

# GBPC15005/W - GBPC1510/W

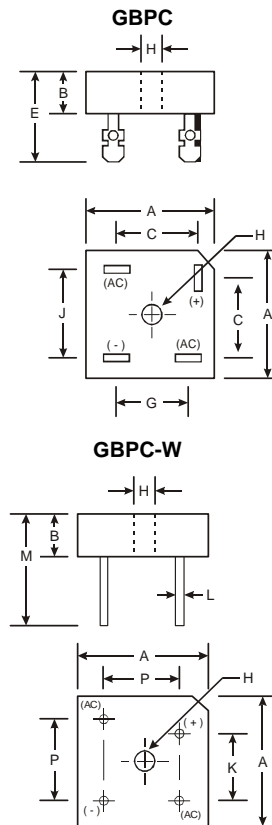
## 15A GLASS PASSIVATED BRIDGE RECTIFIER

### Features

- Glass Passivated Die Construction
- Low Reverse Leakage Current
- Low Power Loss, High Efficiency
- Surge Overload Rating to 300A Peak
- Electrically Isolated Metal Base for Maximum Heat Dissipation
- Case to Terminal Isolation Voltage 1500V
- UL Listed Under Recognized Component Index, File Number E94661
- **Lead Free Finish, RoHS Compliant (Date Code 0514+)** (Note 4)

### Mechanical Data

- Case: GBPC/GBPC-W
- Case Material: Molded Plastic with Heatsink Internally Mounted in the Bridge Encapsulation. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish — Silver. Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Case
- Mounting: Through Hole for #10 Screw
- Mounting Torque: 8.0 Inch-pounds Maximum
- Ordering Information: See Page 3
- Marking: Type Number
- GBPC Weight: 20 grams (approximate)
- GBPC-W Weight: 14 grams (approximate)



GBPC / GBPC-W		
Dim	Min	Max
A	28.30	28.80
B	7.40	8.25
C	16.10	17.10
E	18.80	21.30
G	13.80	14.80
H	Hole for #10 screw	
	5.08Ø	5.59Ø
J	17.60	18.60
K	10.90	11.90
L	0.97Ø	1.07Ø
M	31.80	—
P	17.60	18.60
All Dimensions in mm		

"W" Suffix Designates Wire Leads  
No Suffix Designates Faston Terminals

### 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	GBPC15 005/W	GBPC15 01/W	GBPC15 02/W	GBPC15 04/W	GBPC15 06/W	GBPC15 08/W	GBPC15 10/W	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	V <sub>RWM</sub>								
DC Blocking Voltage	V <sub>R</sub>								
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V
Average Rectified Output Current @ T <sub>C</sub> = 70°C	I <sub>O</sub>	15							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	300							A
Forward Voltage (per element) @ I <sub>F</sub> = 7.5A	V <sub>FM</sub>	1.1							V
Peak Reverse Current @ T <sub>C</sub> = 25°C	I <sub>R</sub>	5.0							µA
at Rated DC Blocking Voltage @ T <sub>C</sub> = 125°C		500							
I <sup>2</sup> t Rating for Fusing (Note 1)	I <sup>2</sup> t	374							A <sup>2</sup> s
Typical Total Capacitance (Note 2)	C <sub>T</sub>	300							pF
Typical Thermal Resistance (Note 3)	R <sub>θJC</sub>	5.0							°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150							°C

- Notes:
1. Non-repetitive, for t > 1.0ms and t < 8.3ms.
  2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  3. Thermal resistance junction to case mounted on heatsink.
  4. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. Please visit our website at [http://www.diodes.com/products/lead\\_free.html](http://www.diodes.com/products/lead_free.html).

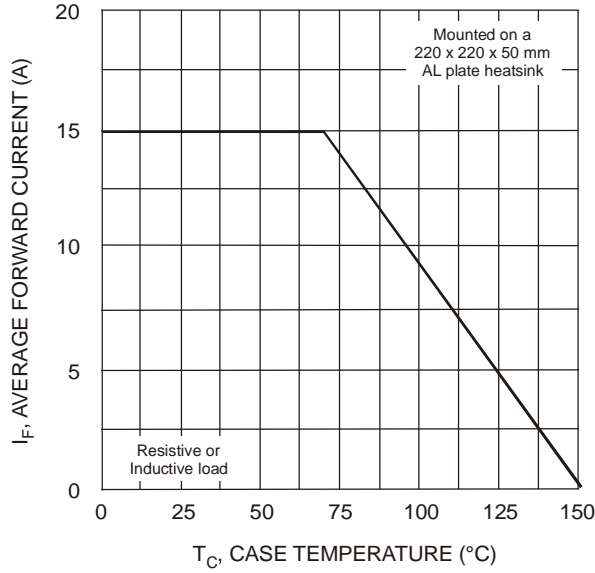


Fig. 1 Forward Current Derating Curve

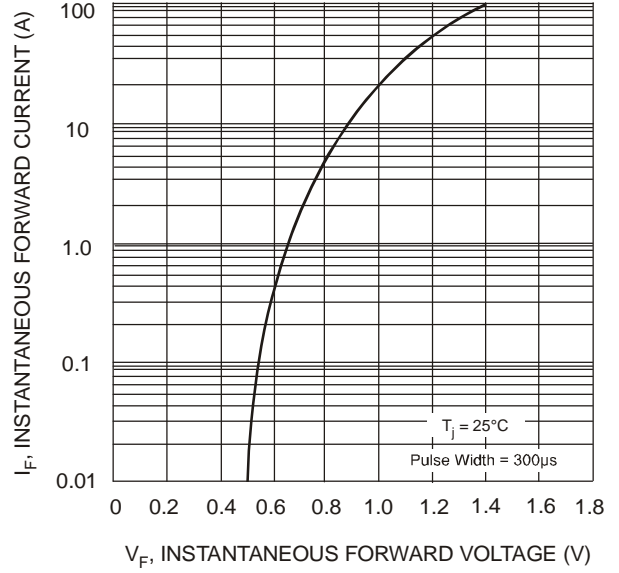


Fig. 2 Typical Forward Characteristics (per element)

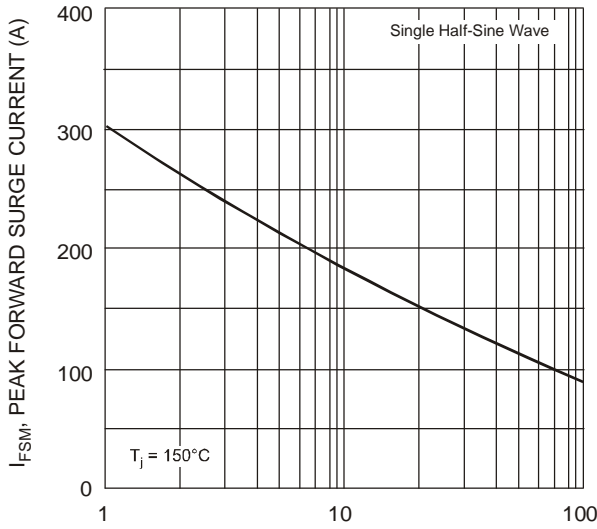


Fig. 3 Max Non-Repetitive Surge Current

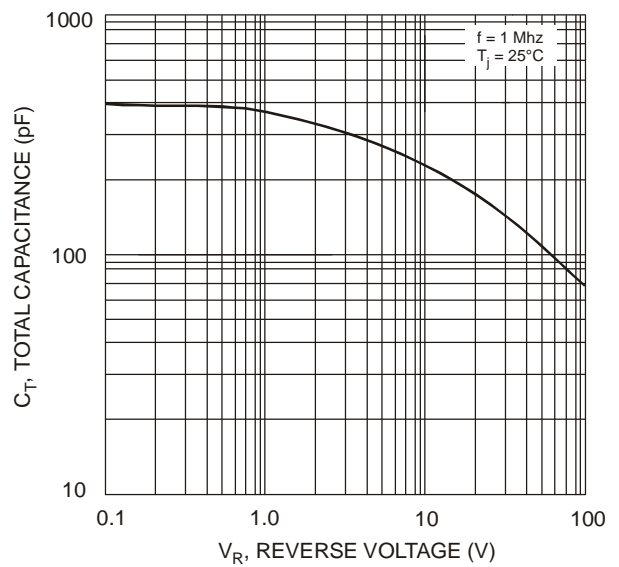


Fig. 4 Typical Total Capacitance (per element)

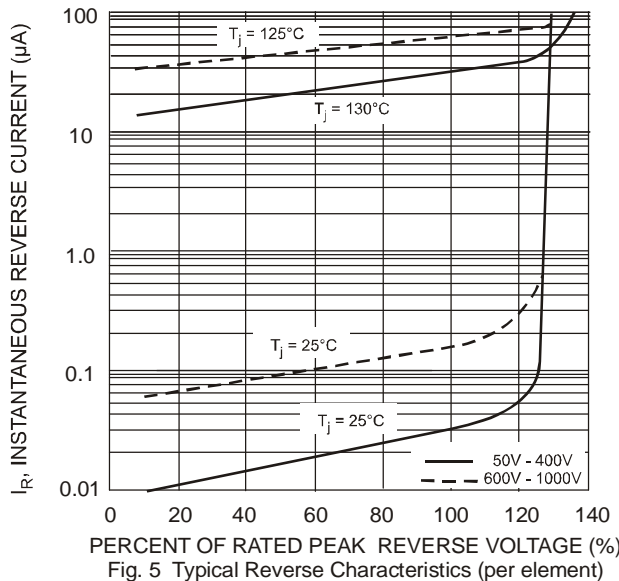


Fig. 5 Typical Reverse Characteristics (per element)

## Ordering Information (Note 5)

Device	Packaging	Shipping
GBPC15005	GBPC	100/Tray
GBPC1501	GBPC	100/Tray
GBPC1502	GBPC	100/Tray
GBPC1504	GBPC	100/Tray
GBPC1506	GBPC	100/Tray
GBPC1508	GBPC	100/Tray
GBPC1510	GBPC	100/Tray
GBPC15005W	GBPC-W	100/Tray
GBPC1501W	GBPC-W	100/Tray
GBPC1502W	GBPC-W	100/Tray
GBPC1504W	GBPC-W	100/Tray
GBPC1506W	GBPC-W	100/Tray
GBPC1508W	GBPC-W	100/Tray
GBPC1510W	GBPC-W	100/Tray

Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02008.pdf>.

### IMPORTANT NOTICE

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

### LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.