z | = Assembly Plant Code |
| &3 | = Numeric Date Code |
| GBU6A | = Specific Device Code |

GBU6A – GBU6M

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted) (Note 1)

| 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 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 | | | | | | | $^\circ\text{C}$ | |

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

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

THERMAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Units |
|-----------------|--|-------|---------------------------|
| P_D | Power Dissipation | 12 | W |
| $R_{\theta JA}$ | Thermal Resistance per Leg, Junction to Ambient (Note 2) | 18.6 | $^\circ\text{C}/\text{W}$ |
| $R_{\theta JL}$ | Thermal Resistance per Leg, Junction to Lead (Note 3) | 3.1 | $^\circ\text{C}/\text{W}$ |

2. Device mounted on PCB with 0.5×0.5 inch (12×12 mm)

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

ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Units | |
|--------|---|---------------------------|-------|----------------------|
| V_F | Forward Voltage, per Element | 6.0 A | 1.0 | V |
| I_R | Reverse Current, per Element at Rated V_R | $T_A = 25^\circ\text{C}$ | 5.0 | μA |
| | | $T_A = 125^\circ\text{C}$ | 500 | μA |
| I^2t | I^2t Rating for Fusing | $t < 8.35$ ms | 127 | A^2s |

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

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TYPICAL PERFORMANCE CHARACTERISTICS

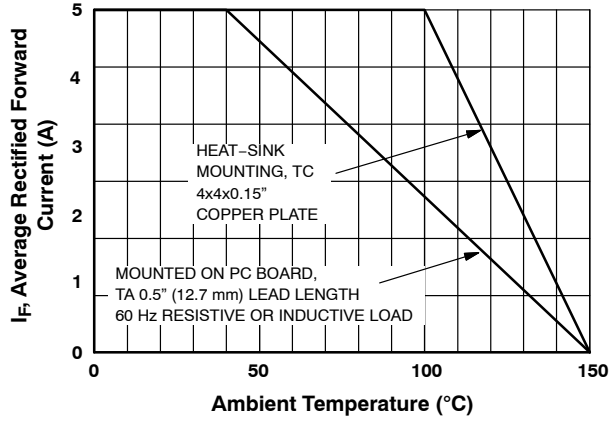


Figure 1. Forward Current Derating Curve

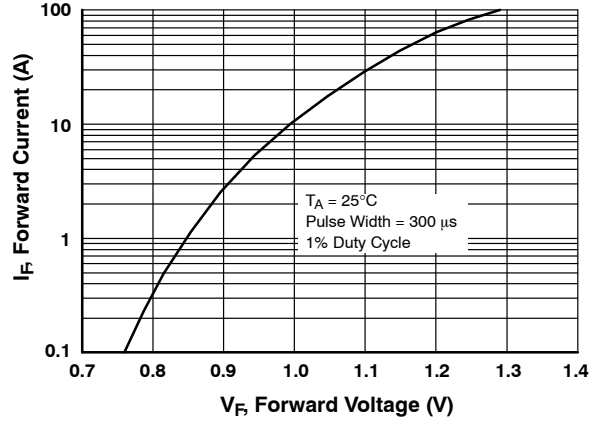


Figure 2. Forward Voltage Characteristics

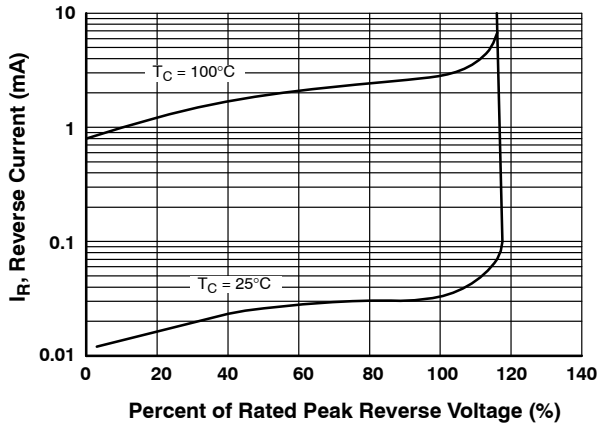


Figure 3. Reverse Current vs. Reverse Voltage

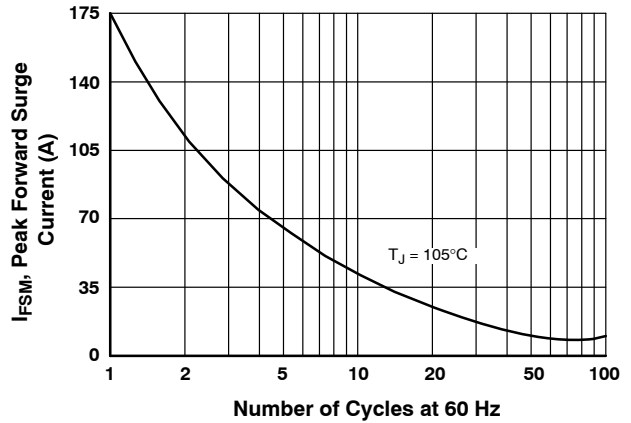


Figure 4. Non-Repetitive Surge Current

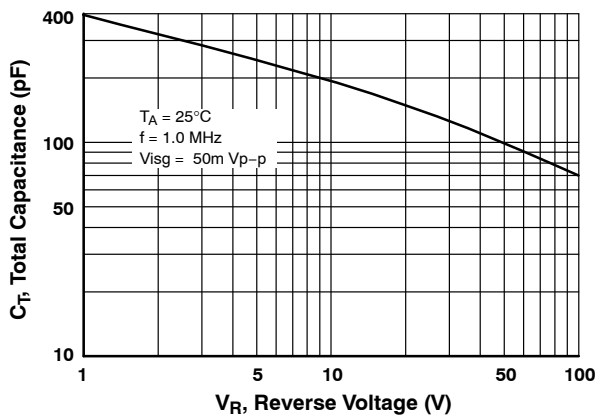


Figure 5. Total Capacitance

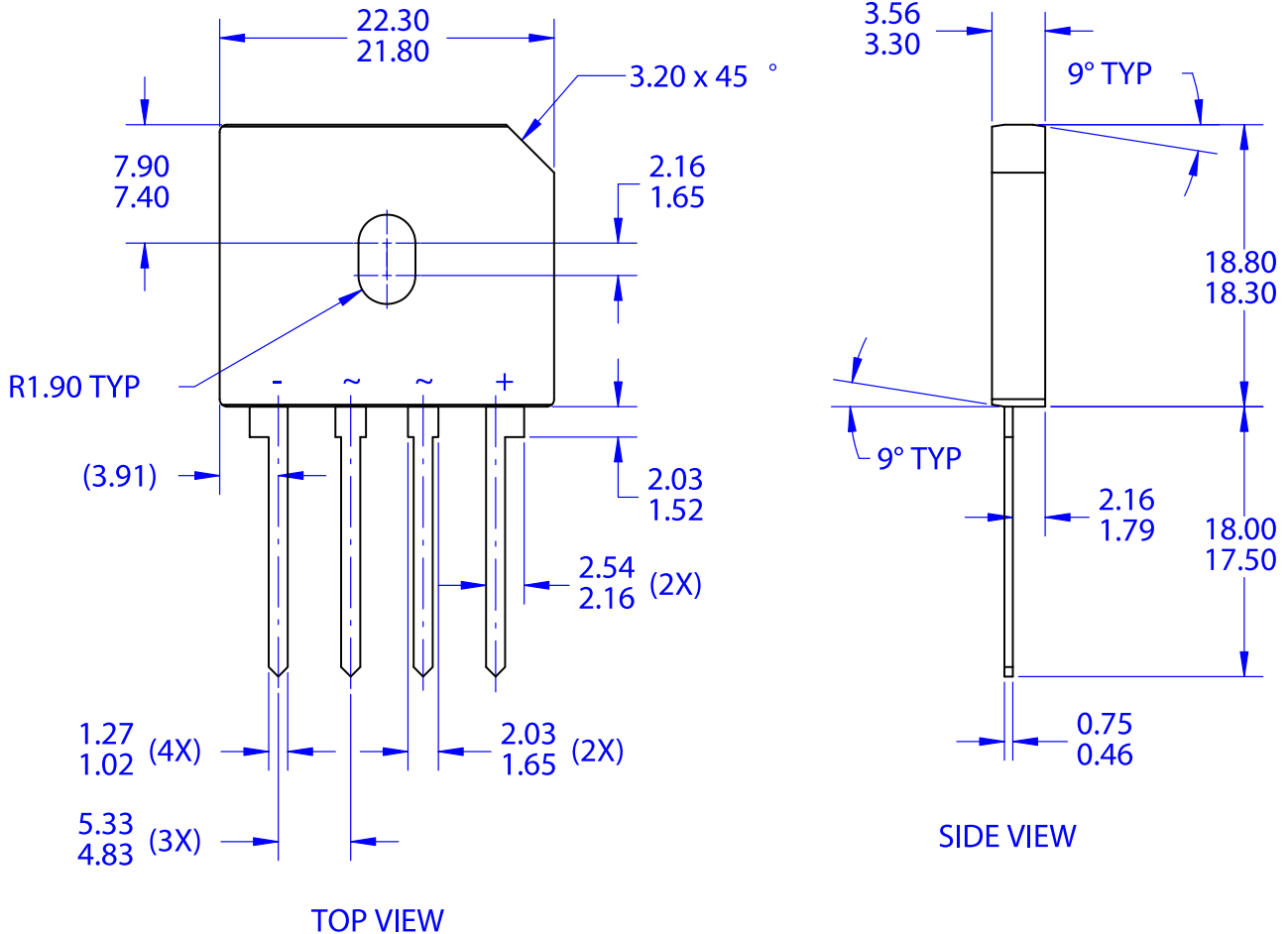
MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

ON Semiconductor®



SIP4 22.05x18.55
CASE 127EL
ISSUE O

DATE 31 DEC 2016



NOTES:

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- D. DIMENSIONS AND TOLERANCES AS PER ASME Y14.5-2009

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