

## Features

- Glass Passivated Die Construction
- High Case Dielectric Strength of 2500V<sub>RMS</sub>
- Low Reverse Leakage Current
- Surge Overload Rating to 350A Peak
- Ideal for Printed Circuit Board Applications
- UL Listed Under Recognized Component Index, File Number E94661
- **Lead Free Finish; RoHS Compliant (Notes 1 & 2)**

## Mechanical Data

- Case: GBJ
- Case Material: Molded Plastic. UL Flammability Classification 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- 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)

## Maximum Ratings (@T<sub>A</sub> = 25°C, unless otherwise specified.)

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

For capacitance load, derate current by 20%.

Characteristic	Symbol	GBJ 25005	GBJ 2501	GBJ 2502	GBJ 2504	GBJ 2506	GBJ 2508	GBJ 2510	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 (Note 3) @ T <sub>C</sub> = 100°C	I <sub>O</sub>	25							A
Non-Repetitive Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on rated Load	I <sub>FSM</sub>	350							A

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 5)	R <sub>θJC</sub>	1.0	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

## Electrical Characteristics (@T<sub>A</sub> = 25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Forward Voltage (per element) @ I <sub>F</sub> = 12.5A	V <sub>FM</sub>	1.05	V
Peak Reverse Current @ T <sub>C</sub> = 25°C	I <sub>R</sub>	10	μA
at Rated DC Blocking Voltage @ T <sub>C</sub> = 125°C		500	
I <sup>2</sup> t Rating for Fusing (t < 8.3ms) (Note 3)	I <sup>2</sup> t	510	A <sup>2</sup> s
Typical Total Capacitance (per element) (Note 4)	C <sub>T</sub>	85	pF

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
  2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Non-repetitive, for t > 1ms and < 8.3 ms.
  4. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
  5. Thermal resistance from junction to case per element. Unit mounted on 250 x 250 x 20mm aluminum plate heat sink.

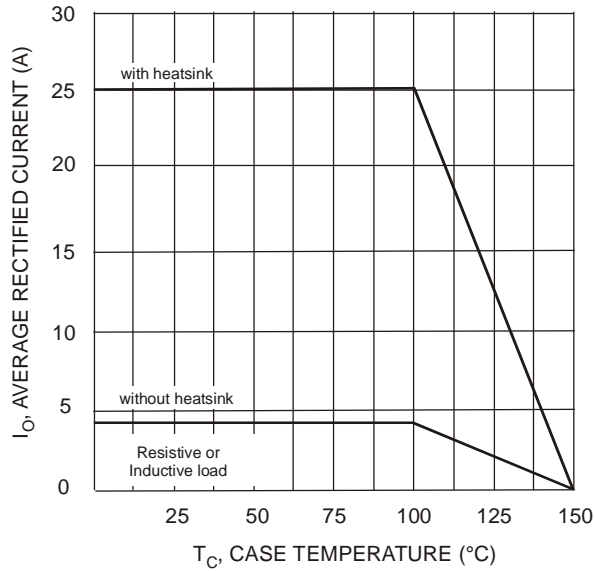


Fig. 1 Forward Current Derating Curve

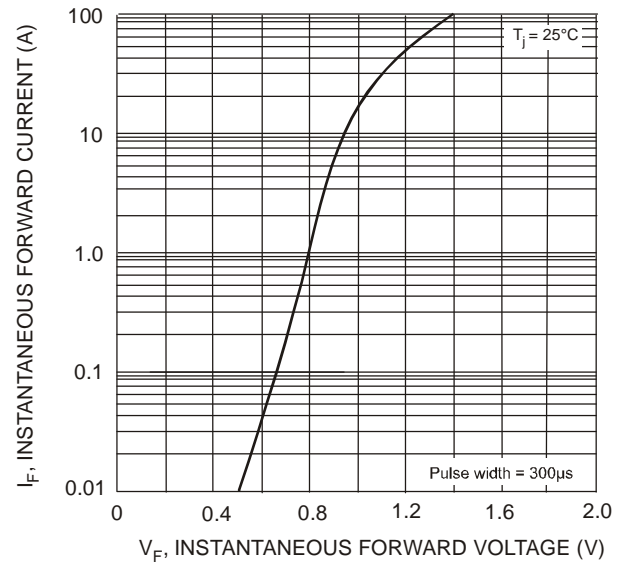


Fig. 2 Typical Forward Characteristics (per element)

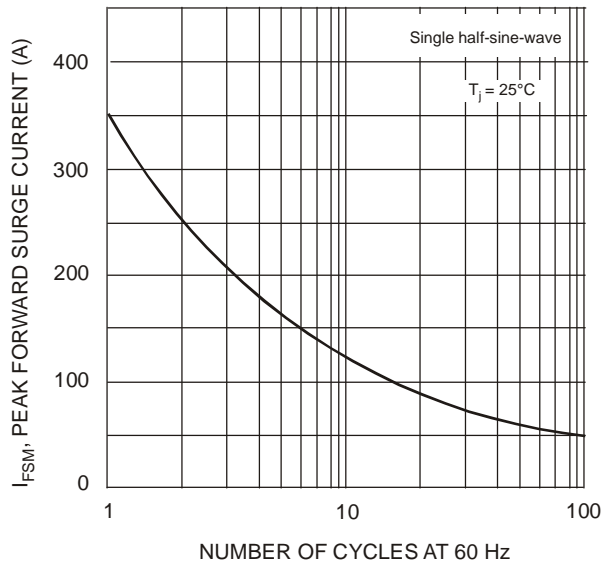


Fig. 3 Maximum Non-Repetitive Surge Current

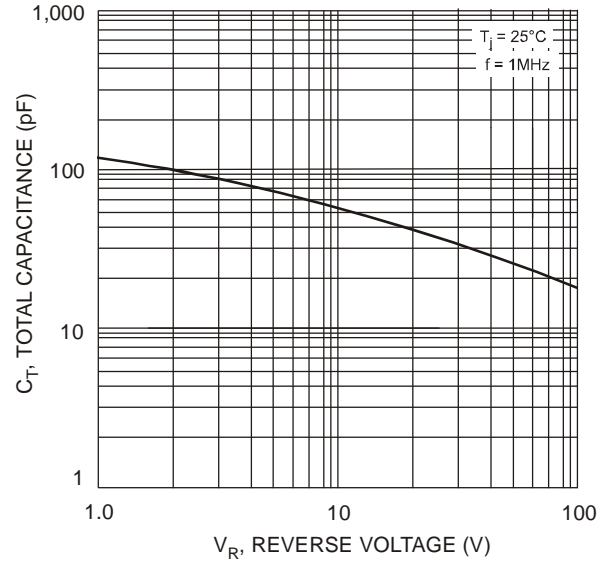


Fig. 4 Typical Total Capacitance, Per Element

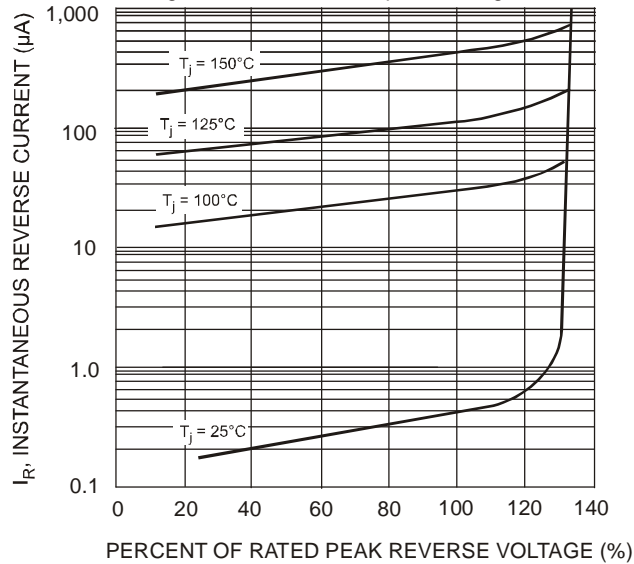


Fig. 5 Typical Reverse Characteristics

## Ordering Information (Note 6)

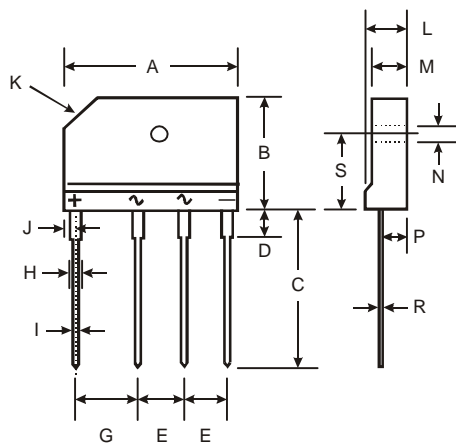
Part Number	Case	Packaging
GBJ25005-F	GBJ	15/Tube
GBJ2501-F	GBJ	15/Tube
GBJ2502-F	GBJ	15/Tube
GBJ2504-F	GBJ	15/Tube
GBJ2506-F	GBJ	15/Tube
GBJ2508-F	GBJ	15/Tube
GBJ2510-F	GBJ	15/Tube

Note: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### GBJ



GBJ		
Dim	Min	Max
A	29.70	30.30
B	19.70	20.30
C	17.00	18.00
D	3.80	4.20
E	7.30	7.70
G	9.80	10.20
H	2.00	2.40
I	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
P	2.50	2.90
R	0.60	0.80
S	10.80	11.20
All Dimensions in mm		

**Note:** For high voltage applications, the appropriate industry sector guidelines should be considered with regards to creepage and clearance.

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