

# ANTREX Electronics

Electronic Components Sourcing Information

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## Product Reference Information

**Part Number:** GBP308  
**Manufacturer:** Diodes Incorporated  
**Package:** 4-SIP, GBP  
**Availability:** Please confirm with sales

**Product Page:**

<https://antrexco.com/product/details/diodes-incorporated/gbp308.html>

**Request a Quote:**

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## Contact Information

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## Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

**Note:**

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

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## Product Summary

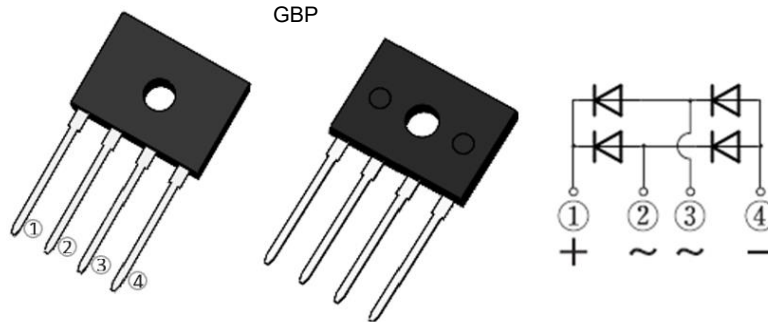
| $V_{RRM}$ (V)  | $I_F$ (A) | $V_F$ Max (V)<br>@ $I_F = 1.5A$ | $I_R$ Max ( $\mu A$ ) |
|----------------|-----------|---------------------------------|-----------------------|
| 600, 800, 1000 | 3         | 1.05                            | 5                     |

## Mechanical Data

- Package: GBP
- Package Material: Plastic Material, UL Flammability Classification 94V-0 (No Br, Sb, Cl)
- Terminals: Finish – Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 
- Polarity Indicator: Symbol Molded on Body.
- Weight: 1.33 grams (Approximate)

## Features

- Glass Passivated Die Construction
  - Rating to 1000V PRV
  - Ideal for Printed Circuit Board
  - Reliable Construction Utilizing Molded Plastic
  - UL Recognized File # E95060
  - Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
  - Halogen and Antimony Free. "Green" Device (Note 3)**
  - For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](https://www.diodes.com/quality/product-definitions/) or your local Diodes representative.**
- <https://www.diodes.com/quality/product-definitions/>

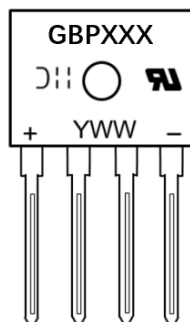


## Ordering Information (Note 4)

| Orderable Part Number | Package | Packing |         |
|-----------------------|---------|---------|---------|
|                       |         | Qty.    | Carrier |
| GBP306                | GBP     | 35      | Tube    |
| GBP308                | GBP     | 35      | Tube    |
| GBP310                | GBP     | 35      | Tube    |

- Notes:
- EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  - See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  - Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  - For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information



GBPXXX = Product Type Marking Code  
 DII = Manufacturer's Code Marking  
 YWW = Date Code Marking  
 Y = Last Digit of Year (ex: 5 = 2025)  
 WW = Week Code (01 to 53)

**Maximum Ratings** (@  $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

| Characteristic                                                                       |                                                   | Symbol             | GBP306       | GBP308 | GBP310 | Unit             |
|--------------------------------------------------------------------------------------|---------------------------------------------------|--------------------|--------------|--------|--------|------------------|
| Maximum Repetitive Peak Reverse Voltage                                              |                                                   | V <sub>RRM</sub>   | 600          | 800    | 1000   | V                |
| Maximum DC Blocking Voltage                                                          |                                                   | V <sub>DC</sub>    | 600          | 800    | 1000   | V                |
| Maximum Average Rectified Output Current<br>@T <sub>C</sub> = +100°C                 | With Heatsink<br>Without Heatsink                 | I <sub>F(AV)</sub> | 3.0<br>1.8   |        |        | A                |
| Peak Forward Surge Current 8.3ms Single Half<br>Sine Wave Superimposed on Rated Load | T <sub>J</sub> = +25°C<br>T <sub>J</sub> = +125°C | I <sub>FSM</sub>   | 90<br>72     |        |        | A                |
| Peak Forward Surge Current 1.0ms Single Half<br>Sine Wave Superimposed on Rated Load | T <sub>J</sub> = +25°C<br>T <sub>J</sub> = +125°C | I <sub>FSM</sub>   | 200<br>160   |        |        | A                |
| I <sup>2</sup> t Rating for Fusing (t = 8.3ms)                                       |                                                   | I <sup>2</sup> t   | 33           |        |        | A <sup>2</sup> s |
| Operating Temperature Rage                                                           |                                                   | T <sub>J</sub>     | -55 to + 150 |        |        | °C               |
| Storage Temperature Rage                                                             |                                                   | T <sub>STG</sub>   | -55 to + 150 |        |        | °C               |

**Electrical Characteristics**

| Characteristic                        | Test Conditions     |                                                         | Symbol | Max      | Unit          |
|---------------------------------------|---------------------|---------------------------------------------------------|--------|----------|---------------|
| Forward Voltage                       | $I_F = 1.5\text{A}$ | $T_J = +25^\circ\text{C}$                               | $V_F$  | 1.05     | V             |
| Leakage Current                       | $V_R$ at Rated      | $T_J = +25^\circ\text{C}$<br>$T_J = +125^\circ\text{C}$ | $I_R$  | 5<br>500 | $\mu\text{A}$ |
| Typical Junction Capacitance (Note 5) |                     |                                                         | $C_J$  | 25       | pF            |

**Thermal Characteristics**

| Characteristic                      | Symbol     | Typ | Unit               |
|-------------------------------------|------------|-----|--------------------|
| Typical Thermal Resistance (Note 6) | $R_{thJC}$ | 9   | $^\circ\text{C/W}$ |
|                                     | $R_{thJL}$ | 9   |                    |
|                                     | $R_{thJA}$ | 20  |                    |

Notes: 5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.  
6. Thermal resistance junction to case, lead and ambient. Device mounted on 30mm x 30mm x 1mm Cu plate heatsink.

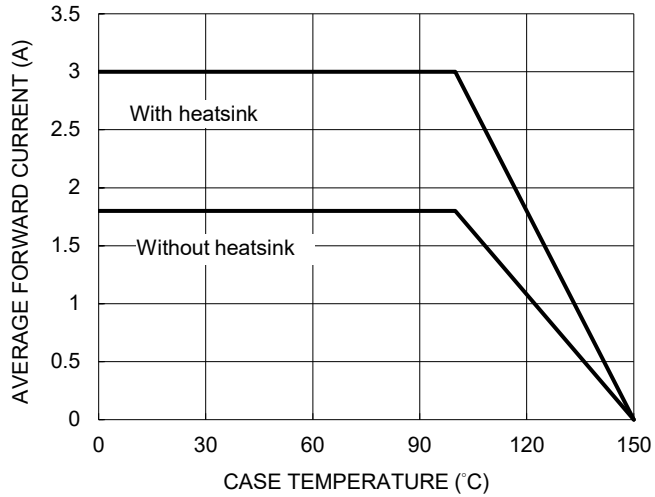


Figure 1. Forward Current Derating Curve

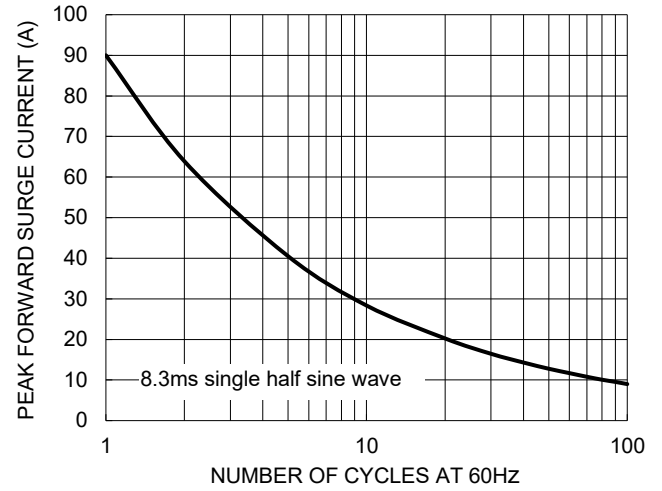


Figure 2. Maximum Non-Repetitive Surge Current

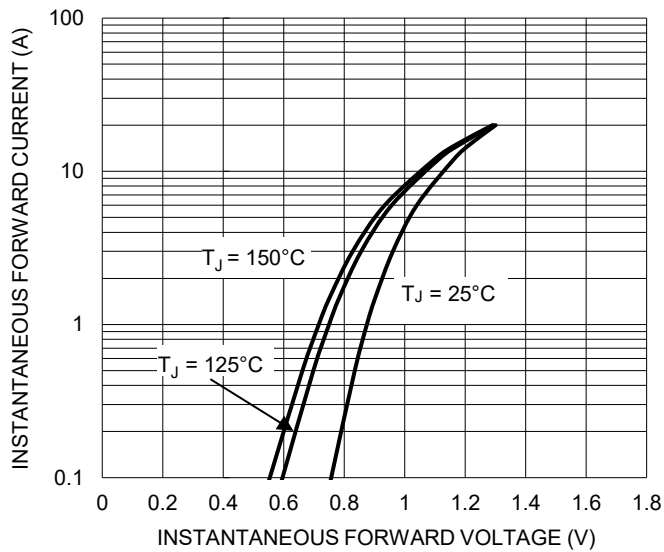


Figure 3. Typical Forward Characteristics

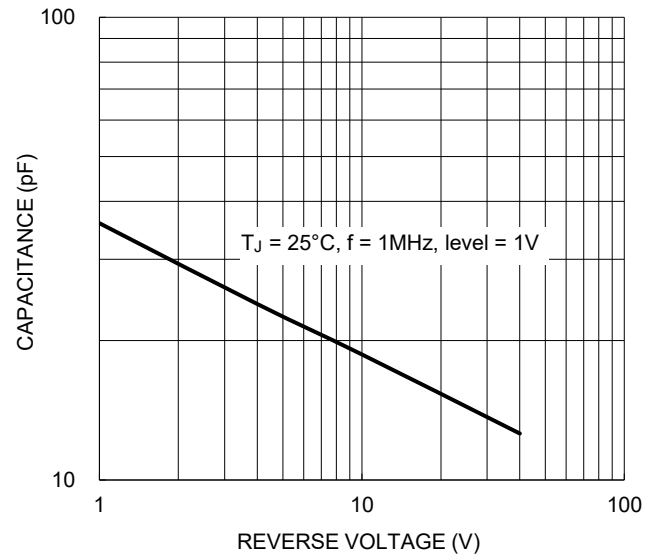


Figure 4. Typical Junction Capacitance

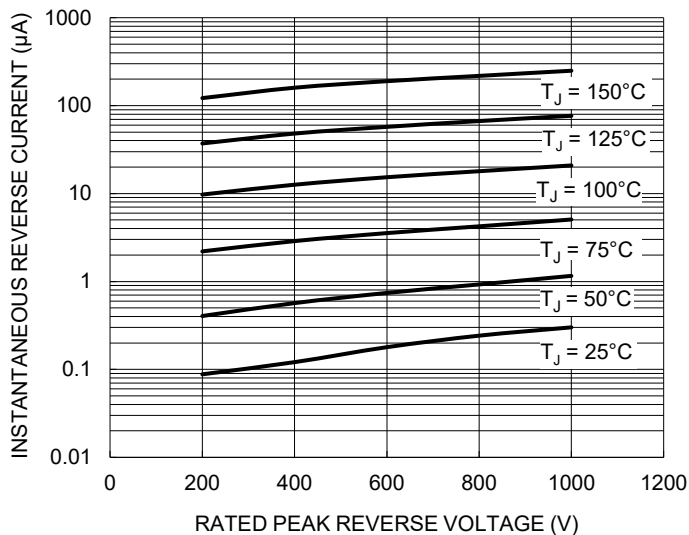


Figure 5. Typical Reverse Characteristics

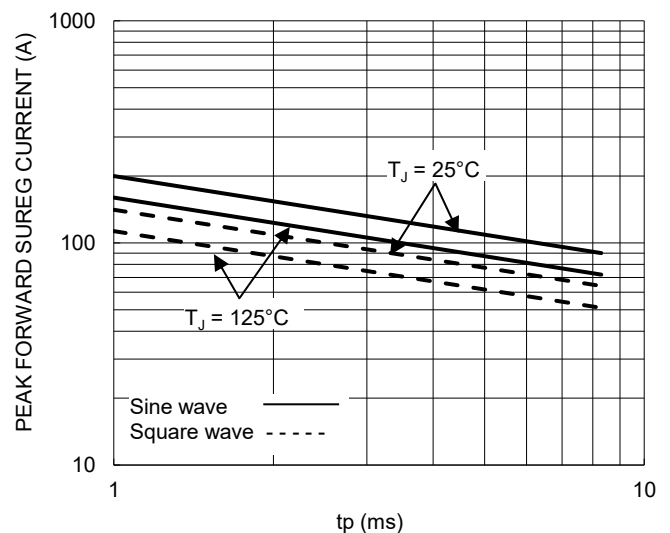
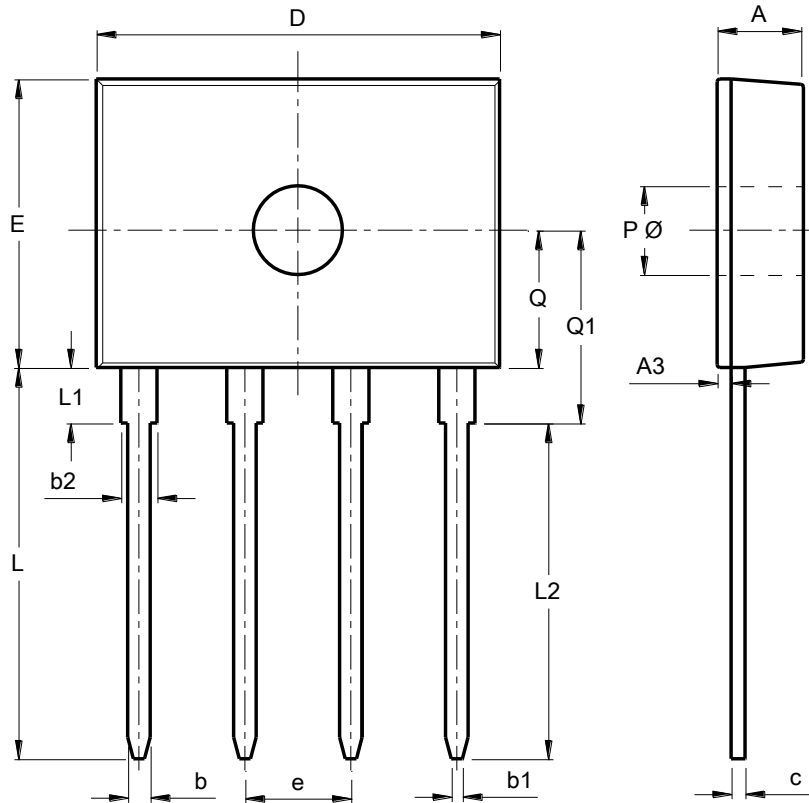


Figure 6. Non-Repetitive Surge Current

## Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**GBP**



| GBP                  |           |       |       |
|----------------------|-----------|-------|-------|
| Dim                  | Min       | Max   | TYP   |
| A                    | 2.90      | 3.30  | 3.10  |
| A3                   | 0.30      | 0.70  | 0.50  |
| b                    | 0.76      | 0.86  | 0.81  |
| b1                   | 0.35      | 0.45  | 0.40  |
| b2                   | 1.20      | 1.40  | 1.30  |
| c                    | 0.40      | 0.60  | 0.50  |
| D                    | 14.20     | 14.70 | 14.50 |
| E                    | 10.10     | 10.70 | 10.40 |
| e                    | 3.71      | 3.91  | 3.81  |
| L                    | 13.80     | 14.40 | 14.10 |
| L1                   | 1.80      | 2.20  | 2.00  |
| L2                   | 12.10 REF |       |       |
| PØ                   | 3.20 REF  |       |       |
| Q                    | 4.65      | 5.25  | 4.95  |
| Q1                   | 6.65      | 7.25  | 6.95  |
| All Dimensions in mm |           |       |       |

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