

# 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

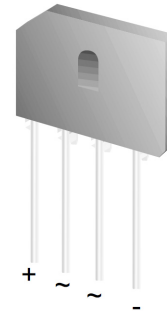
### PACKAGE MARKING AND ORDERING INFORMATION

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



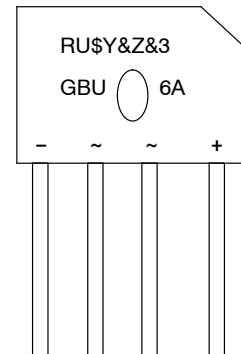
**ON Semiconductor®**

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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  $0.5 \times 0.5$  inch ( $12 \times 12$  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	$\mu\text{A}$
		$T_A = 125^\circ\text{C}$	500	$\mu\text{A}$
$I^2t$	$I^2t$ Rating for Fusing	$t < 8.35$ ms	127	$\text{A}^2\text{s}$

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.

# GBU6A – GBU6M

## TYPICAL PERFORMANCE CHARACTERISTICS

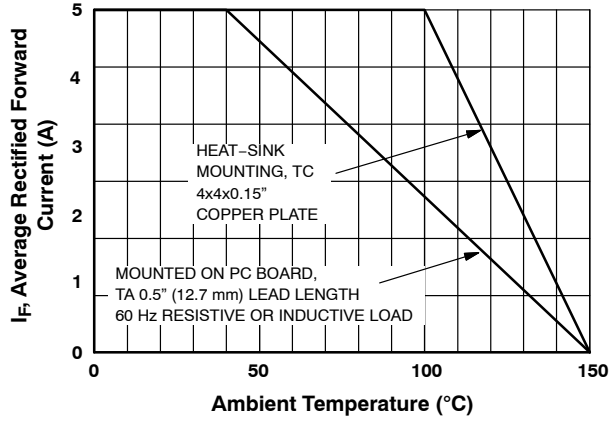


Figure 1. Forward Current Derating Curve

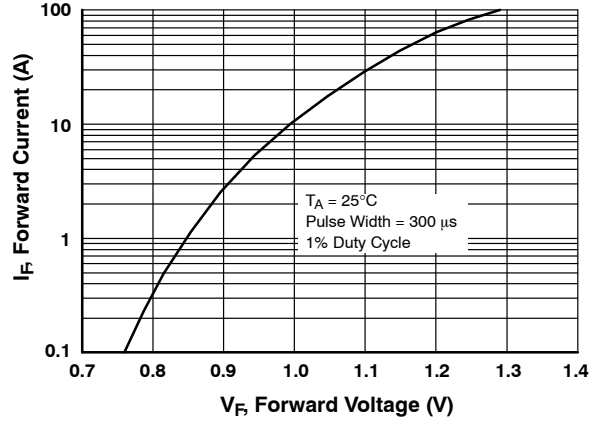


Figure 2. Forward Voltage Characteristics

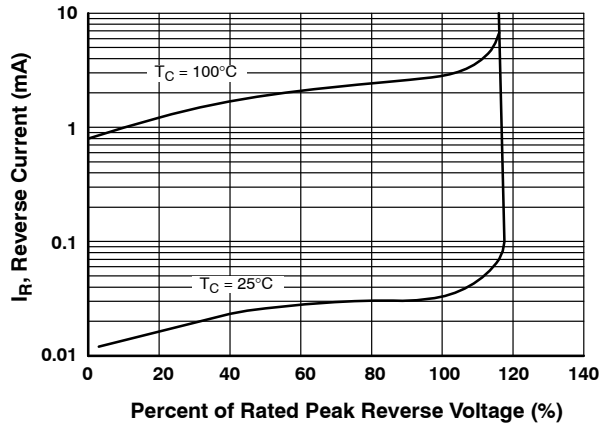


Figure 3. Reverse Current vs. Reverse Voltage

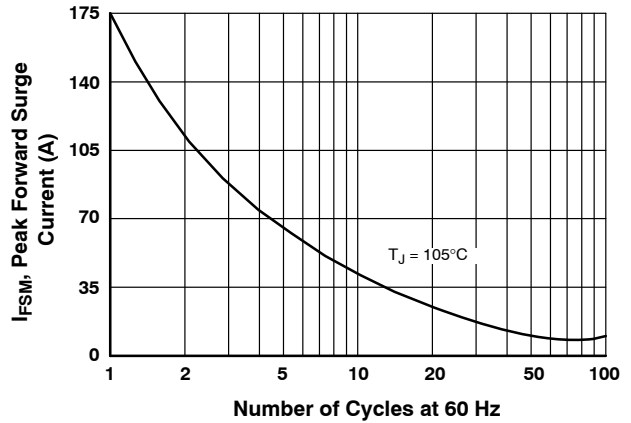


Figure 4. Non-Repetitive Surge Current

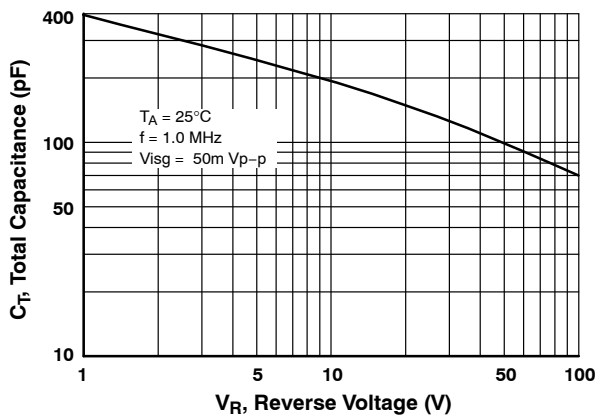
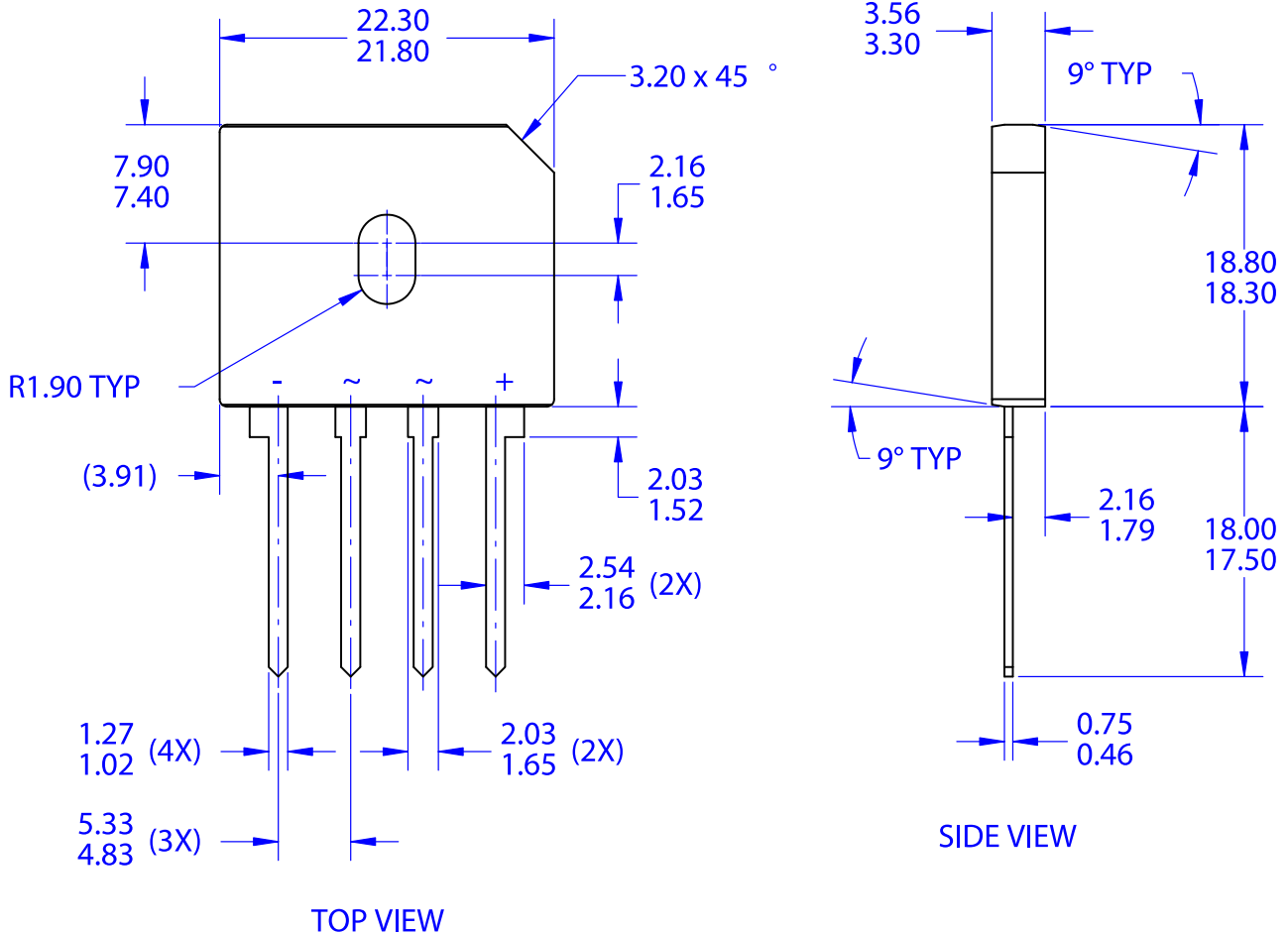


Figure 5. Total Capacitance

**MECHANICAL CASE OUTLINE**  
**PACKAGE DIMENSIONS**

SIP4 22.05x18.55  
CASE 127EL  
ISSUE O

DATE 31 DEC 2016



- NOTES:
- A. NO INDUSTRY STANDARD APPLIES TO THIS PACKAGE
  - B. ALL DIMENSIONS ARE IN MILLIMETERS
  - C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.
  - D. DIMENSIONS AND TOLERANCES AS PER ASME Y14.5-2009

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