

# GBJ6005 - GBJ610

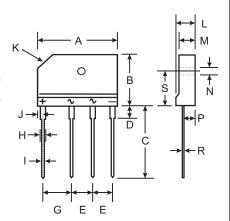
### **6.0A GLASS PASSIVATED BRIDGE RECTIFIER**

#### **Features**

- Glass Passivated Die Construction
- High Case Dielectric Strength of 1500V<sub>RMS</sub>
- Low Reverse Leakage Current
- Surge Overload Rating to 170A Peak
- Ideal for Printed Circuit Board Applications
- UL Listed Under Recognized Component Index, File Number E94661
- Lead Free Finish/RoHS Compliant (Note 4)

### **Mechanical Data**

- Case: GBJ
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Lead Free Plating (Tin Finish).
- Terminals: Plated Leads, Solderable per MIL-STD-202, Method 208 (§3)
- Polarity: Molded on Body
- Mounting: Through Hole for #6 Screw
- Mounting Torque: 5.0 in-lbs Maximum
- Marking: Type Number
- Weight: 6.6 grams (approximate)



GBJ						
Dim	Min	Max				
Α	29.70	30.30				
В	19.70	20.30				
С	17.00	18.00				
D	3.80	4.20				
E	7.30	7.70				
G	9.80	10.20				
Н	2.00	2.40				
ı	0.90	1.10				
J	2.30	2.70				
K	3.0 X 45°					
L	4.40	4.80				
M	3.40	3.80				
N	3.10	3.40				
Р	2.50	2.90				
R	0.60	0.80				
S	10.80	11.20				
All Dimensions in mm						

### Maximum Ratings and Electrical Characteristics <sup>@</sup> T<sub>A</sub> = 25°C unless otherwise specified

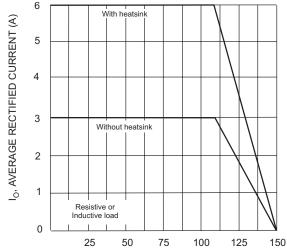
Single phase, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	GBJ 6005	GBJ 601	GBJ 602	GBJ 604	GBJ 606	GBJ 608	GBJ 610	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	50	100	200	400	600	800	1000	٧
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V
Average Forward Rectified Output Current @ T <sub>C</sub> = 110°C		6.0						Α	
Non-Repetitive Peak Forward Surge Current, 8.3 ms single half-sine-wave superimposed on rated load	I <sub>FSM</sub>				170				Α
Forward Voltage per element @ I <sub>F</sub> = 3.0A	V <sub>FM</sub>				1.0				V
	I <sub>R</sub>				5.0 500				μA
I <sup>2</sup> t Rating for Fusing (t < 8.3ms) (Note 1)		120					A <sup>2</sup> s		
Typical Total Capacitance per Element (Note 2)		55					pF		
Typical Thermal Resistance Junction to Case (Note 3)		1.8					°C/W		
Operating and Storage Temperature Range		-65 to +150					°C		

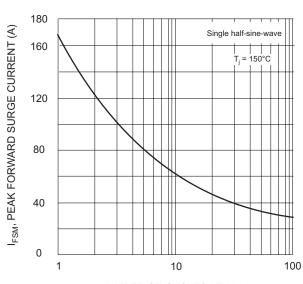
Notes:

- 1. Non-repetitive, for t > 1ms and < 8.3 ms.
- 2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
- 3. Thermal resistance from junction to case per element. Unit mounted on 75 x 75 x 1.6mm aluminum plate heat sink.
- 4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

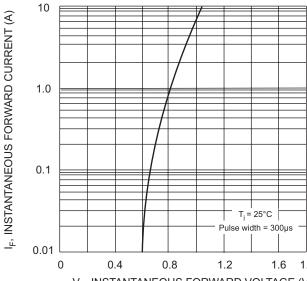




T<sub>C</sub>, CASE TEMPERATURE (°C) Fig. 1 Forward Current Derating Curve



NUMBER OF CYCLES AT 60 Hz Fig. 3 Maximum Non-Repetitive Surge Current



V<sub>F</sub>, INSTANTANEOUS FORWARD VOLTAGE (V) Fig. 2 Typical Forward Characteristics (per element)

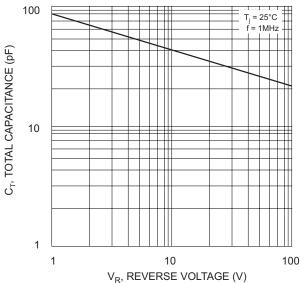
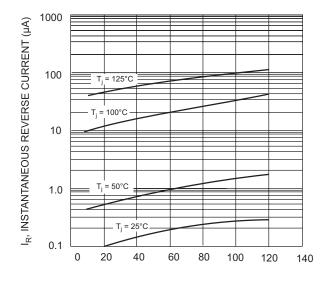


Fig. 4 Typical Total Capacitance, Per Element



PERCENT OF RATED PEAK REVERSE VOLTAGE (%) Fig. 5 Typical Reverse Characteristics



### Ordering Information (Note 5)

Device	Packaging	Shipping			
GBJ6005-F	GBJ	15/Tube			
GBJ601-F	GBJ	15/Tube			
GBJ602-F	GBJ	15/Tube			
GBJ604-F	GBJ	15/Tube			
GBJ606-F	GBJ	15/Tube			
GBJ608-F	GBJ	15/Tube			
GBJ610-F	GBJ	15/Tube			

Notes: 5. For packaging details, visit our website at http://www.diodes.com/datasheets/ap02008.pdf

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