

## Product Summary

$V_{RRM}$ (V)	$I_F$ (A)	$V_F$ Max (V) @ $I_F = 3A$	$I_R$ Max ( $\mu A$ )
50/100/200/ 400/600/800/ 1000	6.0	1.0	5.0

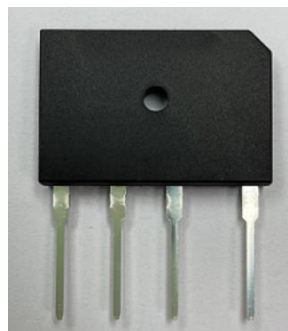
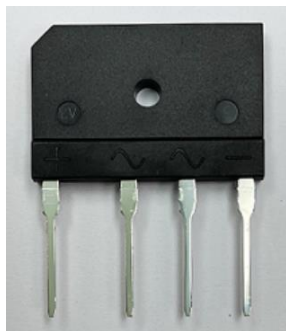
## Mechanical Data

- Package: GBJ
- Package Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Plated Leads, Lead Free Plating (Tin Finish). Solderable per MIL-STD-202, Method 208
- 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)

## 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 E95060
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](https://www.diodes.com/quality/product-definitions/) or your local Diodes representative.**

GBJ

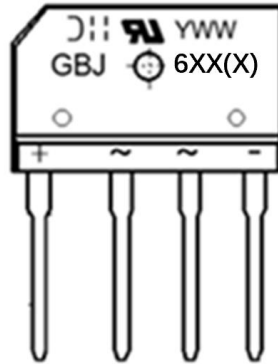


## Ordering Information (Note 3)

Orderable Part Number	Package	Packing	
		Qty.	Carrier
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:
- EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  - 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.
  - For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information



GBJ6XX = Product Type Marking Code, ex: GBJ601, GBJ602, GBJ604, GBJ606, GBJ608, GBJ610  
 GBJ6XXX = Product Type Marking Code, ex: GBJ6005  
 J = Manufacturer's Code Marking  
 YWW = Date Code Marking  
 Y = Last Digit of Year (ex: 5 = 2025)  
 WW = Week Code (01 to 53)

## Maximum Ratings (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Characteristic	Symbol	GBJ6005	GBJ601	GBJ602	GBJ604	GBJ606	GBJ608	GBJ610	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Average Rectified Output Current With Heatsink (Note 5) @ $T_J = +150^\circ\text{C}$	$I_{F(AV)}$	6.0							A
Peak Forward Surge Current 8.3ms Single Half Sine Superimposed on Rated Load	$I_{FSM}$	170							A
$I^2t$ Rating for Fusing ( $t = 8.3\text{ms}$ )	$I^2t$	120							$\text{A}^2\text{s}$
Operating Temperature Range	$T_J$	-55 to +150							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150							$^\circ\text{C}$

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

Characteristic	Test Conditions	Symbol	Min	Typ	Max	Unit
Breakdown Voltage	$I_R = 5\mu\text{A}$ , $T_J = +25^\circ\text{C}$	$V_B$	50/100/200/400 /600/800/1000	—	—	V
Forward Voltage	$I_F = 3.0\text{A}$ , $T_J = +25^\circ\text{C}$	$V_F$	—	—	1.0	V
Leakage Current	$V_R$ at Rated $T_J = +25^\circ\text{C}$ $T_J = +125^\circ\text{C}$	$I_R$	—	—	5 500	$\mu\text{A}$
Typical Junction Capacitance (Note 4)		$C_T$	55			pF

## Thermal Characteristics

Characteristic	Symbol	Typ	Unit
Typical Thermal Resistance (Note 5)	$R_{\theta JC}$	1.8	$^\circ\text{C/W}$

Notes: 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 75 x 75 x 1.6mm aluminum plate heat sink.

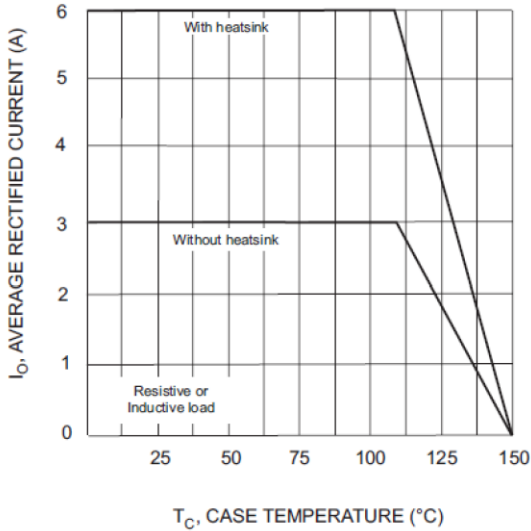


Fig. 1 Forward Current Derating Curve

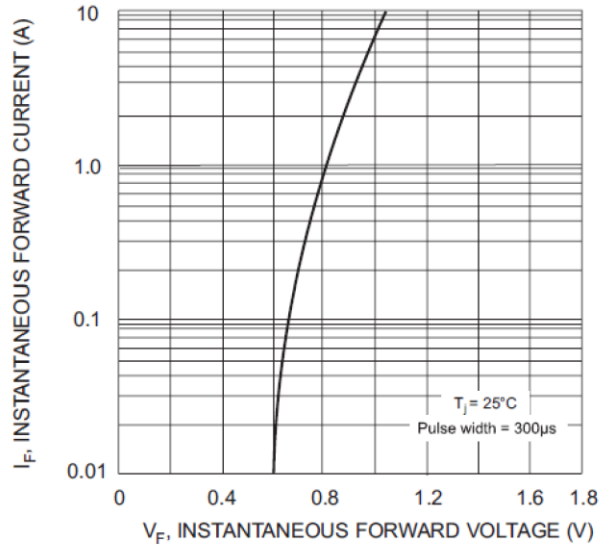


Fig. 2 Typical Forward Characteristics (Per Element)

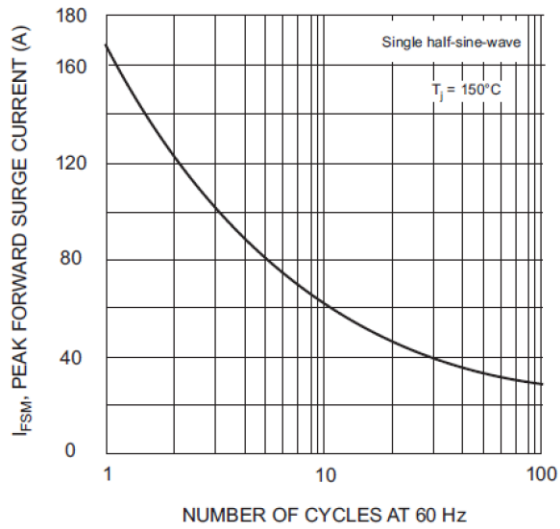


Fig. 3 Maximum Non-Repetitive Surge Current

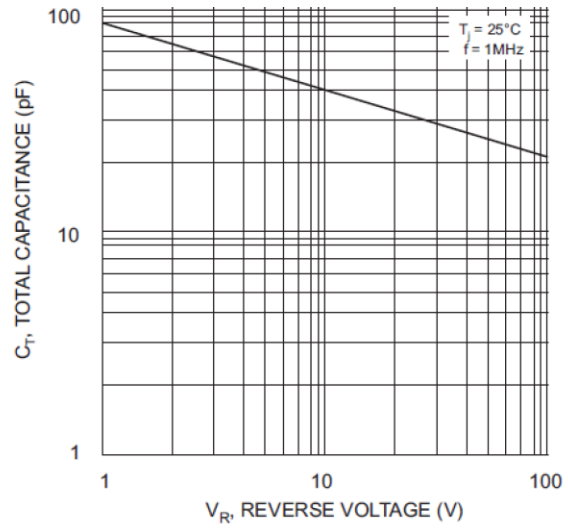


Fig. 4 Typical Total Capacitance, Per Element

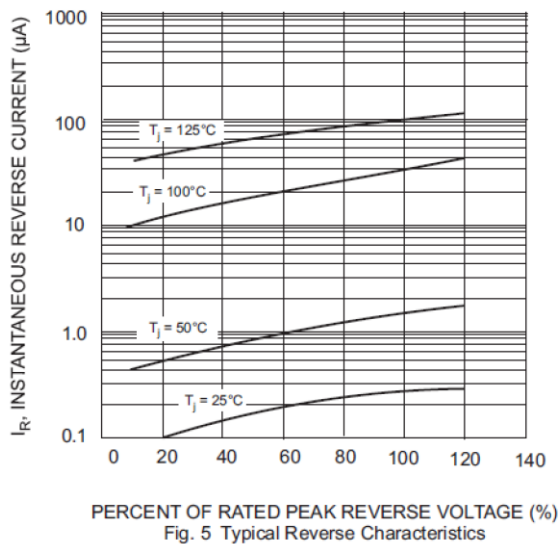
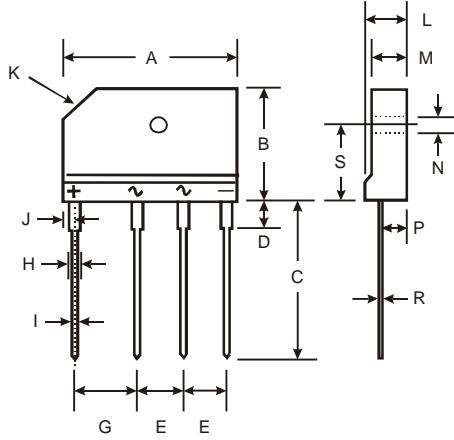


Fig. 5 Typical Reverse Characteristics

## 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		

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