


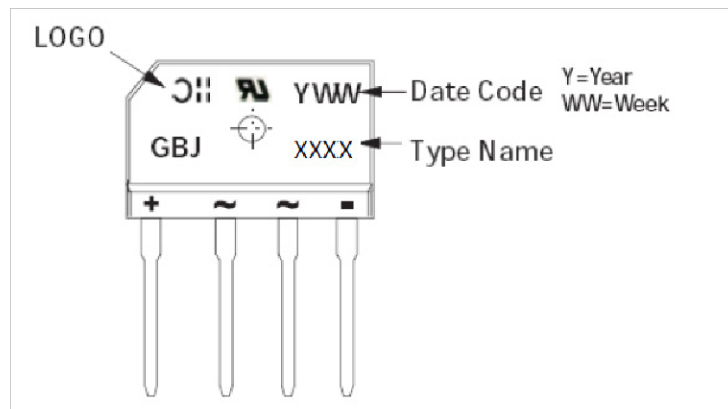
## Features

- 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 
- 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)

## Marking Information



- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3).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.

**Maximum Ratings** (@ $T_A = 25^\circ\text{C}$ , 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	$V_{RRM}$								
Working Peak Reverse Voltage	$V_{RWM}$	50	100	200	400	600	800	1000	V
DC Blocking Voltage	$V_R$								
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Forward Rectified Output Current (Note 3)	$I_o$	@ $T_C = 100^\circ\text{C}$ 25							A
Non-Repetitive Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on rated Load	$I_{FSM}$	350							A

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 5)	$R_{\theta JC}$	1.0	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	$^\circ\text{C}$

**Electrical Characteristics** (@ $T_A = 25^\circ\text{C}$ , unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Forward Voltage (per element) @ $I_F = 12.5\text{A}$	$V_{FM}$	1.05	V
Peak Reverse Current @ $T_C = 25^\circ\text{C}$	$I_R$	10	$\mu\text{A}$
at Rated DC Blocking Voltage @ $T_C = 125^\circ\text{C}$		500	
$I^2t$ Rating for Fusing ( $t > 1\text{ms}$ and $< 8.3\text{ms}$ ) (Note 3)	$I^2t$	510	$\text{A}^2\text{s}$
Typical Total Capacitance (per element) (Note 4)	$C_T$	85	pF

- Notes:
3. Non-repetitive, for  $t > 1\text{ms}$  and  $< 8.3\text{ms}$ .
  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.

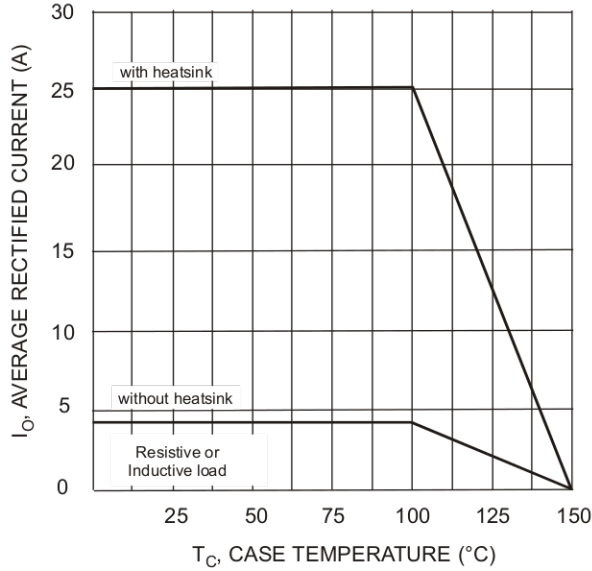


Fig. 1 Forward Current Derating Curve

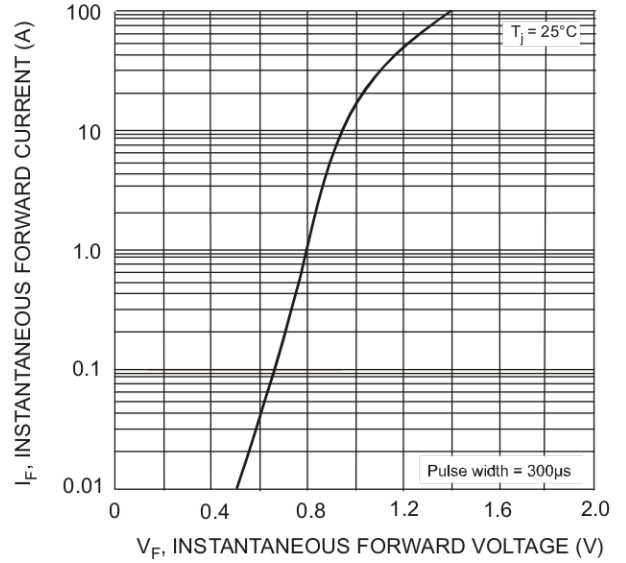


Fig. 2 Typical Forward Characteristics (per element)

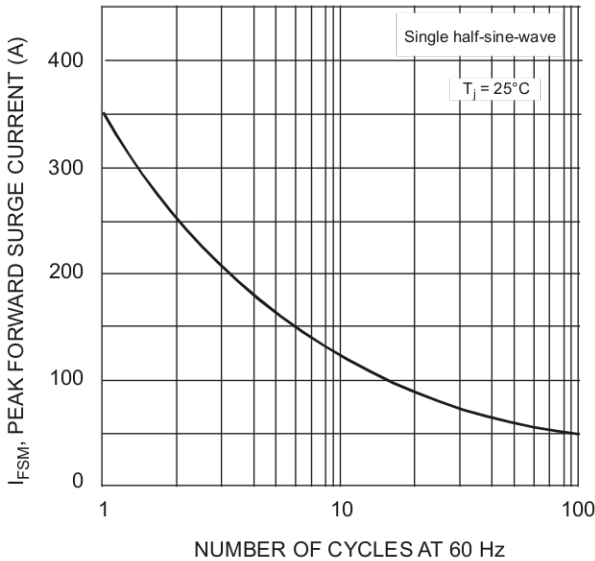


Fig. 3 Maximum Non-Repetitive Surge Current

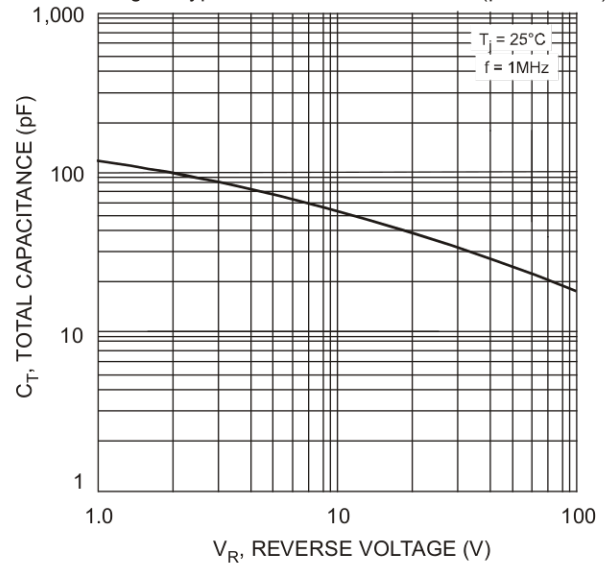


Fig. 4 Typical Total Capacitance, Per Element

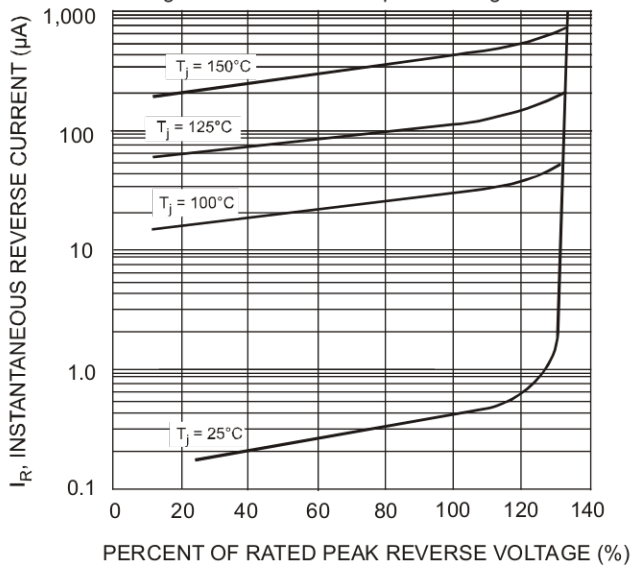


Fig. 5 Typical Reverse Characteristics

### Ordering Information (Note 6)

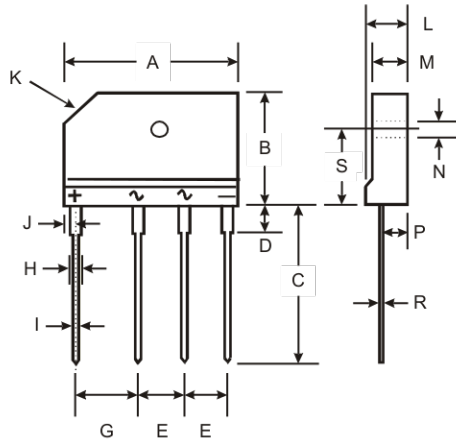
Part Number	Case	Packaging
GBJ25005-F	GBJ	15/Tube
GBJ2501-F	GBJ	15/Tube
GBJ2502-F	GBJ	15/Tube
GBJ2504-F	GBJ	15/Tube
GBJ2506-F	GBJ	15/Tube
GBJ2508-F	GBJ	15/Tube
GBJ2510-F	GBJ	15/Tube

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
<b>All Dimensions in mm</b>		

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

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