

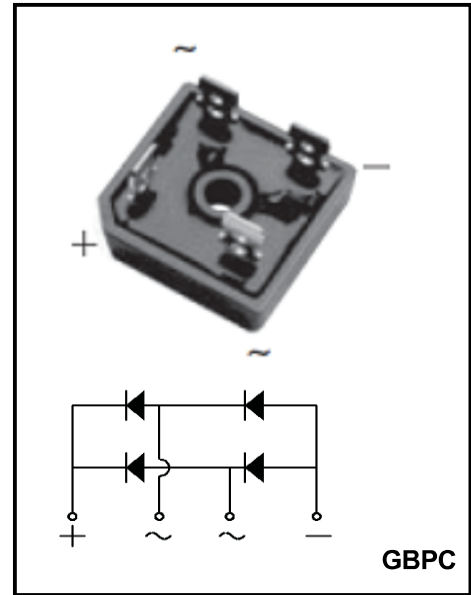
**50A Single Phase Glass Passivated Bridge Rectifier**  
**Reverse Voltage - 1200 to 1600 V**  
**Forward Current – 50 A**

**Features**

- † Glass passivated chip
- † Low reverse leakage current
- † High surge current capability

**Mechanical Data**

- † Case: GBPC
- † Polarity: Polarity symbols being marked on body
- † Mounting torque: 12.0 kgf.cm max
- † Weight: About 20 grams



**Maximum Ratings and Electrical characteristics**

Ratings at 25 °C ambient temperature unless otherwise specified.

| Parameter   | Symbols         | GBPC5012   | GBPC5016 | Units              |
|---|-----------------|------------|----------|--------------------|
| Peak Repetitive Reverse Voltage   | $V_{RRM}$       | 1200       | 1600     | V                  |
| Peak Repetitive Reverse Voltage   | $V_{RWM}$       | 840        | 1120     | V                  |
| DC Blocking Voltage   | $V_{RMS}$       | 1200       | 1600     | V                  |
| Average Rectified Output Current @ $T_c=85\text{ }^\circ\text{C}$   | $I_{(AV)}$      | 50.0       |          | A                  |
| Peak surge forward current, 8.3ms single half sine-wave superimposed on rated load                                      | $I_{FSM}$       | 500        |          | A                  |
| Rating for fusing $1\text{ms} < t < 8.3\text{ms}$ $T_j=25\text{ }^\circ\text{C}$ , Rating of per diode                  | $I^2t$          | 1037       |          | A <sup>2</sup> s   |
| Forward Voltage per element @ $I_F=25.0\text{A}$  | $V_F$           | 1.1        |          | V                  |
| Peak Reverse Current @ $T_j=25\text{ }^\circ\text{C}$<br>At Rated DC Blocking Voltage @ $T_j=125\text{ }^\circ\text{C}$ | $I_R$           | 5<br>500   |          | $\mu\text{A}$      |
| Dielectric strength terminals to case AC 1 minute   | $V_{dis}$       | 2.5        |          | KV                 |
| Junction to ambient thermal resistance, without heatsink  | $R_{\theta JA}$ | 26         |          | $^\circ\text{C/W}$ |
| Junction to case thermal resistance, with heatsink  | $R_{\theta JC}$ | 1.0        |          | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range   | $T_j, T_{stg}$  | -55 ~ +150 |          | $^\circ\text{C}$   |

**Characteristic Curve**

FIG1. Derating Curve For Output Rectified Current

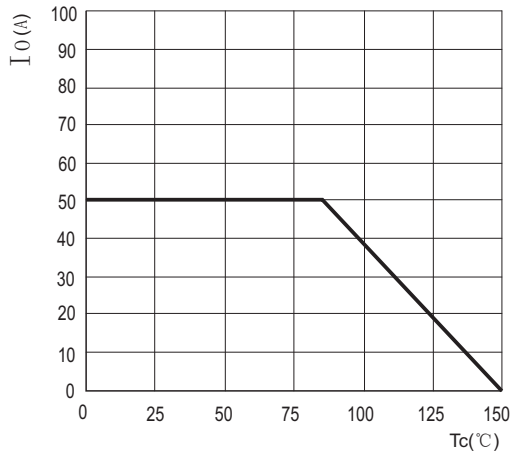


FIG2. Maximum NonRepetitive Peak Forward Surge Current Per Bridge Element

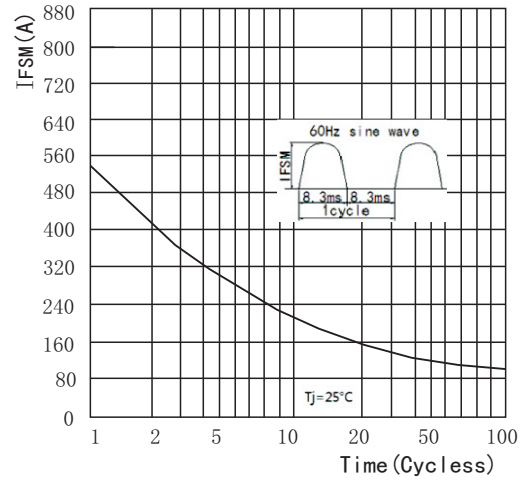


FIG3. Typical Reverse Characteristics Per Bridge Element

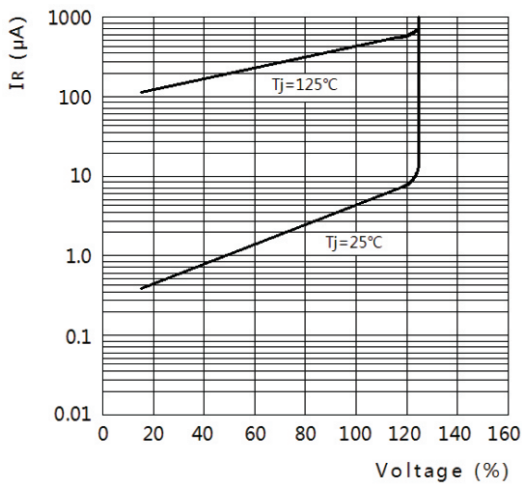
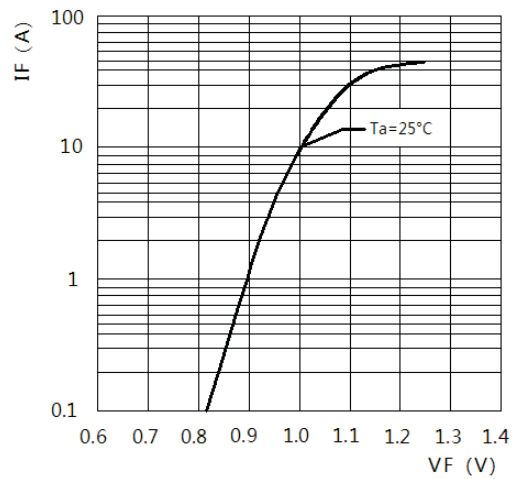
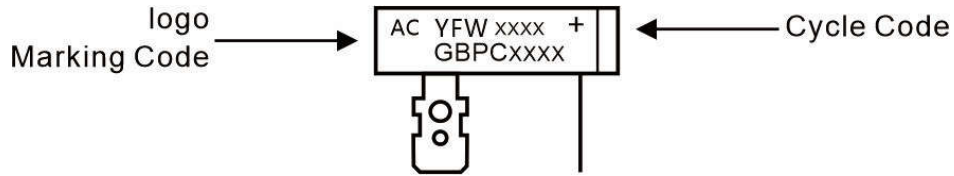


FIG4. Typical Forward Characteristics Per Bridge Element



**Marking Diagram**



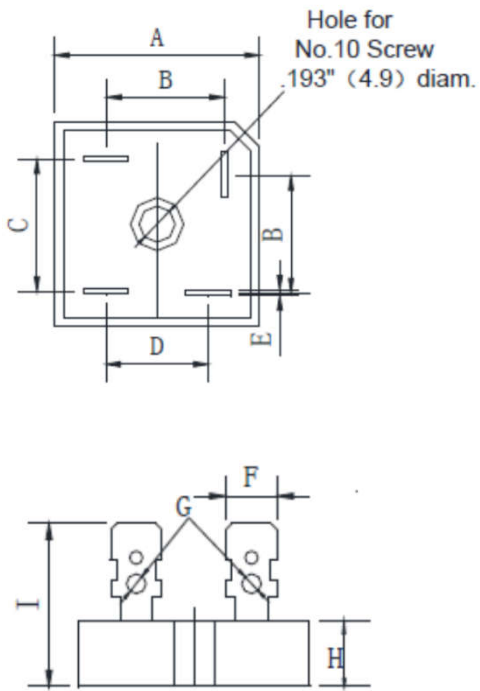
**Ordering information**

| Package | Packing Description | Packing Quantity        |
|---------|---------------------|-------------------------|
| GBPC    | bulk                | 50PCS/Box 500PCS/Carton |

**Package Dimensions**

**GBPC**

| Dim. | Millimeter(mm) |      | Dimensions inInch |        |
|------|----------------|------|-------------------|--------|
|      | Min.           | Max. | Min.              | Max.   |
| A    | 28.2           | 28.8 | 1.11              | 1.13   |
| B    | 15.3           | 17.3 | 0.602             | 0.681  |
| C    | 17.1           | 19.1 | 0.67              | 0.75   |
| D    | 13.2           | 15.2 | 0.520             | 0.598  |
| E    | 0.75           | 0.85 | 0.0295            | 0.0335 |
| F    | 6.2            | 6.4  | 0.244             | 0.252  |
| G    | 2.2            | 2.6  | 0.087             | 0.102  |
| H    | 7.6            | 8.2  | 0.30              | 0.32   |
| I    | 19             | -    | 0.75              | -      |



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