

# GBU4A - GBU4M

## Bridge Rectifiers

### Features

- Glass–Passivated Junction
- Surge Overload Rating: 150 A Peak
- Reliable Low–Cost Construction Utilizing Molded Plastic Technique
- Ideal for Printed Circuit Board
- UL Certified: UL #E258596

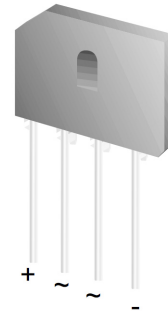
### PACKAGE MARKING AND ORDERING INFORMATION

Part Number	Marking	Package	Packing Method
GBU4A	GBU4A	GBU 4L	Rail
GBU4B	GBU4B		
GBU4D	GBU4D		
GBU4G	GBU4G		
GBU4J	GBU4J		
GBU4K	GBU4K		
GBU4M	GBU4M		



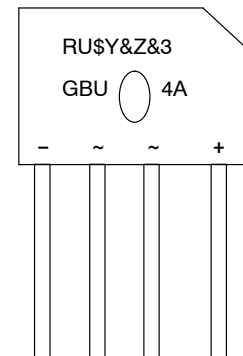
**ON Semiconductor®**

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SIP4  
CASE 127EL

### MARKING DIAGRAM



- |       |                         |
|-------|-------------------------|
| RU    | = UL Marking            |
| \$Y   | = ON Semiconductor Logo |
| &Z    | = Assembly Plant Code   |
| &3    | = Numeric Date Code     |
| GBU4A | = Specific Device Code  |

# GBU4A – GBU4M

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

Symbol	Parameter	Value							Units	
		4A	4B	4D	4G	4J	4K	4M		
$V_{RRM}$	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	$T_A = 100^\circ\text{C}$							4.0	A
		$T_A = 40^\circ\text{C}$							3.0	A
$I_{FSM}$	Non-Repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	150							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	8	W
$R_{\theta JA}$	Thermal Resistance per Leg, Junction to Ambient (Note 2)	19	$^\circ\text{C}/\text{W}$

2. Device mounted on PCB with  $0.5 \times 0.5$  inch ( $12 \times 12$  mm)

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

Symbol	Parameter	Value	Units
$V_F$	Forward Voltage, per Element at 4.0 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	93	$\text{A}^2\text{s}$

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.

# GBU4A – GBU4M

## TYPICAL PERFORMANCE CHARACTERISTICS

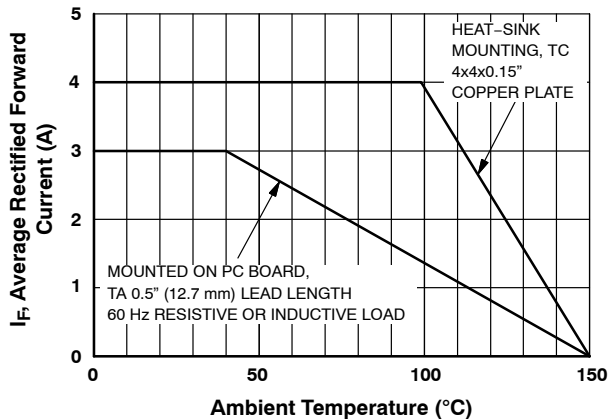


Figure 1. Forward Current Derating Curve

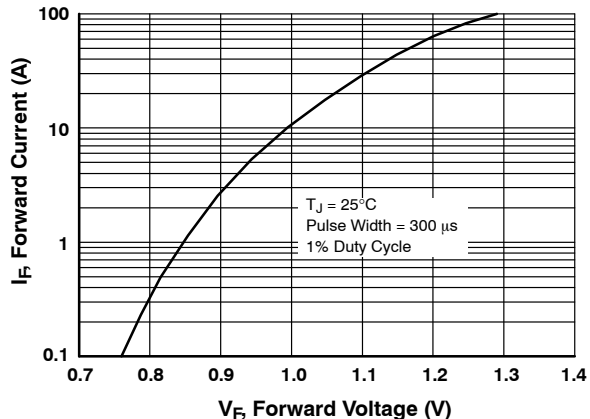


Figure 2. Forward Voltage Characteristics

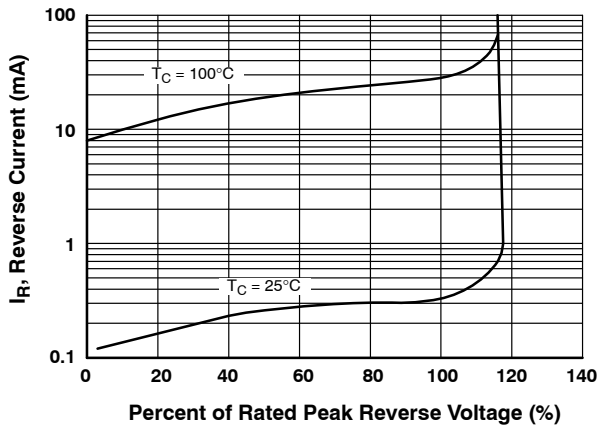


Figure 3. Reverse Current vs. Reverse Voltage

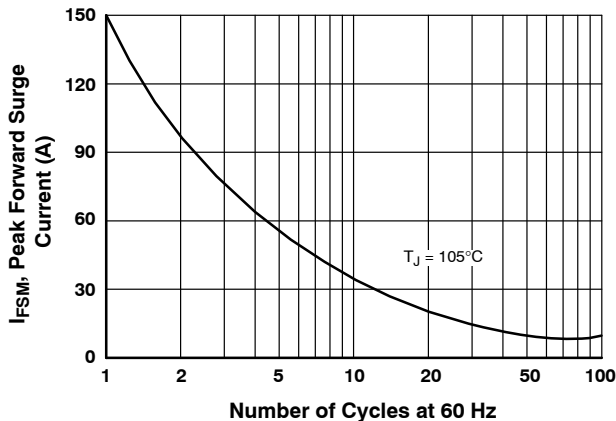


Figure 4. Non-Repetitive Surge Current

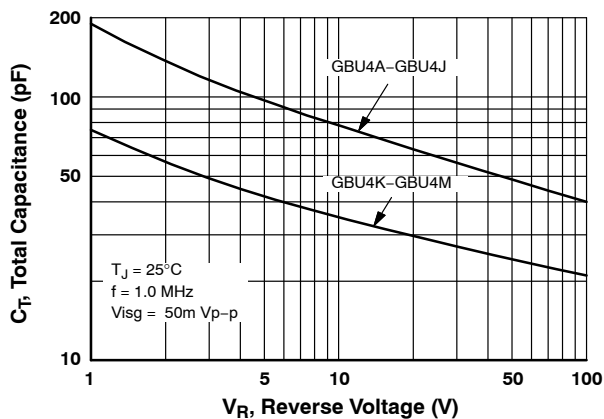
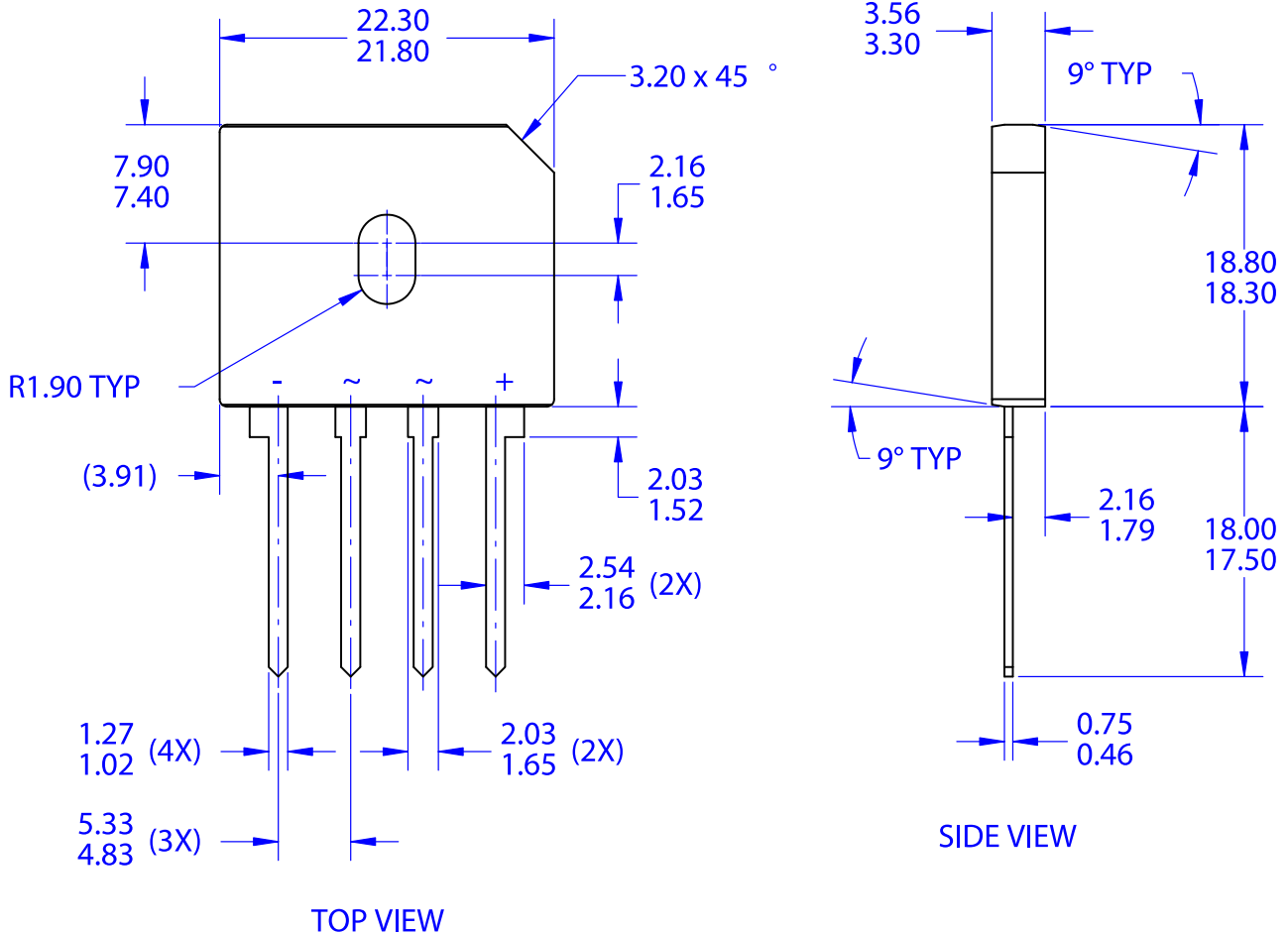


Figure 5. Total Capacitance

**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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