



# THE DATASHEET OF GBU8M



# GBU8A - GBU8M

## Bridge Rectifiers

### Features

- Glass–Passivated Junction
- Surge Overload Rating: 200 A Peak
- Reliable Low–Cost Construction Utilizing Molded Plastic Technique
- Ideal for Printed Circuit Board
- UL Certified: UL #E258596

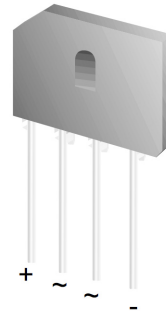
### PACKAGE MARKING AND ORDERING INFORMATION

Part Number	Marking	Package	Packing Method
GBU8A	GBU8A	GBU 4L	Rail
GBU8B	GBU8B		
GBU8D	GBU8D		
GBU8G	GBU8G		
GBU8J	GBU8J		
GBU8K	GBU8K		
GBU8M	GBU8M		



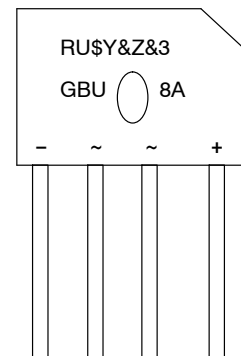
**ON Semiconductor®**

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SIP4  
CASE 127EL

### MARKING DIAGRAM



- |       |                         |
|-------|-------------------------|
| RU    | = UL Marking            |
| \$Y   | = ON Semiconductor Logo |
| &Z    | = Assembly Plant Code   |
| &3    | = Numeric Date Code     |
| GBU8A | = Specific Device Code  |

# GBU8A – GBU8M

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

Symbol	Parameter	Value							Units	
		8A	8B	8D	8G	8J	8K	8M		
$V_{RRM}$	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	$T_A = 100^\circ\text{C}$							8.0	A
		$T_A = 45^\circ\text{C}$							6.0	A
$I_{FSM}$	Non-Repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	200							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.

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

Symbol	Parameter	Value	Units
$P_D$	Power Dissipation	16	W
$R_{\theta JA}$	Thermal Resistance per Leg, Junction to Ambient (Note 1)	18	$^\circ\text{C}/\text{W}$
$R_{\theta JL}$	Thermal Resistance per Leg, Junction to Case (Note 2)	3	$^\circ\text{C}/\text{W}$

1. Device mounted on PCB with  $0.5 \times 0.5$  inch ( $12 \times 12$  mm)
2. Heat sink mounting,  $4 \times 4 \times 0.15$  inch copper plate

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

Symbol	Parameter	Value	Units
$V_F$	Forward Voltage, per Element	8.0 A	1.0 V
$I_R$	Reverse Current, per Element at Rated $V_R$	$T_A = 25^\circ\text{C}$	5.0 $\mu\text{A}$
		$T_A = 100^\circ\text{C}$	500 $\mu\text{A}$
$I^2t$	$I^2t$ Rating for Fusing	$t < 8.35$ ms	166 $\text{A}^2\text{s}$

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.

# GBU8A – GBU8M

## TYPICAL PERFORMANCE CHARACTERISTICS

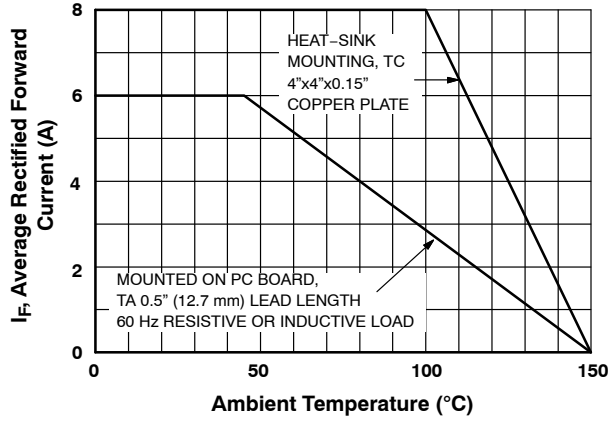


Figure 1. Forward Current Derating Curve

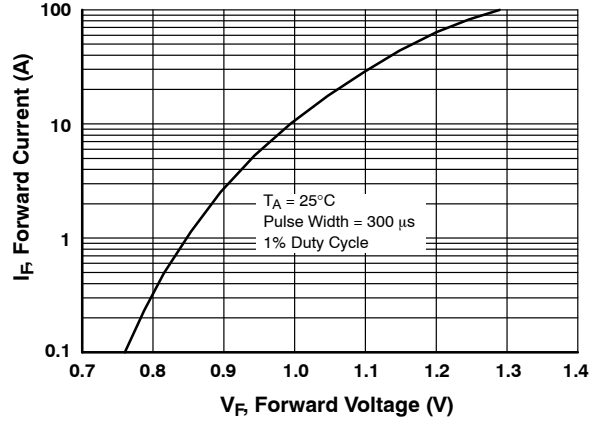


Figure 2. Forward Voltage Characteristics

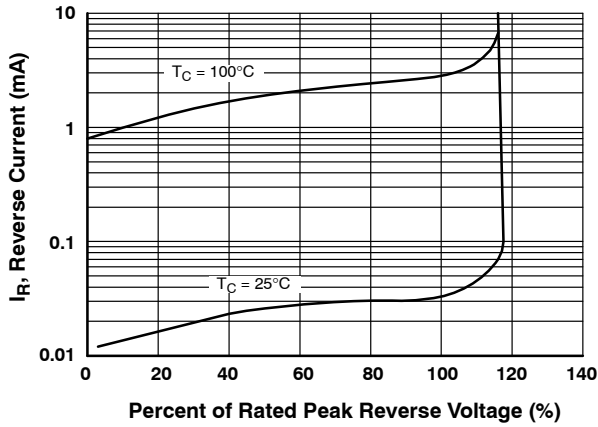


Figure 3. Reverse Current vs. Reverse Voltage

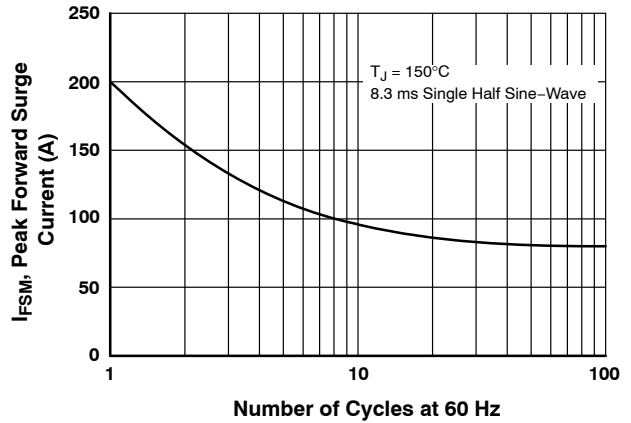


Figure 4. Non-Repetitive Surge Current

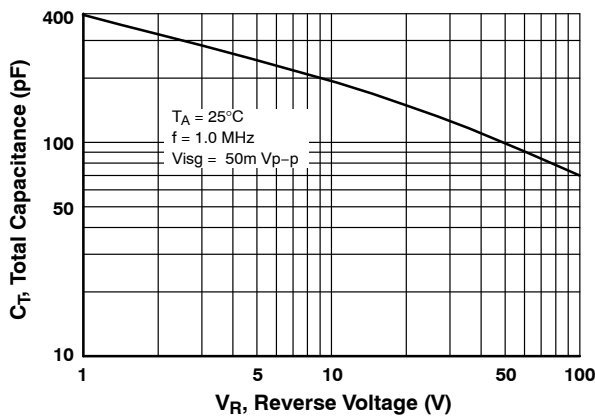
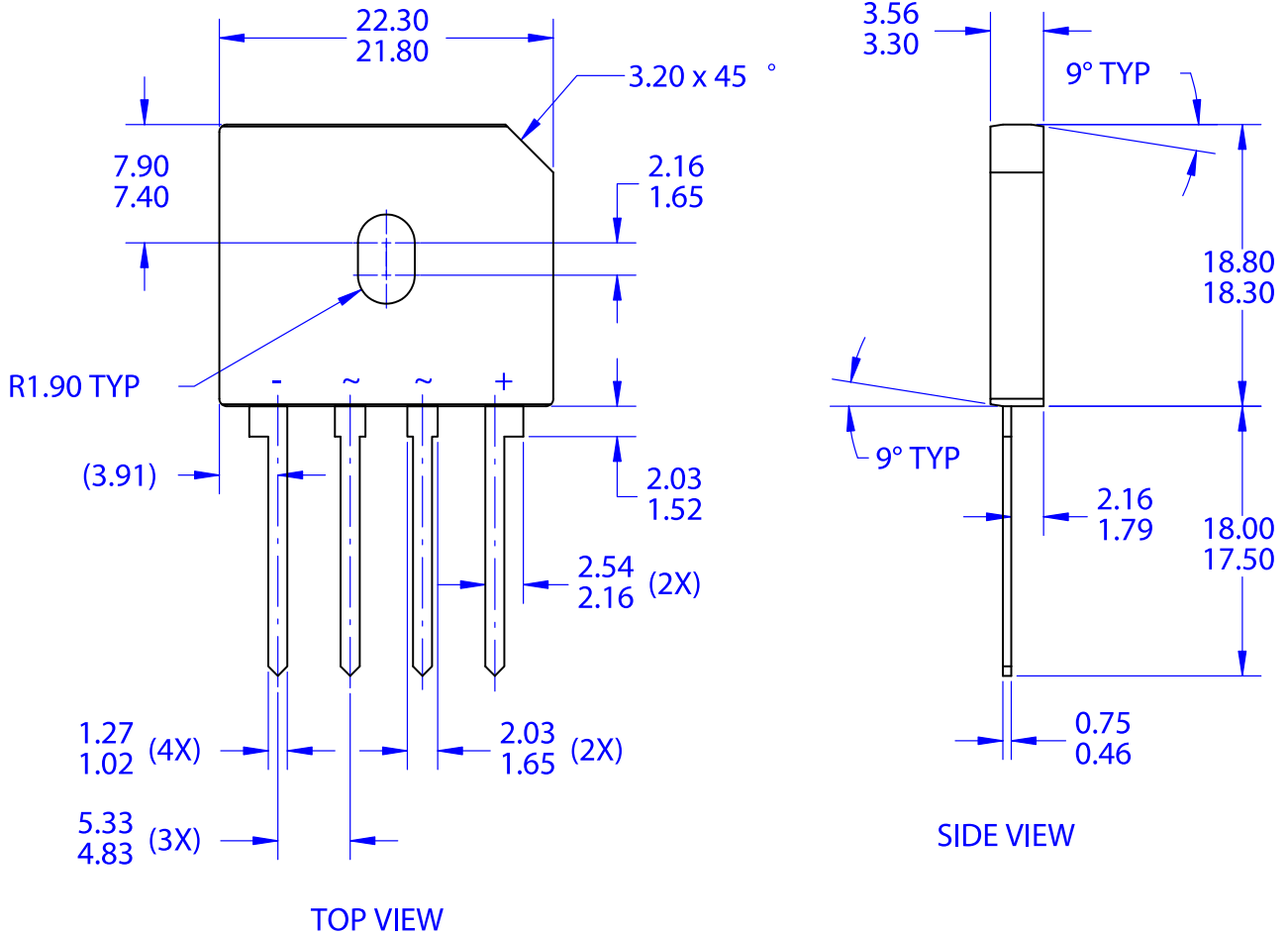


Figure 5. Total Capacitance

SIP4 22.05x18.55  
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ISSUE 0


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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