

February 2012

# **GBU8A - GBU8M Bridge Rectifiers**

# **Features**

- · Glass passivated junction
- Surge overload rating: 200 amperes peak
- Reliable low cost construction utilizing molded plastic technique.
- · Ideal for printed circuit board.
- UL certified, UL # E326243.



# **Absolute Maximum Ratings** $T_a = 25$ °C unless otherwise noted

Symbol	Parameter	Value						Units	
Syllibol		8A	8B	8D	8G	8J	8K	8M	Units
V <sub>RRM</sub>	Maximum Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V
V <sub>RMS</sub>	Maximum RMS Bridge Input Voltage		70	140	280	420	560	700	V
V <sub>R</sub>	DC Reverse Voltage (Rated V <sub>R</sub> )		100	200	400	600	800	1000	V
I <sub>F(AV)</sub>	Average Recitified Forward Current, @ $T_c = 100^{\circ}C^{**}$ @ $T_a = 45^{\circ}C^{*}$				8.0 6.0				A A
I <sub>FSM</sub>	Non-Repetitive Peak Forward Surge Current 8.3ms Single Half-Sine-Wave	200			А				
T <sub>STG</sub>	Storage Temperature Range	-55 to +150		°C					
TJ	Operating Junction Temperature	-55 to +150		°C					

<sup>\*</sup> Device mounted on PCB with  $0.5 \times 0.5$ " (12 × 12mm).

# **Thermal Characteristics**

Symbol	Parameter	Value	Units	
$P_{D}$	Power Dissipation	16	W	
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient, * per leg	18	°C/W	
$R_{\theta JC}$	Thermal Resistance, Junction to Case, ** per leg	3	°C/W	

<sup>\*</sup> Device mounted on PCB with  $0.5 \times 0.5$ " (12 × 12mm).

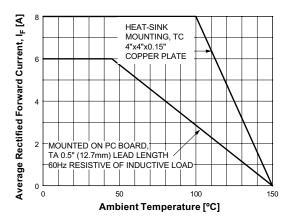
# **Electrical Characteristics** $T_a = 25$ °C unless otherwise noted

Symbol	Parameter	Value	Units	
V <sub>F</sub>	Forward Voltage, per element @ 8.0A	1.0	V	
I <sub>R</sub>	Reverse Current, per element @ Rated $V_R$ $T_a = 25$ °C	5.0	μА	
	$T_a = 100^{\circ}C$	500	μΑ	
	$I^2$ t Rating for Fusing t < 8.35ms	166	A <sup>2</sup> s	

<sup>\*\*</sup> Heat-sink mounting, 4"x4"x0.15" Copper plate

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# **Typical Performance Characteristics**



Forward Current, I<sub>F</sub> [A] T<sub>A</sub> = 25°C Pulse Width = 300µs 1% Duty Cycle 0.1 - 0.7 8.0 1.3 1.2 1.4

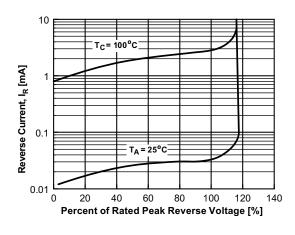
100

10

Figure 1. Forward Current Derating Curve



Forward Voltage, V<sub>F</sub> [V]



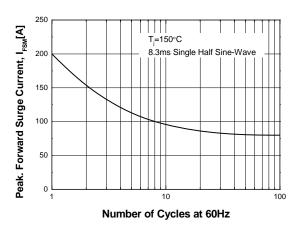


Figure 3. Reverse Current vs Reverse Voltage

Figure 4. Non-Repetitive Surge Current

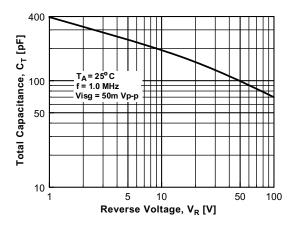


Figure 5. Total Capacitance



# (h)

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