

Product Summary

V_{RRM} (V)	I_F (A)	V_F Max (V) @ $I_F = 20A$	I_R Max (μA)
600	40	0.90	10

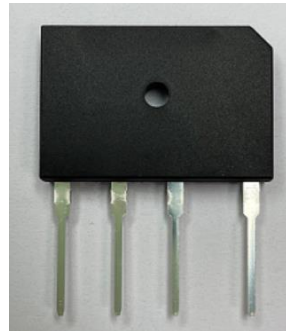
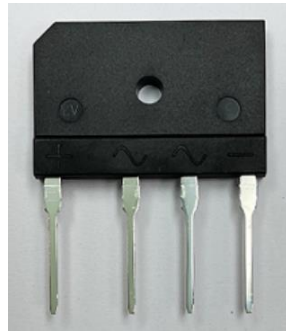
Mechanical Data

- Package: GBJ
- Package Material: Plastic Material, UL Flammability Classification 94V-0
- Terminals: Finish – Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208
- Polarity Indicator: Symbol Molded on Body
- Weight: 6.60 grams (Approximate)

Features

- Glass Passivated Die Construction
- Low Forward Voltage Drop
- Ideal for Printed Circuit Board
- High Surge Current Capability
- UL Recognized File # E95060
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- Halogen and Antimony Free. "Green" Device (Note 3)**
- 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](mailto:contact@diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

GBJ

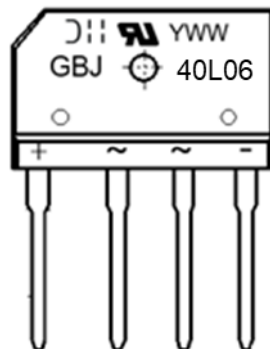


Ordering Information (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
GBJ40L06	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.
 - Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 - For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



GBJ40L06 = Product Type Marking Code
 JII = Manufacturer's Code Marking
 YWW = Date Code Marking
 Y = Last Digit of Year (ex: 4 = 2024)
 WW = Week Code (01 to 53)

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

Characteristic	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	600	V
Average Rectified Output Current @ $T_C = +125^\circ\text{C}$	With Heatsink	40	A
	Without Heatsink	5	A
Peak Forward Surge Current 8.3ms Single Half Sine Wave	I_{FSM}	420	A
I^2t Rating for Fusing ($t = 8.3\text{ms}$)	I^2t	732	A^2s
Operating Temperature Range	T_J	-40 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics

Characteristic	Test Conditions		Symbol	Min	Typ	Max	Unit
	$I_R = 10\mu\text{A}$	$T_J = +25^\circ\text{C}$					
Breakdown Voltage	$I_R = 10\mu\text{A}$	$T_J = +25^\circ\text{C}$	V_B	600	—	—	V
Forward Voltage	$I_F = 20\text{A}$	$T_J = +25^\circ\text{C}$	V_F	—	0.87	0.90	V
Leakage Current	$V_R = 600\text{V}$	$T_J = +25^\circ\text{C}$	I_R	—	—	10	μA
Typical Junction Capacitance (Note 5)			C_T	400			pF

Thermal Characteristics

Characteristic	Symbol	Typ	Unit
Typical Thermal Resistance (Without Heatsink)	$R_{\theta JC}$	5	$^\circ\text{C/W}$
	$R_{\theta JL}$	9	
	$R_{\theta JA}$	24	
Typical Thermal Resistance (Note 6)	$R_{\theta JC}$	2	$^\circ\text{C/W}$
	$R_{\theta JL}$	2.5	
	$R_{\theta JA}$	3	

- Notes:
5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 6. Thermal resistance junction to case, lead and ambient in accordance with JESD-51. Device mounted on cooling heatsink.

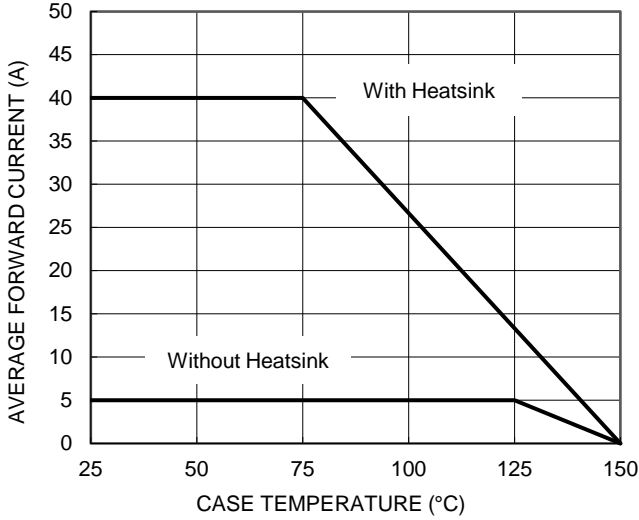


Figure 1. Forward Current Derating Curve

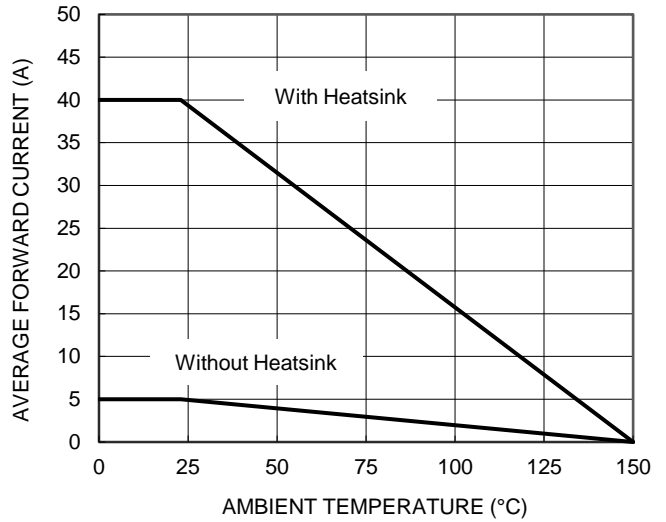


Figure 2. Forward Current Derating Curve

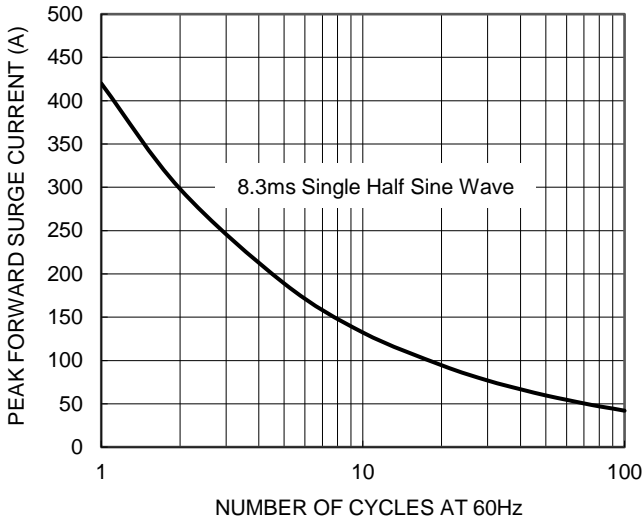


Figure 3. Maximum Non-Repetitive Surge Current

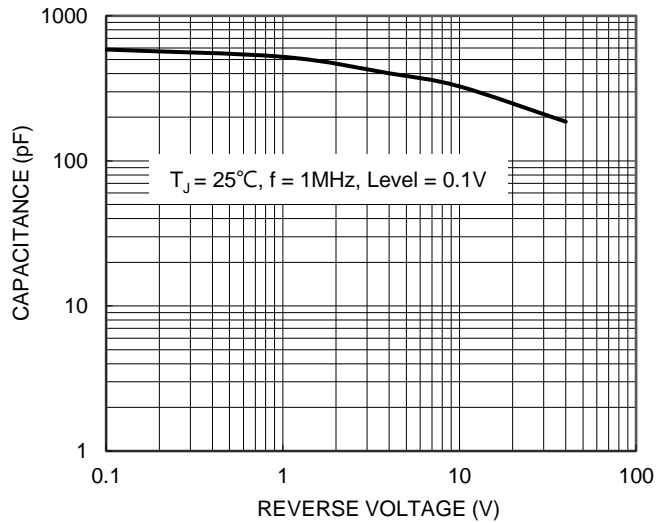


Figure 4. Typical Junction Capacitance

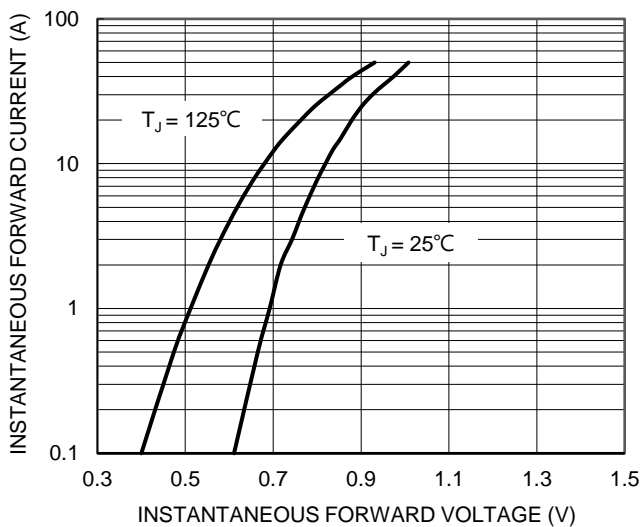


Figure 5. Typical Forward Characteristics

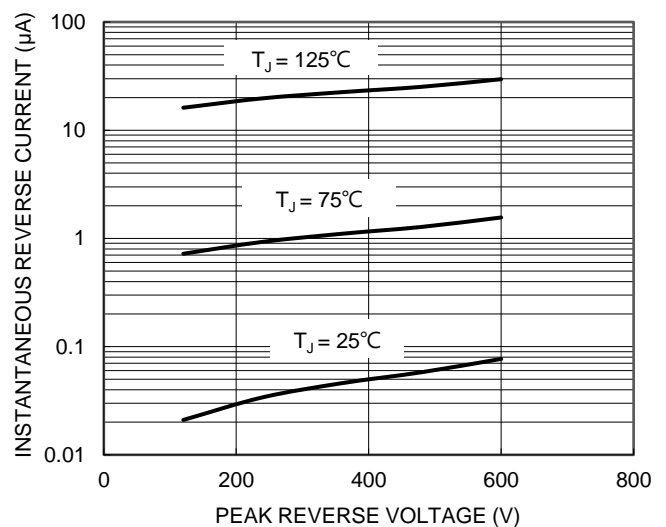
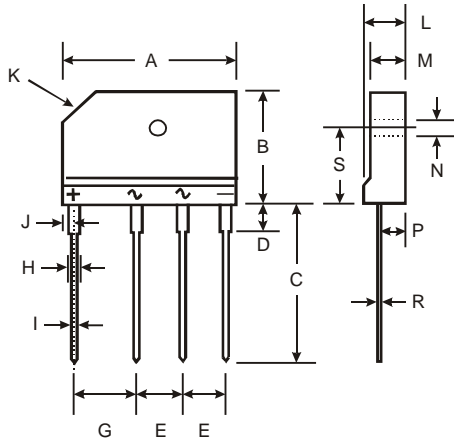


Figure 6. Typical Reverse Characteristics

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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