



# GBJ40A THRU GBJ40M

## BRIDGE RECTIFIERS

REVERSE VOLTAGE - 50 to 1000 Volts

FORWARD CURRENT - 40 Amperes

### FEATURES

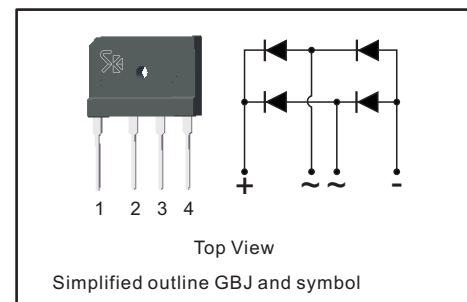
- Rating to 1000V PRV
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- Plastic material has U/L
- The flammability classification 94V-0

### MECHANICAL DATA

- Polarity : Symbols molded on body
- Weight : 0.24 ounces, 6.79 grams
- Mounting position : Any

### PINNING

| PIN | DESCRIPTION          |
|-----|----------------------|
| 1   | Output Anode ( + )   |
| 2   | Input Pin ( ~ )      |
| 3   | Input Pin ( ~ )      |
| 4   | Output Cathode ( - ) |



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| CHARACTERISTICS                                                                                         | Symbols                                | GBJ40A     | GBJ40B | GBJ40D | GBJ40G | GBJ40J | GBJ40K | GBJ40M | Units            |
|---------------------------------------------------------------------------------------------------------|----------------------------------------|------------|--------|--------|--------|--------|--------|--------|------------------|
| Maximum Recurrent Peak Reverse Voltage                                                                  | $V_{RRM}$                              | 50         | 100    | 200    | 400    | 600    | 800    | 1000   | V                |
| Maximum RMS Voltage                                                                                     | $V_{RMS}$                              | 35         | 70     | 140    | 280    | 420    | 560    | 700    | V                |
| Maximum DC Blocking Voltage                                                                             | $V_{DC}$                               | 50         | 100    | 200    | 400    | 600    | 800    | 1000   | V                |
| Maximum Average Forward (with heatsink Note 2)                                                          | $I_{(AV)}$                             | 40         |        |        |        |        |        |        | A                |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load                       | $I_{FSM}$                              | 450        |        |        |        |        |        |        | A                |
| $I^2t$ Rating for Fusing                                                                                | $I^2t$                                 | 840        |        |        |        |        |        |        | A <sup>2</sup> S |
| Maximum forward Voltage at 20A DC                                                                       | $V_F$                                  | 1.1        |        |        |        |        |        |        | V                |
| Maximum DC Reverse Current at rated Blocking Voltage<br>@T <sub>j</sub> =25°C<br>@T <sub>j</sub> =125°C | $I_R$                                  | 5<br>500   |        |        |        |        |        |        | μA               |
| Typical Junction Capacitance <sup>(1)</sup>                                                             | $C_j$                                  | 300        |        |        |        |        |        |        | pF               |
| Typical Thermal Resistance <sup>(2)</sup>                                                               | R <sub>thJA</sub><br>R <sub>thJC</sub> | 35<br>2.5  |        |        |        |        |        |        | °C/W             |
| Operating and Storage Temperature Range                                                                 | T <sub>j</sub> , T <sub>stg</sub>      | -55 ~ +150 |        |        |        |        |        |        | °C               |

(1) Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

(2) .Device mounted on 150mm\*150mm\*1.6mm Cu Plate Heat sink



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Fig.1 FORWARD CURRENT DERATING CURVE

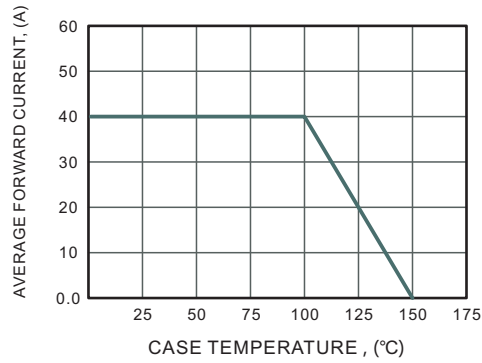


Fig.2 Typical Reverse Characteristics

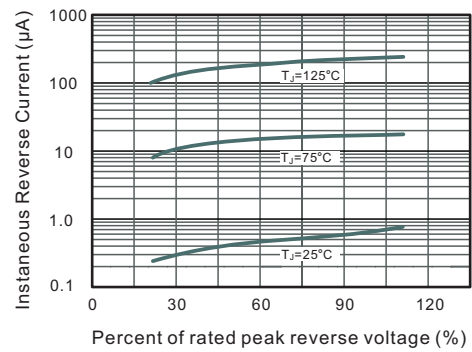


Fig.3 Typical Forward Characteristics

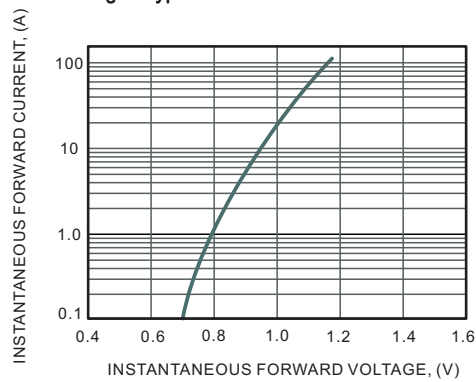


Fig.4 Typical Junction Capacitance

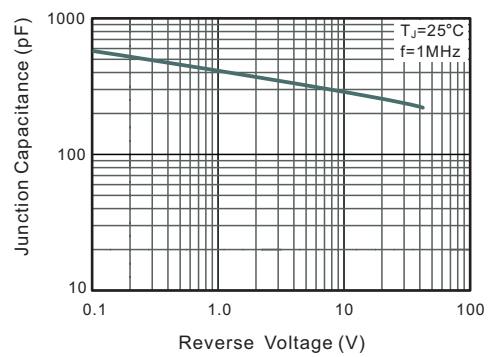
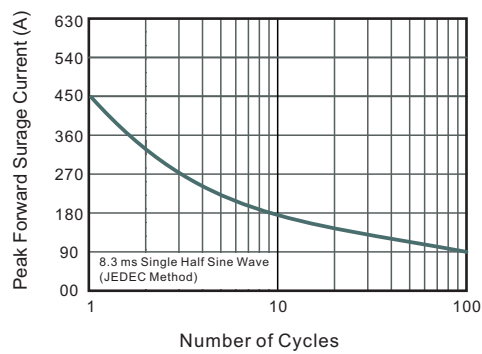
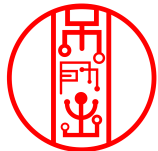


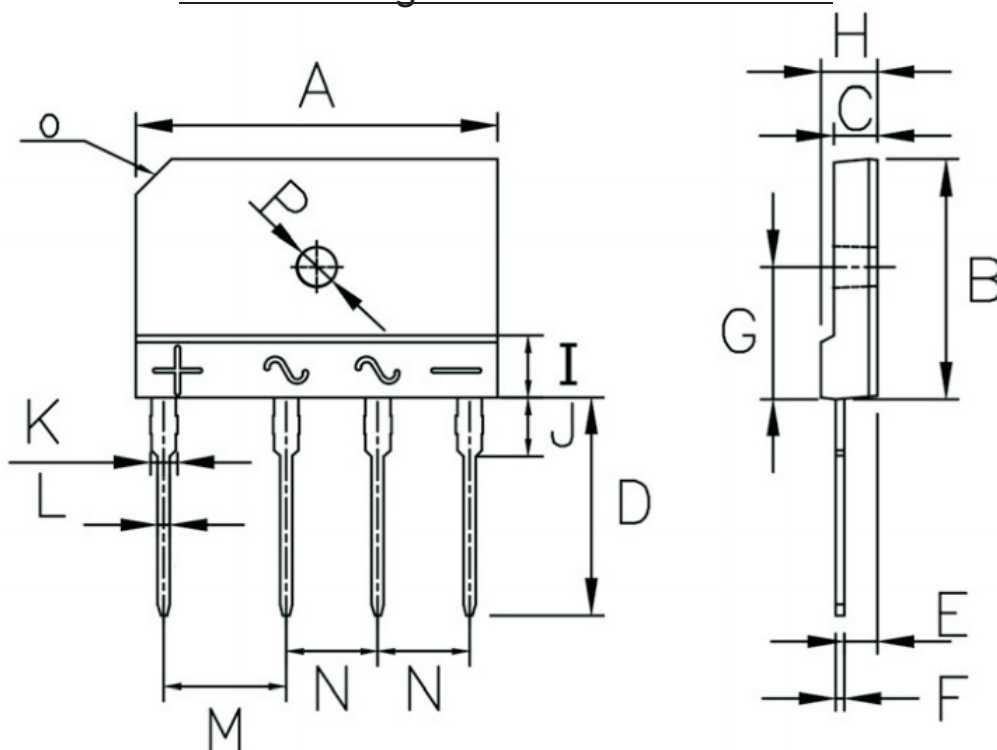
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current





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## GBJ Package Outline Dimensions



GBJ mechanical data

| UNIT |     | A     | B     | C    | D     | E    | F    | G    | H    | I    | J    | K    | L    | M     | N    | O    | P    |
|------|-----|-------|-------|------|-------|------|------|------|------|------|------|------|------|-------|------|------|------|
| mm   | max | 30.30 | 20.30 | 3.80 | 18.00 | 2.90 | 0.80 | 11.2 | 4.80 | 5.80 | 4.20 | 2.40 | 1.15 | 10.20 | 7.70 | C3.0 | φ3.6 |
|      | min | 29.70 | 19.70 | 3.40 | 17.00 | 2.50 | 0.55 | 10.8 | 4.40 | 4.80 | 3.80 | 2.00 | 0.90 | 9.80  | 7.30 |      | φ3.0 |
| mil  | max | 1193  | 799   | 150  | 709   | 114  | 31   | 441  | 189  | 228  | 165  | 94   | 45   | 402   | 303  | C118 | φ142 |
|      | min | 1169  | 776   | 134  | 669   | 98   | 22   | 425  | 173  | 189  | 150  | 79   | 35   | 386   | 287  |      | φ118 |