

# GBJ10005 - GBJ1010

# 10A 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)

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# **Mechanical Data**

- Case: GBJ
- Case Material: Molded Plastic UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Plated Leads, Solderable per MIL-STD-202, Method 208 @3
- Lead Free Plating (Tin Finish).
- 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 @ TA = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.

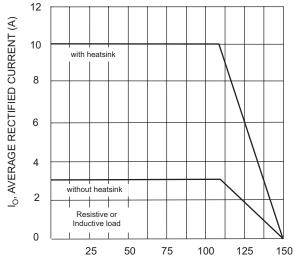
For capacitive load, derate current by 20%.

Characteristic	Symbol	GBJ 10005	GBJ 1001	GBJ 1002	GBJ 1004	GBJ 1006	GBJ 1008	GBJ 1010	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	V
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		10						Α	
Non-Repetitive Peak Forward Surge Current, 8.3 ms single half-sine-wave superimposed on rated load		170					Α		
Forward Voltage per element @ I <sub>F</sub> = 5.0A		1.05					V		
$ \begin{array}{lll} \mbox{Peak Reverse Current} & \mbox{@T}_{\mbox{C}} = 25^{\circ}\mbox{C} \\ \mbox{at Rated DC Blocking Voltage} & \mbox{@T}_{\mbox{C}} = 125^{\circ}\mbox{C} \\ \end{array} $		10 500					μА		
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)		1.4					°C/W		
Operating and Storage Temperature Range		-65 to +150					°C		

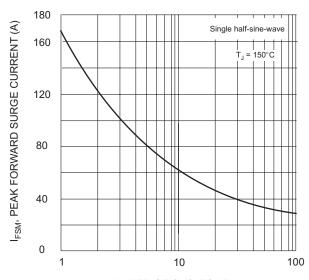
Notes:

- 1. Non-repetitive, for t > 1.0ms and < 8.3ms.
- 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 150 x 150 x 1.6mm copper plate heat sink.
- 4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

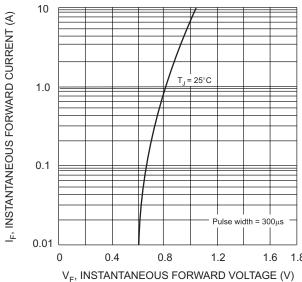




T<sub>C</sub>, CASE TEMPERATURE (°C) Fig. 1 Forward Current Derating Curve



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)

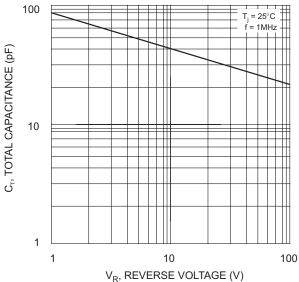
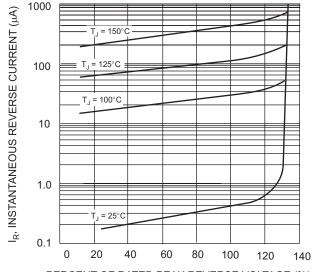


Fig. 4 Typical Total Capacitance, Per Element



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



# Ordering Information (Note 5)

Device	Packaging	Shipping
GBJ10005-F	GBJ	15/Tube
GBJ1001-F	GBJ	15/Tube
GBJ1002-F	GBJ	15/Tube
GBJ1004-F	GBJ	15/Tube
GBJ1006-F	GBJ	15/Tube
GBJ1008-F	GBJ	15/Tube
GBJ1010-F	GBJ	15/Tube

Notes: 5. For packaging details, visit our website at http://www.diodes.com/datasheets/ap2008.pdf.

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