

Product Summary

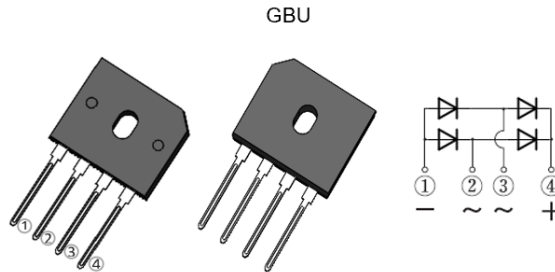
V_{RRM} (V)	I_F (A)	V_F Max (V) @ $I_F = 3A$	I_R Max (μA)
50/100/200/ 400/600/800/1000	6.0	1.0	5

Mechanical Data

- Package: GBU
- Package Material: Plastic Material, UL Flammability Classification 94V-0
- Terminals: Plated Leads. Solderable per MIL-STD-202, Method 208 (B3)
- 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)

Features

- Glass Passivated Die Construction
- High Case Dielectric Strength of 1500V_{RMS}
- Low Reverse Leakage Current
- Surge Overload Rating to 175A Peak
- Ideal for Printed Circuit Board Applications
- UL Recognized File #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](mailto:contact@diodes.com) or your local Diodes representative.**
<https://www.diodes.com/quality/product-definitions/>

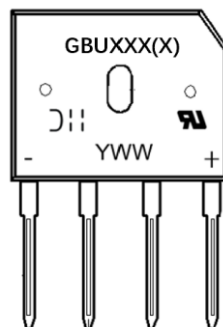


Ordering Information (Note 3)

Orderable Part Number	Package	Packing	
		Qty.	Carrier
GBU6005	GBU	20	Tube
GBU601	GBU	20	Tube
GBU602	GBU	20	Tube
GBU604	GBU	20	Tube
GBU606	GBU	20	Tube
GBU608	GBU	20	Tube
GBU610	GBU	20	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



GBUXXX = Product Type Marking Code, ex: GBU601, GBU602, GBU604, GBU606, GBU608, GBU610
 GBUXXXX = Product Type Marking Code, ex: GBU6005
 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.)

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

Characteristic	Symbol	GBU6005	GBU601	GBU602	GBU604	GBU606	GBU608	GB610	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Average Rectified Output Current with Heatsink (Note 4) @ $T_J = +150^{\circ}\text{C}$	$I_{F(AV)}$	6.0							A
Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	175							A
I^2t Rating for Fusing ($t = 8.3\text{ms}$)	I^2t	127							A^2s
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	μA
Typical Junction Capacitance (Note 5)		C_T	100			pF

Thermal Characteristics

Characteristic	Symbol	Typ	Unit
Typical Thermal Resistance (Note 4)	$R_{\theta JC}$	2.2	$^{\circ}\text{C/W}$

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.

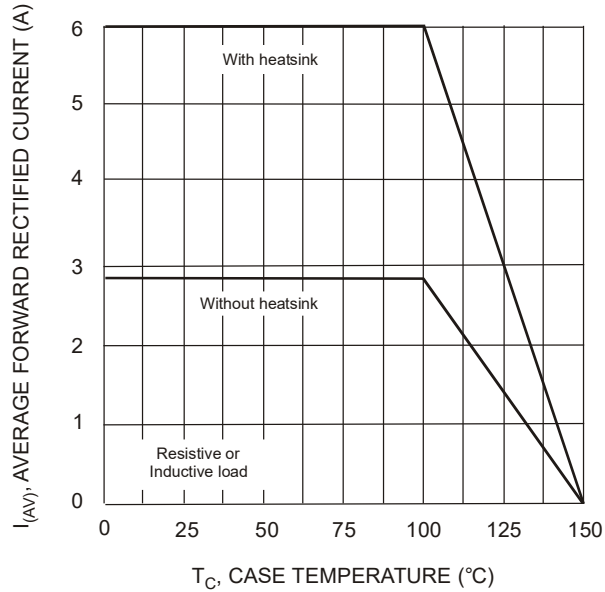


Fig. 1 Forward Current Derating Curve

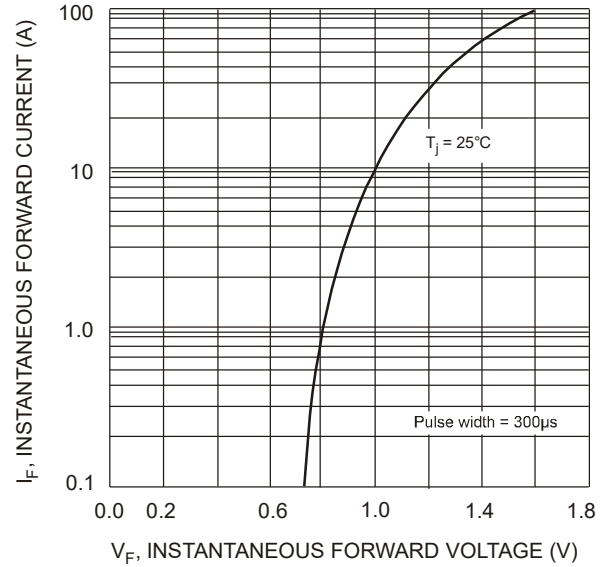


Fig. 2 Typical Forward Characteristics, per element

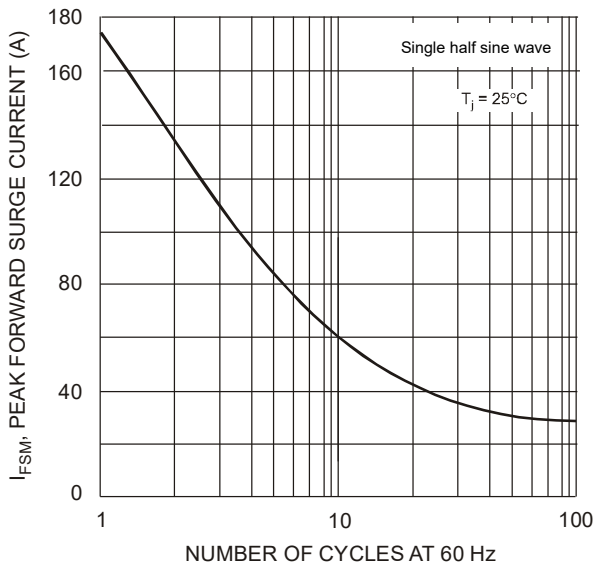


Fig. 3 Maximum Non-Repetitive Surge Current

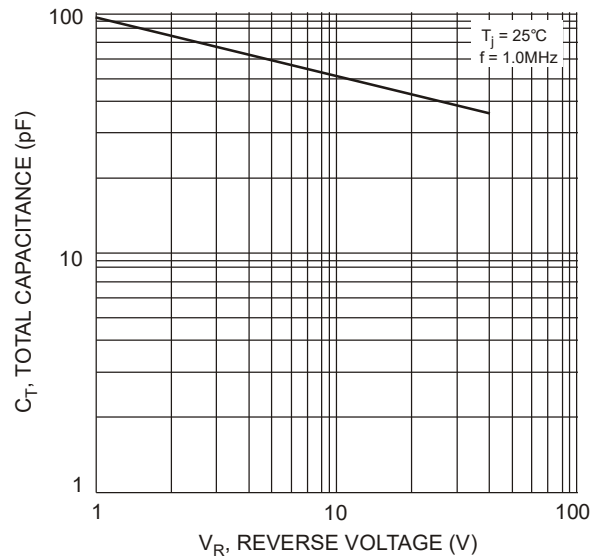
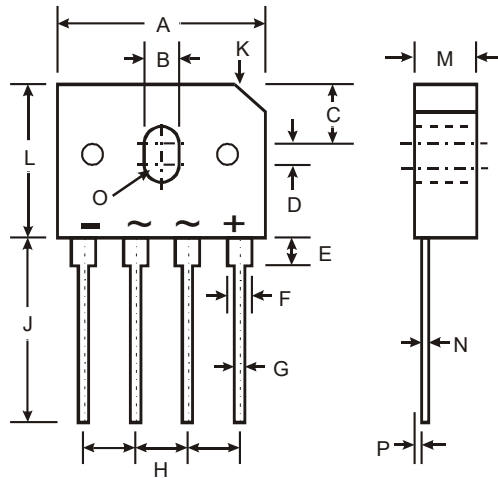


Fig. 4 Typical Total Capacitance, per element

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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