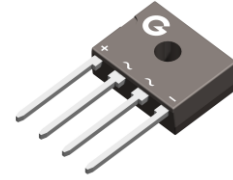
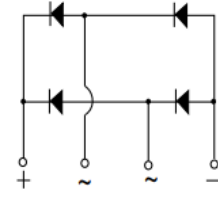


## Features

- Glass passivated junction
- High forward surge current capability
- Fast reverse recovery time for high efficiency
- High temperature soldering guaranteed: 260°C @ 10s
- RoHS compliant with Halogen-free

HF



GBS

## Mechanical Data

- Case: GBS
- Molding compound: UL flammability classification rating 94-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208

## Ordering Information

| Part Number | Package | Marking Code |
|-------------|---------|--------------|
| FGBS6M      | GBS     | FGBS6M       |

## Maximum Ratings (@ T<sub>A</sub> = 25°C unless otherwise specified)

| Parameter                                                  | Symbol             | Value | Unit             |
|------------------------------------------------------------|--------------------|-------|------------------|
| Peak Repetitive Reverse Voltage                            | V <sub>RRM</sub>   | 1000  | V                |
| RMS Reverse Voltage                                        | V <sub>RMS</sub>   | 700   | V                |
| DC Blocking Voltage                                        | V <sub>DC</sub>    | 1000  | V                |
| Average Forward Output Current                             | I <sub>F(AV)</sub> | 6     | A                |
| Peak Forward Surge Current,<br>8.3ms Single Half Sine wave | I <sub>FSM</sub>   | 150   | A                |
| I <sup>2</sup> t Rating for Fusing                         | I <sup>2</sup> t   | 93    | A <sup>2</sup> s |

## Thermal Characteristics

| Parameter                              | Symbol           | Value      | Unit |
|----------------------------------------|------------------|------------|------|
| Thermal Resistance Junction-to-Case *1 | R <sub>θJC</sub> | 5.3        | °C/W |
| Thermal Resistance Junction-to-Air *2  | R <sub>θJA</sub> | 39         | °C/W |
| Operating Junction Temperature Range   | T <sub>J</sub>   | -55 ~ +150 | °C   |
| Storage Temperature Range              | T <sub>STG</sub> | -55 ~ +150 | °C   |

Notes:

1. The data tested by surface mounted on p.c.b. with 65mm x 50mm x 2.4mm with aluminum plate heat sink
2. The data tested by surface mounted on p.c.b. without heat sink

### Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter                    | Symbol     | Test Condition                                                                          | Min. | Typ. | Max. | Unit          |
|------------------------------|------------|-----------------------------------------------------------------------------------------|------|------|------|---------------|
| Reverse Breakdown Voltage    | $V_{(BR)}$ | $I_R = 2\mu\text{A}$                                                                    | 1000 | -    | -    | V             |
| Forward Voltage              | $V_F$      | $I_F = 6\text{A}$ , Per Diode                                                           | -    | -    | 1.3  | V             |
| Maximum Peak Reverse Current | $I_R$      | Rated $V_R$ , $T_J = 25^\circ\text{C}$                                                  | -    | -    | 10   | $\mu\text{A}$ |
|                              |            | Rated $V_R$ , $T_J = 125^\circ\text{C}$                                                 | -    | -    | 500  | $\mu\text{A}$ |
| Reverse Recovery Time        | $t_{rr}$   | $I_F = 0.5\text{A}$ , $I_{RM} = 1\text{A}$ ,<br>$I_{R(REC)} = 0.25\text{A}$ , Per Diode | -    | -    | 500  | ns            |

### Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

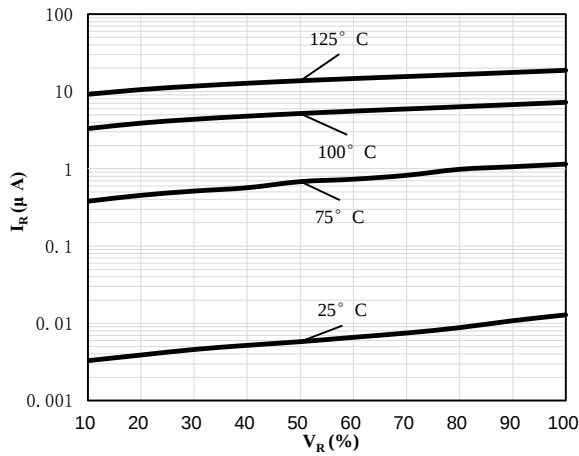


Fig 1 Typical Reverse Characteristic

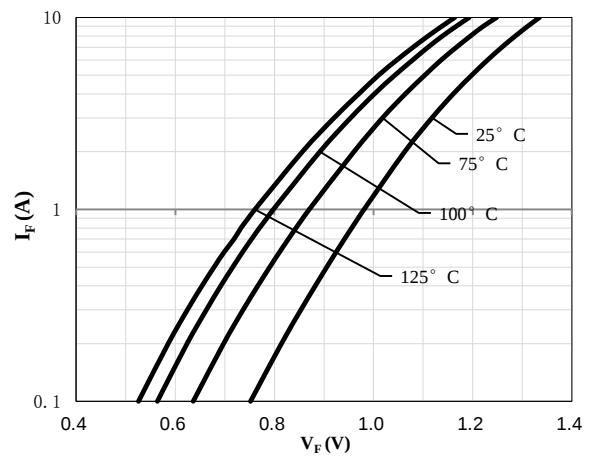


Fig 2 Typical Forward Characteristics

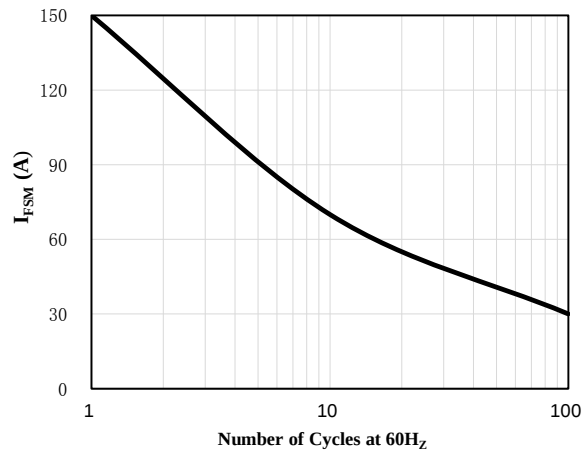


Fig 3 Surge Current Derating Curve

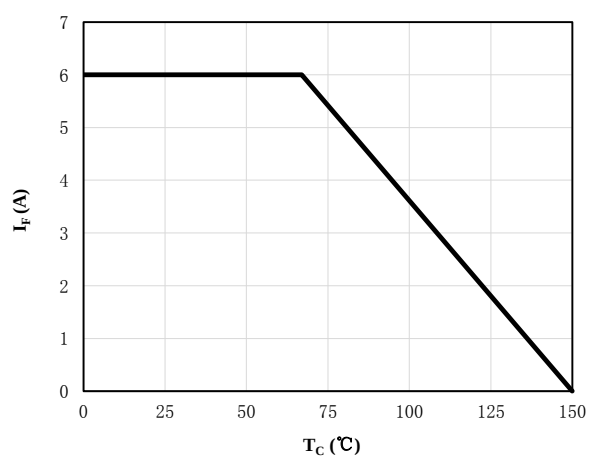


Fig 4 Forward Current Derating Curve

**Package Outline Dimensions** (unit: mm)

