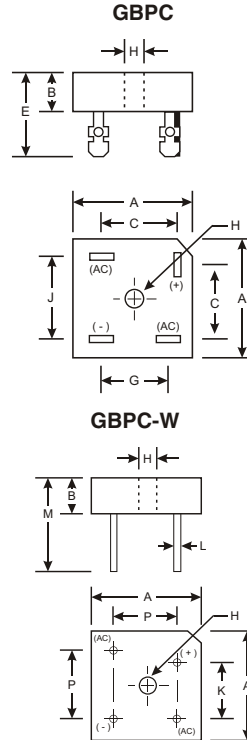


### Features

- 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 |       |
|                      | 5.08Ø              | 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 |                    |       |

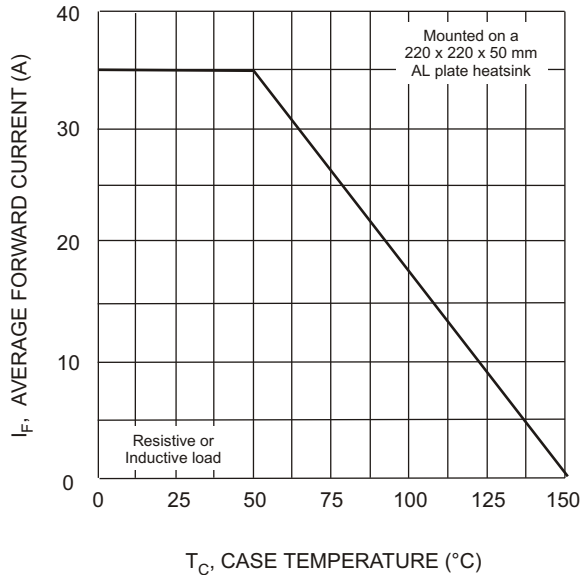
"W" Suffix Designates Wire Leads  
No Suffix Designates Faston Terminals

### Maximum Ratings and Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

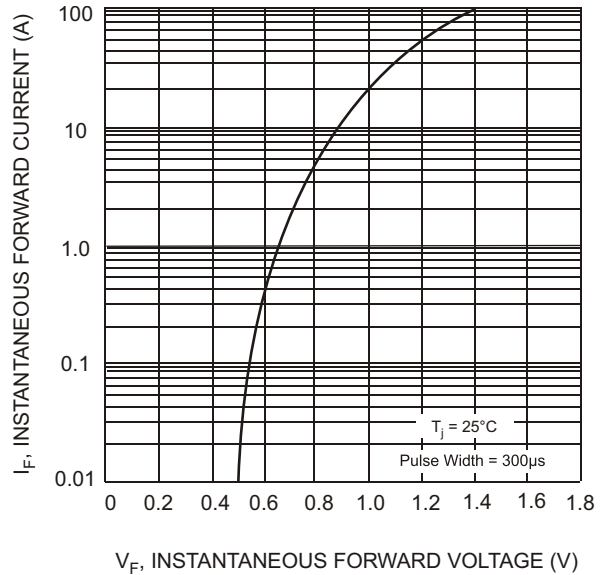
Single phase, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

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

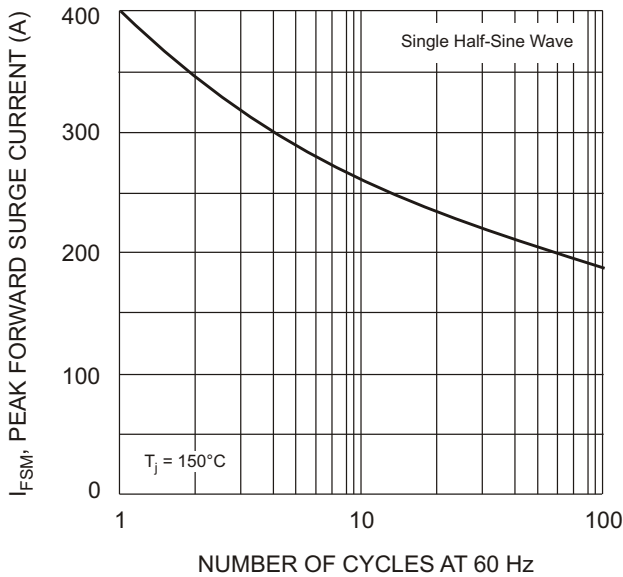
- Notes:
1. Non-repetitive, for t > 1.0ms and t < 8.3ms.
  2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  3. Thermal resistance junction to case mounted on heatsink.
  4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and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



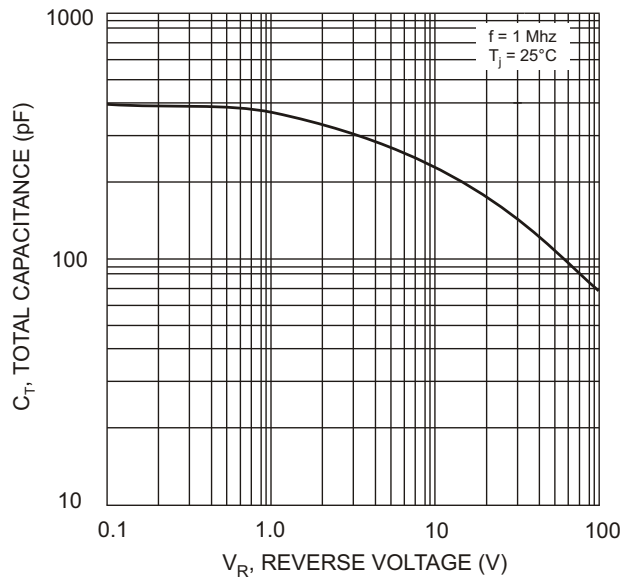
$T_C$ , CASE TEMPERATURE (°C)  
Fig. 1 Forward Current Derating Curve



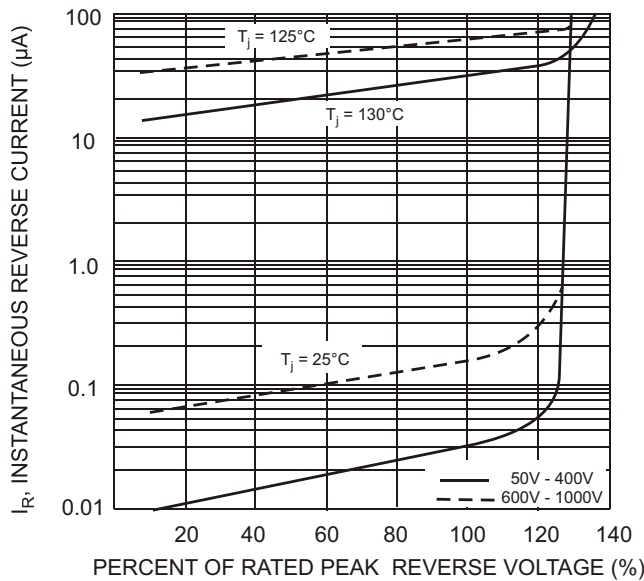
$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 2 Typical Forward Characteristics (per element)



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



$V_R$ , REVERSE VOLTAGE (V)  
Fig. 4 Typical Total Capacitance (per element)



PERCENT OF RATED PEAK REVERSE VOLTAGE (%)  
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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