

## Features

- Glass Passivated Die Construction
- High Case Dielectric Strength of 1500V<sub>RMS</sub>
- Low Reverse Leakage Current
- Surge Overload Rating to 220A 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: GBU
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish. Solderable per MIL-STD 202, Method 208 (E3)
- Polarity: Marked on Body
- Mounting: Through Hole for #6 Screw
- Mounting Torque: 5.0 Inch-pounds Maximum
- Marking: Date Code and Type Number
- Weight: 4 grams (approximate)

## Ordering Information (Note 3)

Part Number	Case	Packaging
GBU10005-GBU1010	GBU	20/Tube

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
  2. See <http://www.diodes.com> 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 <http://www.diodes.com>.

## Maximum Ratings and Electrical Characteristics (@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	GBU 10005	GBU 1001	GBU 1002	GBU 1004	GBU 1006	GBU 1008	GBU 1010	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>R</sub>								
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V
Average Forward Rectified Current (Note 4) @ T <sub>C</sub> = +100°C	I <sub>(AV)</sub>				10				A
Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>				220				A
8.3ms Single Half Sine-Wave Superimposed on Rated Load									
Forward Voltage (per element) @ I <sub>F</sub> = 5.0A	V <sub>FM</sub>				1.0				V
Peak Reverse Current at @ T <sub>C</sub> = +25°C	I <sub>R</sub>				5.0				μA
Rated DC Blocking Voltage @ T <sub>C</sub> = +125°C					500				
I <sup>2</sup> t Rating for Fusing (Note 5)	I <sup>2</sup> t				200				A <sup>2</sup> s
Typical Total Capacitance per Element (Note 6)	C <sub>T</sub>				60				pF
Typical Thermal Resistance Junction to Case (Note 4)	R <sub>θJC</sub>				2.2				°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>				-55 to +150				°C

- Notes:
4. Unit mounted on 100mm x 100mm x 1.6mm copper plate heatsink.
  5. Non-repetitive, for t > 1.0ms and < 8.3ms.
  6. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

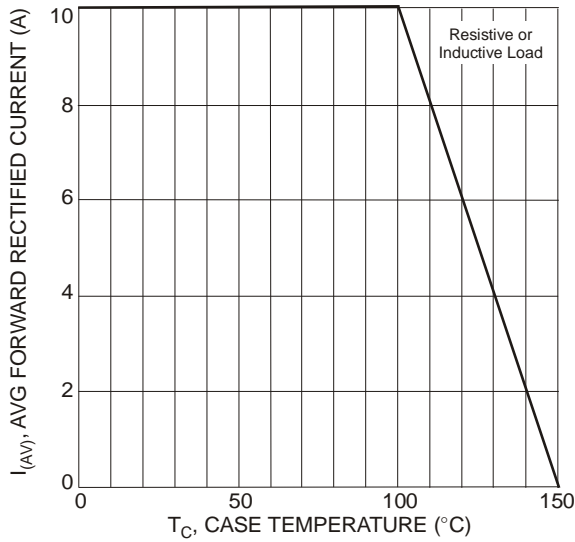


Figure 1 Forward Current Derating Curve

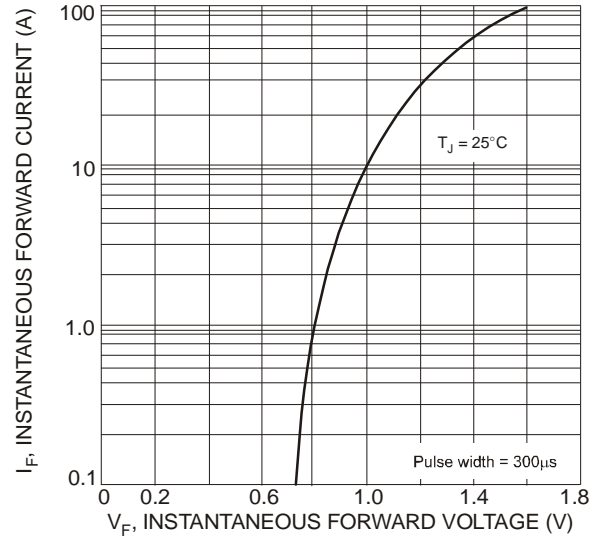


Figure 2 Typical Forward Characteristics, per element

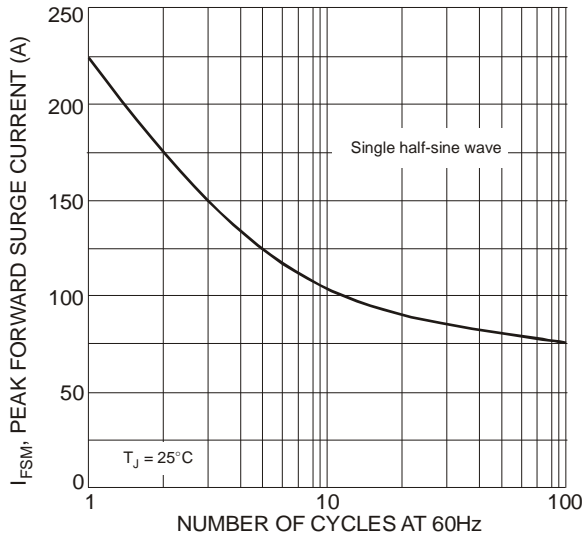


Figure 3 Maximum Non-Repetitive Surge Current

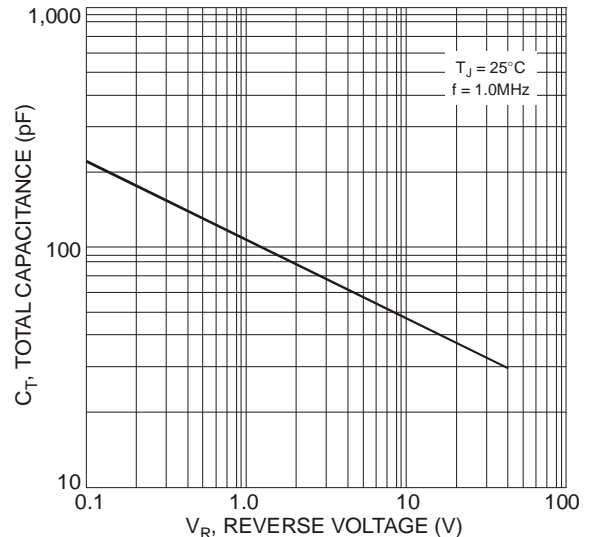
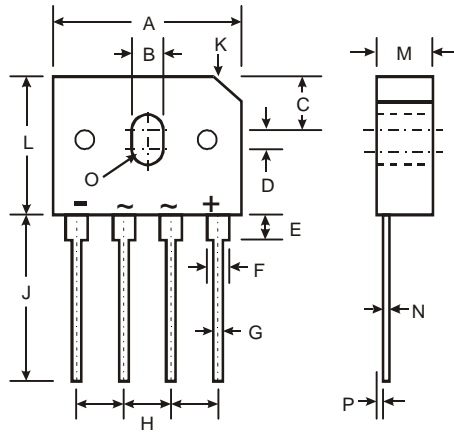


Figure 4 Typical Total Capacitance, per element

**Package Outline Dimensions**

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



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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