

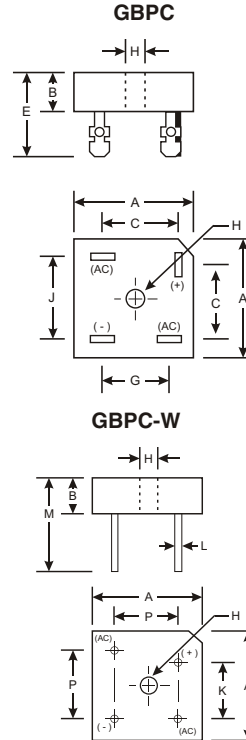
### Features

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 (e3)  
 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        |                    |       |
|----------------------|--------------------|-------|
| 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 |       |
|                      | 5.08               | 5.59  |
| J                    | 17.60              | 18.60 |
| K                    | 10.90              | 11.90 |
| L                    | 0.97               | 1.07  |
| 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, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

| Characteristic                                                                                       | Symbol                            | GBPC35005/W | GBPC3501/W | GBPC3502/W | GBPC3504/W | GBPC3506/W | GBPC3508/W | GBPC3510/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> = 50 °C                                            | I <sub>O</sub>                    | 35          |            |            |            |            |            |            | A                |
| Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load     | I <sub>FSM</sub>                  | 400         |            |            |            |            |            |            | A                |
| Forward Voltage (per element) @ I <sub>F</sub> = 17.5A                                               | 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<br>500  |            |            |            |            |            |            | A                |
| I <sup>2</sup> t Rating for Fusing (Note 1)                                                          | I <sup>2</sup> t                  | 660         |            |            |            |            |            |            | A <sup>2</sup> s |
| Typical Total Capacitance (Note 2)                                                                   | C <sub>T</sub>                    | 300         |            |            |            |            |            |            | pF               |
| Typical Thermal Resistance per leg (Note 3)                                                          | R <sub>JC</sub>                   | 1.2         |            |            |            |            |            |            | °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. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

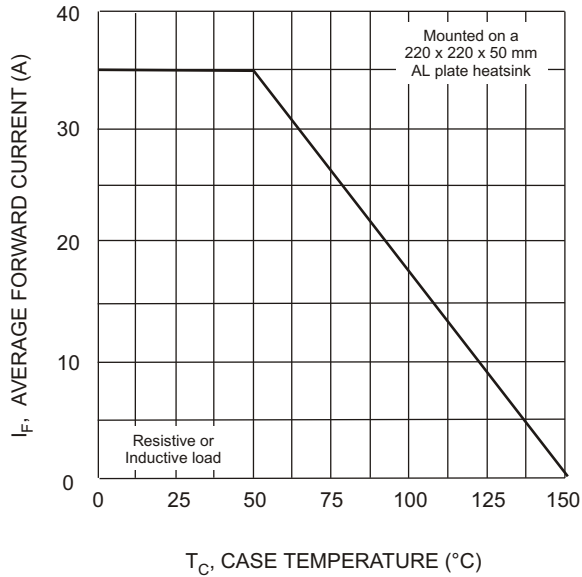


Fig. 1 Forward Current Derating Curve

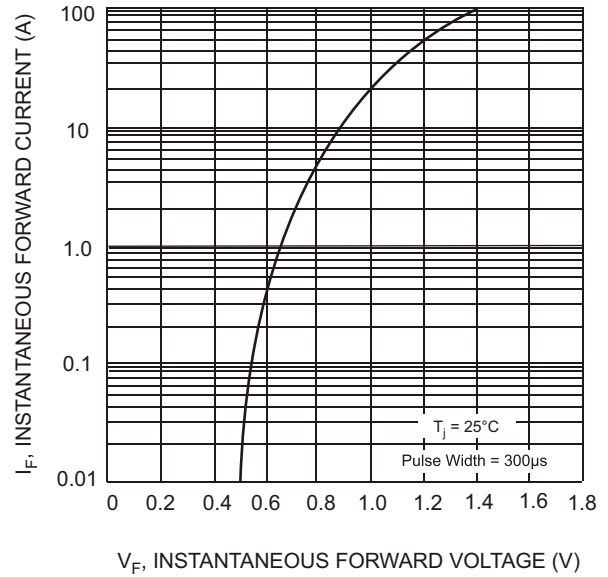


Fig. 2 Typical Forward Characteristics (per element)

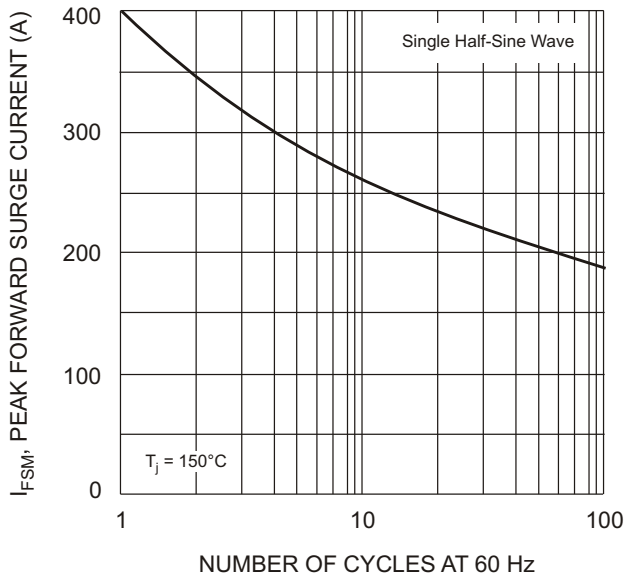


Fig. 3 Max Non-Repetitive Surge Current

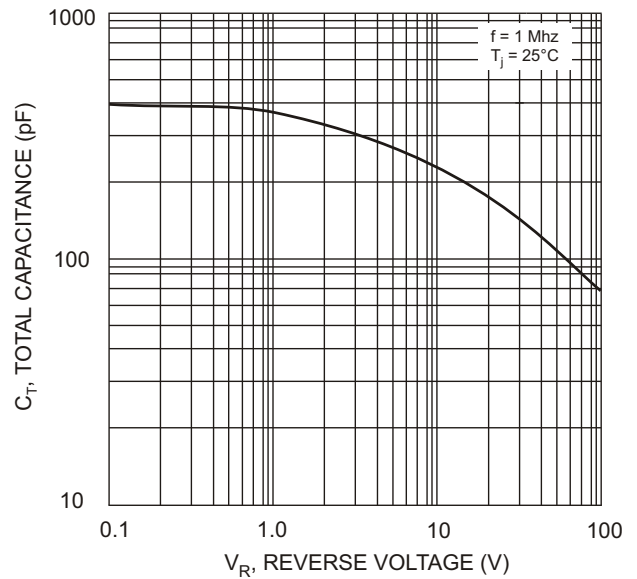


Fig. 4 Typical Total Capacitance (per element)

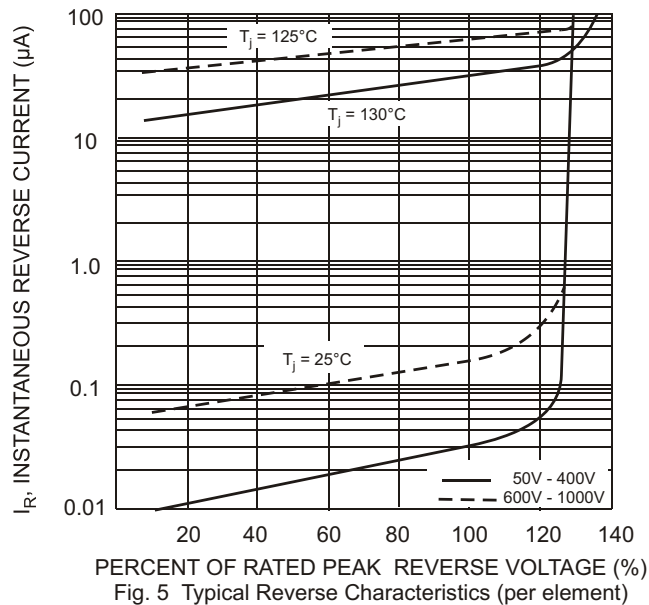


Fig. 5 Typical Reverse Characteristics (per element)

**Ordering Information** (Note 5)

| Device     | Packaging | Shipping |
|------------|-----------|----------|
| 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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