

GBPC35005/W - GBPC3510/W

35A GLASS PASSIVATED BRIDGE RECTIFIER

Features

Glass Passivated Die Construction

Low Reverse Leakage Current

Low Power Loss, High Efficiency

Surge Overload Rating to 400A Peak

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 (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-020C

Terminals: Finish Silver. Plated Leads Solderable per

MIL-STD-202, Method 208 (3)
Polarity: As Marked on Case

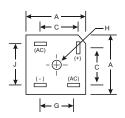
Mounting: Through Hole for #10 Screw Mounting Torque: 8.0 Inch-pounds Maximum

Ordering Information: See Last Page

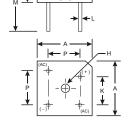
Marking: Type Number

GBPC Weight: 20 grams (approximate)
GBPC-W Weight: 14 grams (approximate)

GBPC



GBPC-W



| GBPC / GBPC-W | | | | | | |
|----------------------|--------------------|-------|--|--|--|--|
| Dim | Min | Max | | | | |
| Α | 28.30 | 28.80 | | | | |
| В | 7.40 | 8.25 | | | | |
| С | 16.10 | 17.10 | | | | |
| E | 18.80 21.30 | | | | | |
| G | 13.80 | 14.80 | | | | |
| н | Hole for #10 screw | | | | | |
| | 5.08 | 5.59 | | | | |
| J | 17.60 | 18.60 | | | | |
| K | 10.90 | 11.90 | | | | |
| L | 0.97 | 1.07 | | | | |
| М | 31.80 | | | | | |
| Р | 17.60 | 18.60 | | | | |
| All Dimensions in mm | | | | | | |

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

Maximum Ratings and Electrical Characteristics @ T_A = 25 C unless otherwise specified

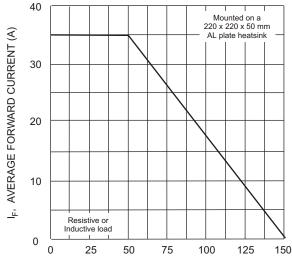
Single phase, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Characteristic | | Symbol | GBPC35 005/W | GBPC35 01/W | GBPC35 02/W | GBPC35 04/W | GBPC35 06/W | GBPC35 08/W | GBPC35 10/W | Unit |
|---|---|--|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | | V _{RRM} V _{RWM} V _R | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| RMS Reverse Voltage | | V _{R(RMS)} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectified Output Current | @ T _C = 50 C | Io | 35 | | | | Α | | | |
| Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load | | I _{FSM} | 400 | | | | | Α | | |
| Forward Voltage (per element) | @ I _F = 17.5A | V _{FM} | | | | 1.1 | | | | V |
| Peak Reverse Current at Rated DC Blocking Voltage | @ T _C = 25 C @ T _C = 125 C | I _R | | | | 5.0 500 | | | | Α |
| I ² t Rating for Fusing | (Note 1) | I ² t | | | | 660 | | | | A ² s |
| Typical Total Capacitance | (Note 2) | C _T | | | | 300 | | | | pF |
| Typical Thermal Resistance per leg | (Note 3) | R _{JC} | | | | 1.2 | | | | °C/W |
| Operating and Storage Temperature Range | | T _{j,} T _{STG} | -65 to +150 | | | | | °C | | |

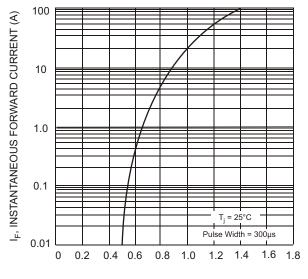
Notes:

- 1. Non-repetitive, for t > 1.0 ms and t < 8.3 ms.
- 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
- 3. Thermal resistance junction to case mounted on heatsink.
- 4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

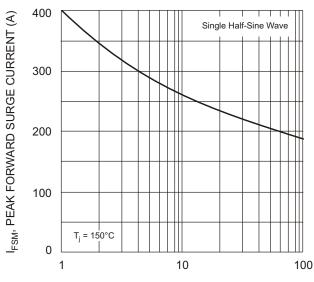




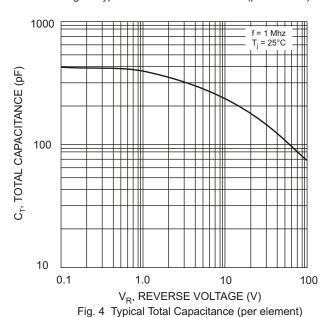
 $T_{\rm C}$, CASE TEMPERATURE (°C) Fig. 1 Forward Current Derating Curve



V_F, INSTANTANEOUS FORWARD VOLTAGE (V) Fig. 2 Typical Forward Characteristics (per element)



NUMBER OF CYCLES AT 60 Hz Fig. 3 Max Non-Repetitive Surge Current





Ordering Information (Note 5)

| Device | Packaging | Shipping | | | |
|------------|-----------|----------|--|--|--|
| GBPC35005 | GBPC | 100/Tray | | | |
| GBPC3501 | GBPC | 100/Tray | | | |
| GBPC3502 | GBPC | 100/Tray | | | |
| GBPC3504 | GBPC | 100/Tray | | | |
| GBPC3506 | GBPC | 100/Tray | | | |
| GBPC3508 | GBPC | 100/Tray | | | |
| GBPC3510 | GBPC | 100/Tray | | | |
| GBPC35005W | GBPC-W | 100/Tray | | | |
| GBPC3501W | GBPC-W | 100/Tray | | | |
| GBPC3502W | GBPC-W | 100/Tray | | | |
| GBPC3504W | GBPC-W | 100/Tray | | | |
| GBPC3506W | GBPC-W | 100/Tray | | | |
| GBPC3508W | GBPC-W | 100/Tray | | | |
| GBPC3510W | GBPC-W | 100/Tray | | | |

Notes: 5. For packaging details, visit our website at http://www.diodes.com/datasheets/ap2008.pdf.

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