


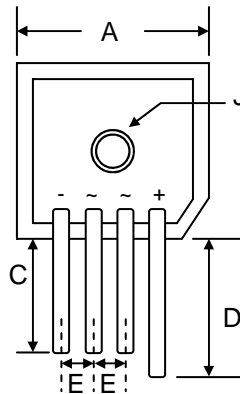
## 40A GLASS PASSIVATED HIGH CURRENT SINGLE-PHASE BRIDGE RECTIFIER

### Features

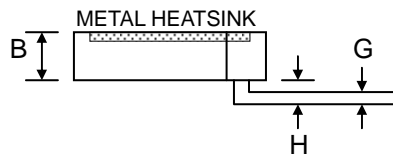
- Glass Passivated Die Construction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability
- Designed for Saving Mounting Space
-  Recognized File # E157705

### Mechanical Data

- Case: KBPC-S, Molded Plastic with Heatsink Internally Mounted in the Bridge Encapsulation
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Mounting: Through Hole with #10 Screw
- Mounting Torque: 23 cm·kg (20 in·lbs) Max.
- Weight: 21 grams (approx.)
- Marking: Type Number
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 4**



| KBPC-S               |                |       |
|----------------------|----------------|-------|
| Dim                  | Min            | Max   |
| A                    | 28.40          | 28.70 |
| B                    | 10.97          | 11.23 |
| C                    | —              | 21.00 |
| D                    | —              | 25.00 |
| E                    | 5.10           | —     |
| G                    | 1.20 Ø Typical |       |
| H                    | 3.05           | 3.60  |
| J                    | 5.08 Ø Nominal |       |
| All Dimensions in mm |                |       |



### 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                            | GBPC40      |     |     |     |     |     |      |      |      |      | Unit             |
|---|-----------------------------------|-------------|-----|-----|-----|-----|-----|------|------|------|------|------------------|
|   |                                   | 00S         | 01S | 02S | 04S | 06S | 08S | 10S  | 12S  | 14S  | 16S  |                  |
| Peak Repetitive Reverse Voltage   | V <sub>RRM</sub>                  |             |     |     |     |     |     |      |      |      |      |                  |
| Working Peak Reverse Voltage  | V <sub>RWM</sub>                  | 50          | 100 | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | V                |
| DC Blocking Voltage   | V <sub>R</sub>                    |             |     |     |     |     |     |      |      |      |      |                  |
| RMS Reverse Voltage   | V <sub>R(RMS)</sub>               | 35          | 70  | 140 | 280 | 420 | 560 | 700  | 840  | 980  | 1120 | V                |
| Average Rectified Output Current @T <sub>C</sub> = 50°C   | I <sub>O</sub>                    | 40          |     |     |     |     |     |      |      |      |      | A                |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave superimposed<br>on rated load (JEDEC Method) | I <sub>FSM</sub>                  | 400         |     |     |     |     |     |      |      |      |      | A                |
| Forward Voltage per leg @I <sub>F</sub> = 20A   | V <sub>FM</sub>                   | 1.1         |     |     |     |     |     |      |      |      |      | V                |
| Peak Reverse Current @T <sub>C</sub> = 25°C<br>At Rated DC Blocking Voltage @T <sub>C</sub> = 125°C                   | I <sub>RM</sub>                   | 5.0<br>500  |     |     |     |     |     |      |      |      |      | μA               |
| I <sup>2</sup> t Rating for Fusing (t < 8.3ms)  | I <sup>2</sup> t                  | 660         |     |     |     |     |     |      |      |      |      | A <sup>2</sup> s |
| Typical Junction Capacitance (Note 1)   | C <sub>j</sub>                    | 400         |     |     |     |     |     |      |      |      |      | pF               |
| Typical Thermal Resistance per leg (Note 2)   | R <sub>θJC</sub>                  | 1.4         |     |     |     |     |     |      |      |      |      | °C/W             |
| RMS Isolation Voltage from Case to Leads  | V <sub>ISO</sub>                  | 2500        |     |     |     |     |     |      |      |      |      | V                |
| Operating and Storage Temperature Range   | T <sub>j</sub> , T <sub>STG</sub> | -65 to +150 |     |     |     |     |     |      |      |      |      | °C               |

Note: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.  
2. Mounted on 229 x 102 x 117mm Al. finned plate.

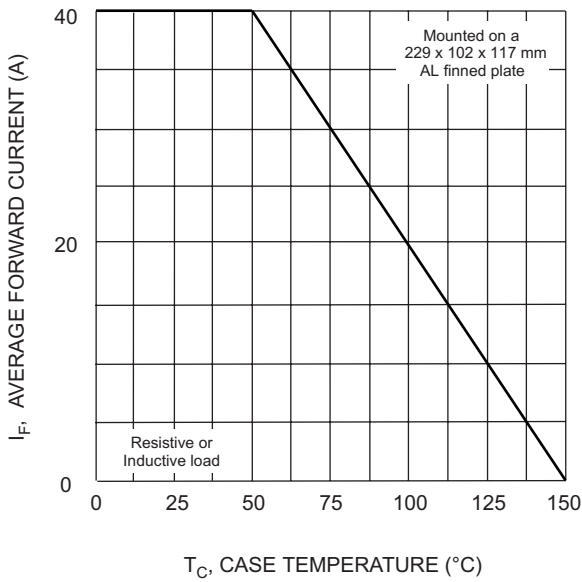


Fig. 1 Forward Current Derating Curve

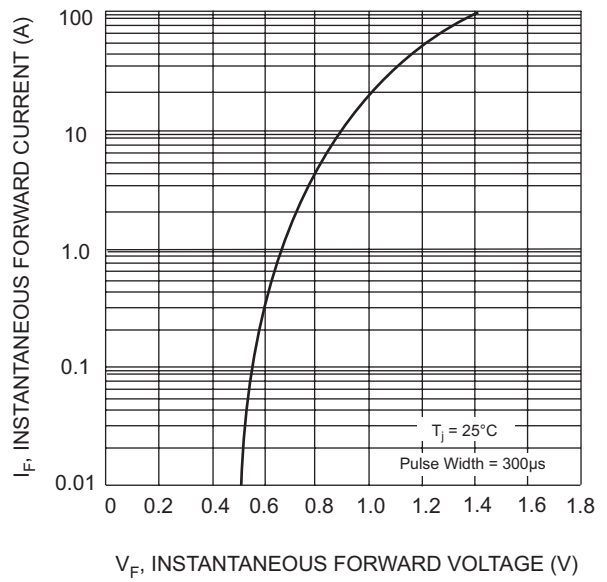


Fig. 2 Typical Forward Characteristics (per element)

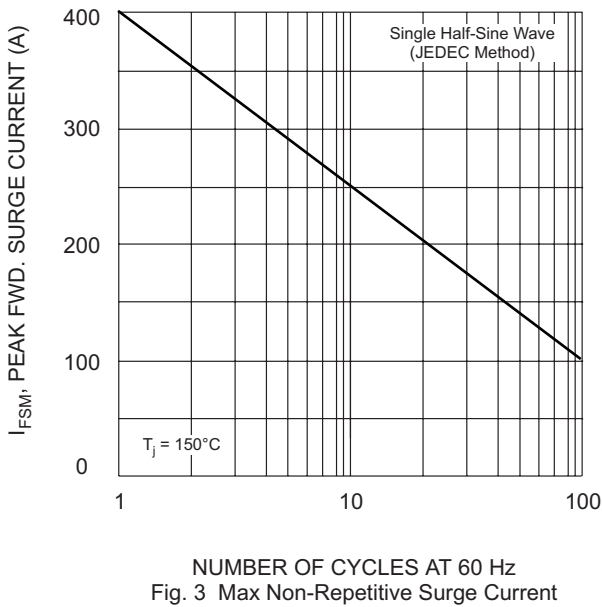


Fig. 3 Max Non-Repetitive Surge Current

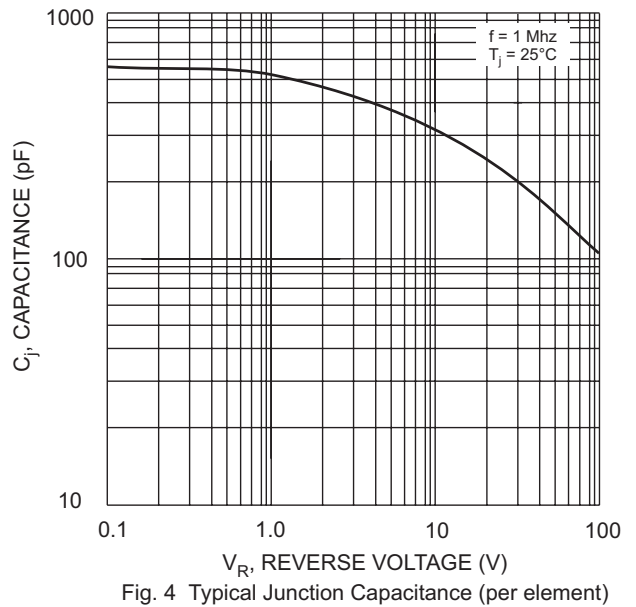


Fig. 4 Typical Junction Capacitance (per element)

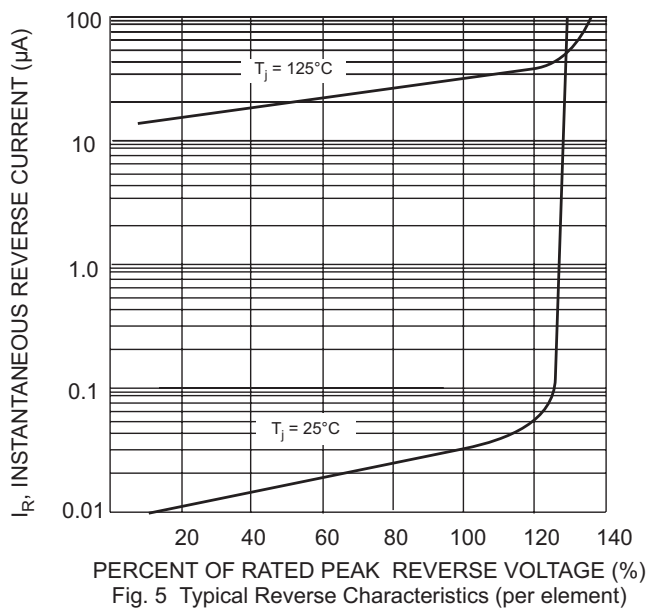


Fig. 5 Typical Reverse Characteristics (per element)

## MARKING INFORMATION



WTE = Manufacturer's Logo  
GBPC40xxS = Device Number  
xx = 00, 01, 02, 04, 06, 08, 10, 12, 14 or 16  
Polarity = As Marked on Body

## PACKAGING INFORMATION

### BULK

| Inner Box Size<br>L x W x H (mm) | Quantity<br>(PCS) | Carton Size<br>L x W x H (mm) | Quantity<br>(PCS) | Approx. Gross Weight<br>(KG) |
|----------------------------------|-------------------|-------------------------------|-------------------|------------------------------|
| 195 x 195 x 40                   | 80                | 405 x 205 x 240               | 800               | 17.0                         |

**Note:** 1. Paper box, white or brown color.

## ORDERING INFORMATION

| Product No. | Package Type | Shipping Quantity |
|-------------|--------------|-------------------|
| GBPC4000S   | SIL Bridge   | 80 Units/Box      |
| GBPC4001S   | SIL Bridge   | 80 Units/Box      |
| GBPC4002S   | SIL Bridge   | 80 Units/Box      |
| GBPC4004S   | SIL Bridge   | 80 Units/Box      |
| GBPC4006S   | SIL Bridge   | 80 Units/Box      |
| GBPC4008S   | SIL Bridge   | 80 Units/Box      |
| GBPC4010S   | SIL Bridge   | 80 Units/Box      |
| GBPC4012S   | SIL Bridge   | 80 Units/Box      |
| GBPC4014S   | SIL Bridge   | 80 Units/Box      |
| GBPC4016S   | SIL Bridge   | 80 Units/Box      |

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, GBPC4000S-LF.**

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**WARNING: DO NOT USE IN LIFE SUPPORT EQUIPMENT.** WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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