

## Product Summary

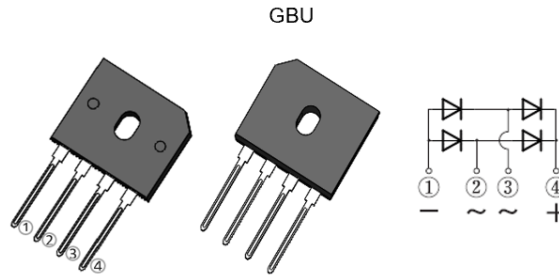
V <sub>RRM</sub> (V)	I <sub>F</sub> (A)	V <sub>F</sub> Max (V) @ I <sub>F</sub> = 2A	I <sub>R</sub> Max (μA)
50/100/200/400 /600/800/1000	4.0	1.0	5

## Features and Benefits

- Glass Passivated Die Construction
- High Case Dielectric Strength of 1500V<sub>RMS</sub>
- Low Reverse Leakage Current
- Surge Overload Rating to 150A 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/contact-us) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

## Mechanical Data

- Package: GBU
- Package Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Plated Leads. Solderable per MIL-STD-202, Method 208 @3
- Lead-Free Plating (Tin Finish)
- Polarity: Marked on Body
- Mounting: Through Hole for #6 Screw
- Mounting Torque: 5.0 Inch-Pounds Maximum
- Weight: 3.7 grams (Approximate)

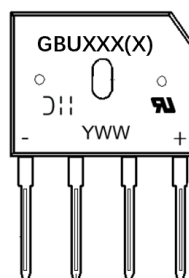


## Ordering Information (Note 3)

Orderable Part Number	Package	Packing	
		Qty.	Carrier
GBU4005	GBU	20pcs	Tube
GBU401	GBU	20pcs	Tube
GBU402	GBU	20pcs	Tube
GBU404	GBU	20pcs	Tube
GBU406	GBU	20pcs	Tube
GBU408	GBU	20pcs	Tube
GBU410	GBU	20pcs	Tube

- 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.
  3. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information



GBUXXX = Product Type Marking Code, ex:  
GBU401, GBU402, GBU404, GBU406,  
GBU408, GBU410  
GBUXXXX = Product Type Marking Code,  
ex: GBU4005  
JII = 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<sub>A</sub> = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	GBU4005	GBU401	GBU402	GBU404	GBU406	GBU408	GBU410	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>								
Working Peak Reverse Voltage	V <sub>RWM</sub>	50	100	200	400	600	800	1000	V
DC Blocking Voltage	V <sub>RM</sub>								
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> = +100°C (Note 4)	I <sub>F(AV)</sub>	4.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load	I <sub>FSM</sub>	150							A
I <sup>2</sup> t Rating for Fusing (t = 8.3ms)	I <sup>2</sup> t	93							A <sup>2</sup> s
Operating Temperature Range	T <sub>J</sub>	-55 to +150							°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150							°C

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

Characteristic	Test Conditions	Symbol	Min	Typ	Max	Unit
Breakdown Voltage	I <sub>R</sub> = 5μA, T <sub>J</sub> = +25°C	V <sub>B</sub>	50/100/200/400 /600/800/1000	—	—	V
Forward Voltage	I <sub>F</sub> = 2.0A, T <sub>J</sub> = +25°C	V <sub>F</sub>	—	—	1.0	V
Leakage Current	V <sub>R</sub> at Rated T <sub>J</sub> = +25°C T <sub>J</sub> = +125°C	I <sub>R</sub>	— —	— —	5 50	μA
Typical Junction Capacitance (Note 5)		C <sub>T</sub>	80			pF

## Thermal Characteristics

Characteristic	Symbol	Typ	Unit
Typical Thermal Resistance (Note 4)	R <sub>θJC</sub>	2.2	°C/W

Notes: 4. Unit mounted on 50mm x 50mm x 1.6mm copper plate heatsink.  
5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

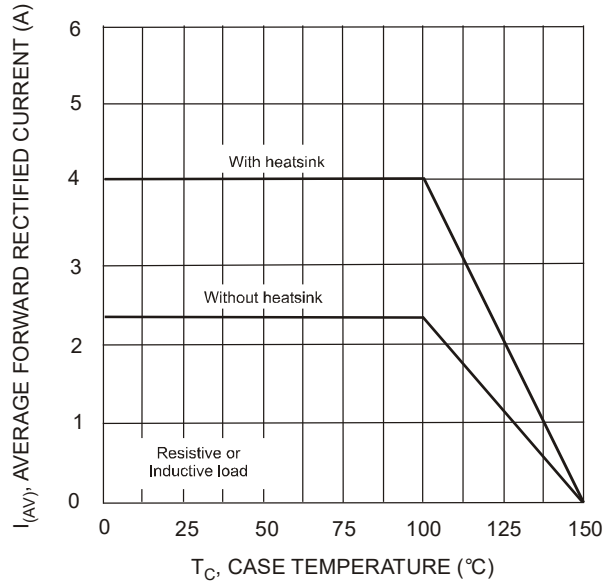


Fig. 1 Forward Current Derating Curve

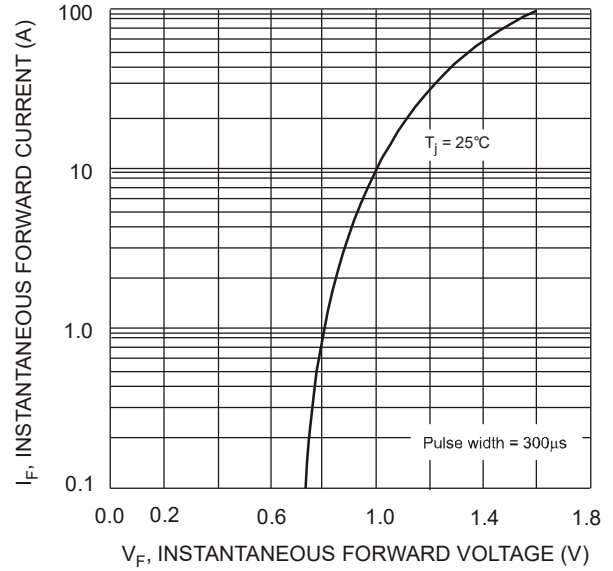


Fig. 2 Typical Forward Characteristics, per element

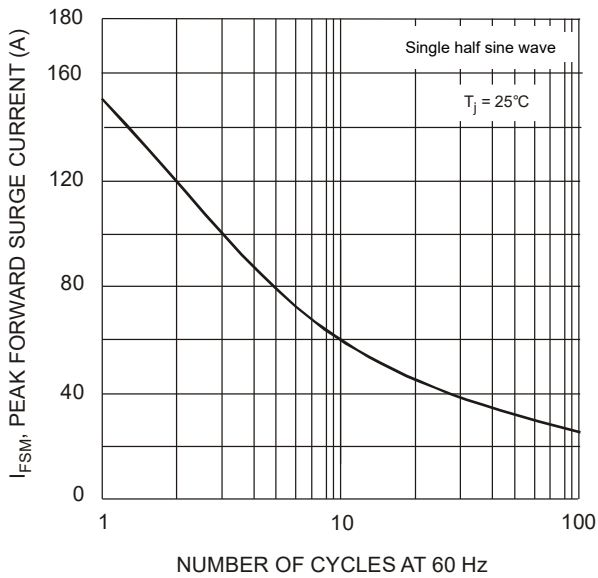


Fig. 3 Maximum Non-Repetitive Surge Current

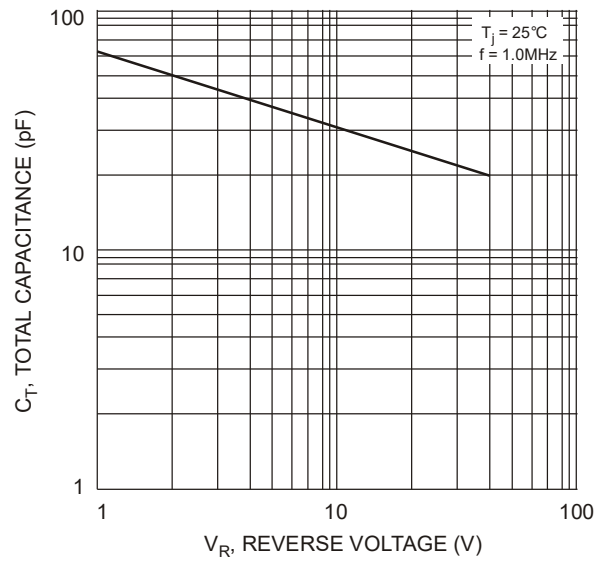
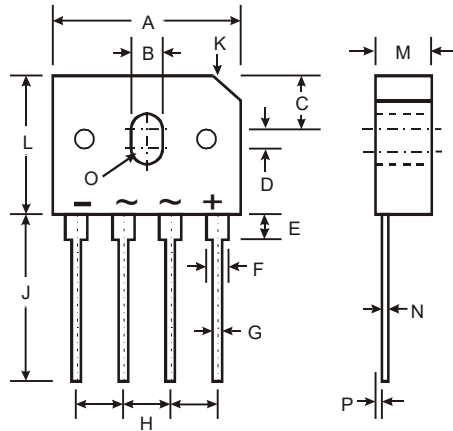


Fig. 4 Typical Total Capacitance, per element

## Package Outline Dimensions

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

### GBU



GBU		
Dim	Min	Max
A	21.8	22.3
B	3.5	4.1
C	7.4	7.9
D	1.65	2.16
E	2.25	2.75
F	1.95	2.35
G	1.02	1.27
H	4.83	5.33
J	17.5	18.0
K	3.2 X 45°	
L	18.3	18.8
M	3.30	3.56
N	0.46	0.56
O	1.90R	
P	0.76	1.0
All Dimensions in mm		

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