

# GBPC15005/W - GBPC1510/W

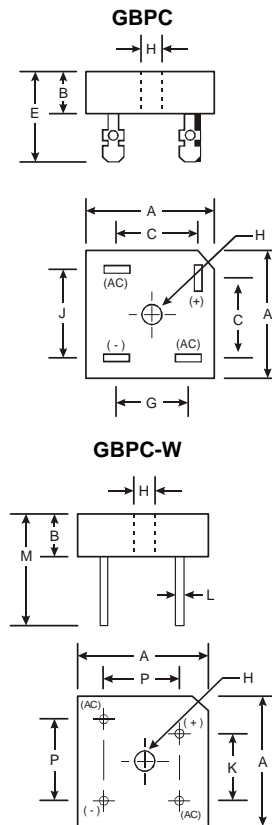
## 15A GLASS PASSIVATED BRIDGE RECTIFIER

### 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 at Rated DC Blocking Voltage @ T <sub>C</sub> = 125°C	I <sub>R</sub>	5.0 500							µA
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).

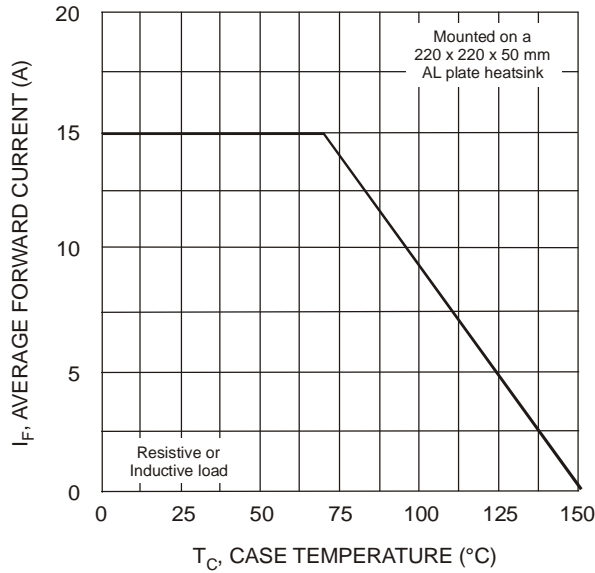


Fig. 1 Forward Current Derating Curve

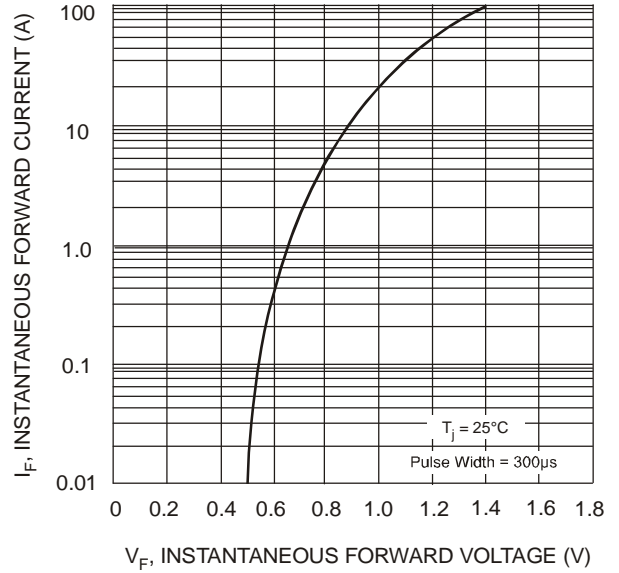


Fig. 2 Typical Forward Characteristics (per element)

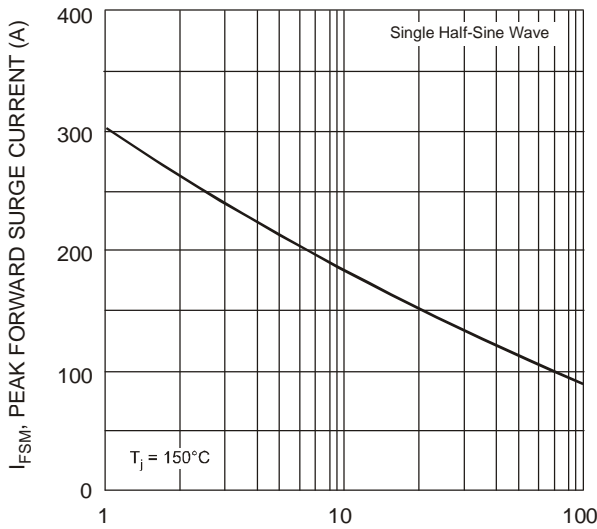


Fig. 3 Max Non-Repetitive Surge Current

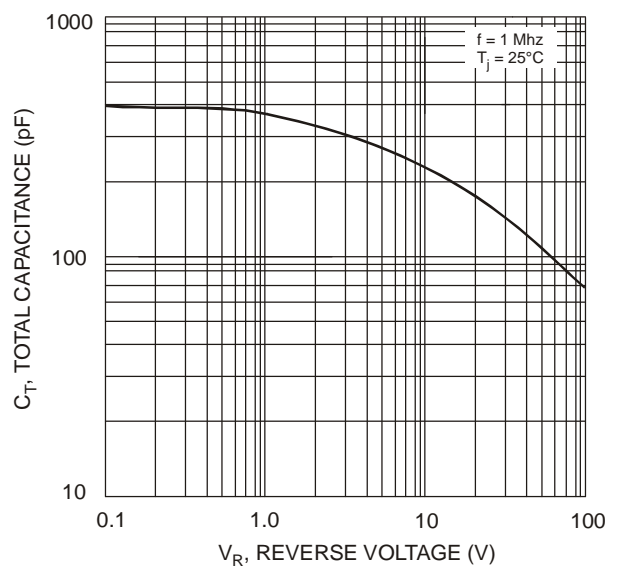


Fig. 4 Typical Total Capacitance (per element)

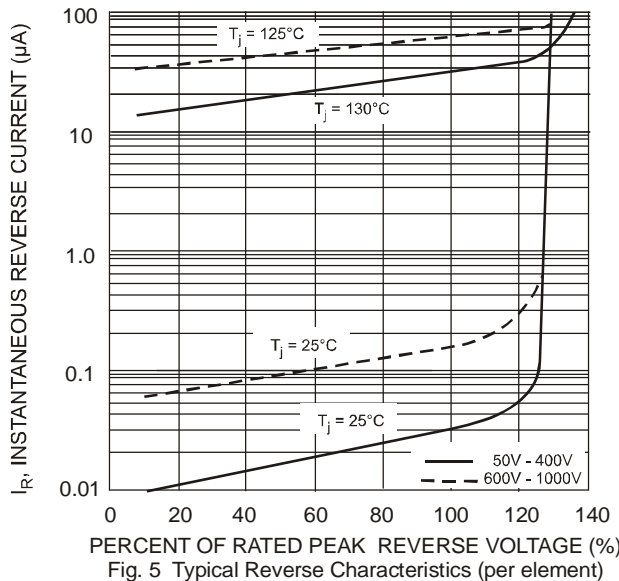


Fig. 5 Typical Reverse Characteristics (per element)

## 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>.

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