

# Schottky Barrier Rectifiers

## GVS58BF--GVS510BF

### Features

- Metal silicon junction, majority carrier conduction
- High surge capability
- High temperature soldering guaranteed:  
260°C/10 seconds
- High current capability, low forward voltage drop
- RoHS Compliant



### Mechanical Data

- Case: SMBF molded plastic
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Solder plated, solderable per MIL- STD-202, Method 208
- Polarity: Color band denotes cathode end

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

| Characteristic   | Symbol             | GVS58BF | GVS59BF | GVS510BF | Units |
|--|--------------------|---------|---------|----------|-------|
| Peak repetitive reverse voltage                            | V <sub>RRM</sub>   | 80      | 90      | 100      | V     |
| RMS reverse voltage  | V <sub>RMS</sub>   | 56      | 63      | 70       | V     |
| DC blocking voltage  | V <sub>DC</sub>    | 80      | 90      | 100      | V     |
| Maximum average forward output current                     | I <sub>F(AV)</sub> | 5.0     |         |          | A     |
| Peak forward surge current,<br>8.3ms single half-sine-wave | I <sub>FSM</sub>   | 150     |         |          | A     |

### Thermal Characteristics

| Parameter                              | Symbol           | GVS58BF         | GVS59BF | GVS510BF | Units |
|--|------------------|-----------------|---------|----------|-------|
| Typical thermal resistance<br>(Note 1) | R <sub>θJA</sub> | 65              |         |          | °C /W |
|  | R <sub>θJC</sub> | 16              |         |          |       |
|  | R <sub>θJL</sub> | 15              |         |          |       |
| Operating junction temperature range   | T <sub>J</sub>   | - 55 ---- + 150 |         |          | °C    |
| Storage temperature range              | T <sub>STG</sub> | - 55 ---- + 150 |         |          | °C    |

Note:

1. Device mounted on PCB with 10 mm x 20 mm x 0.1mm copper pad areas

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

| Parameter                             | Symbol         | Test conditions        |                        | Typ. | Max. | Units |
|---------------------------------------|----------------|------------------------|------------------------|------|------|-------|
| Maximum instantaneous forward voltage | V <sub>F</sub> | I <sub>F</sub> =5.0A   | @T <sub>A</sub> =25°C  | --   | 0.7  | V     |
| Maximum Reverse current               | I <sub>R</sub> | Rated V <sub>R</sub> , | @T <sub>A</sub> =25°C  | --   | 250  | μ A   |
|                                       |                |                        | @T <sub>A</sub> =100°C | --   | 20   | m A   |

Note:

- 1.Pulse test: 300us pulse width, 1 % duty cycle
- 2.Pulse test: Pulse width 40ms

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

Fig.1-Forward Current Derating Curve

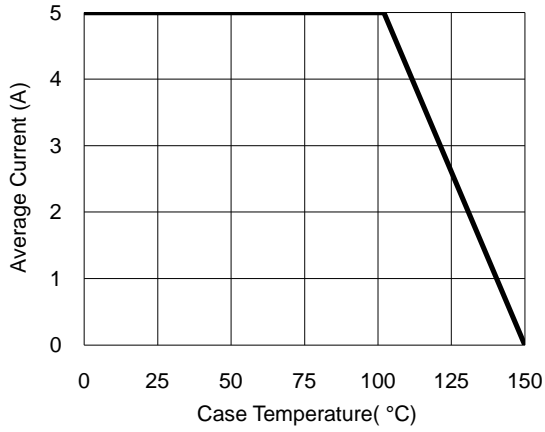


Fig.2- Surge Current Derating Curve

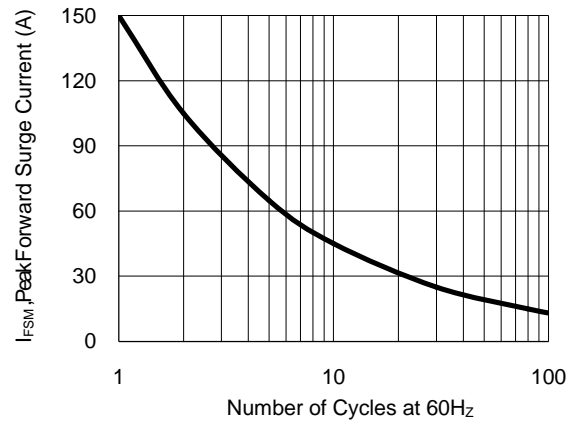


Fig.3- Typical Forward Voltage Characteristic

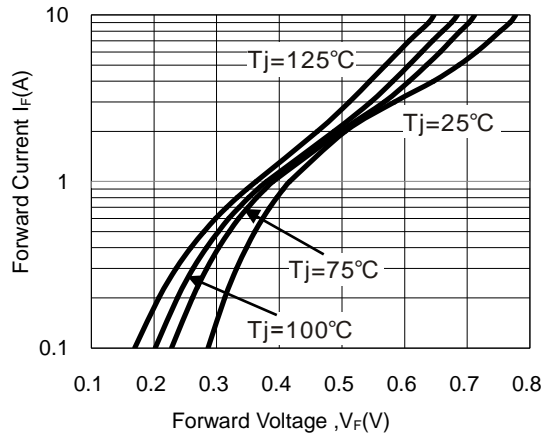
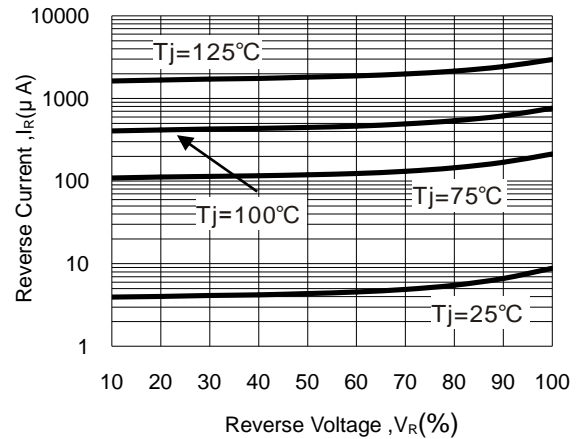


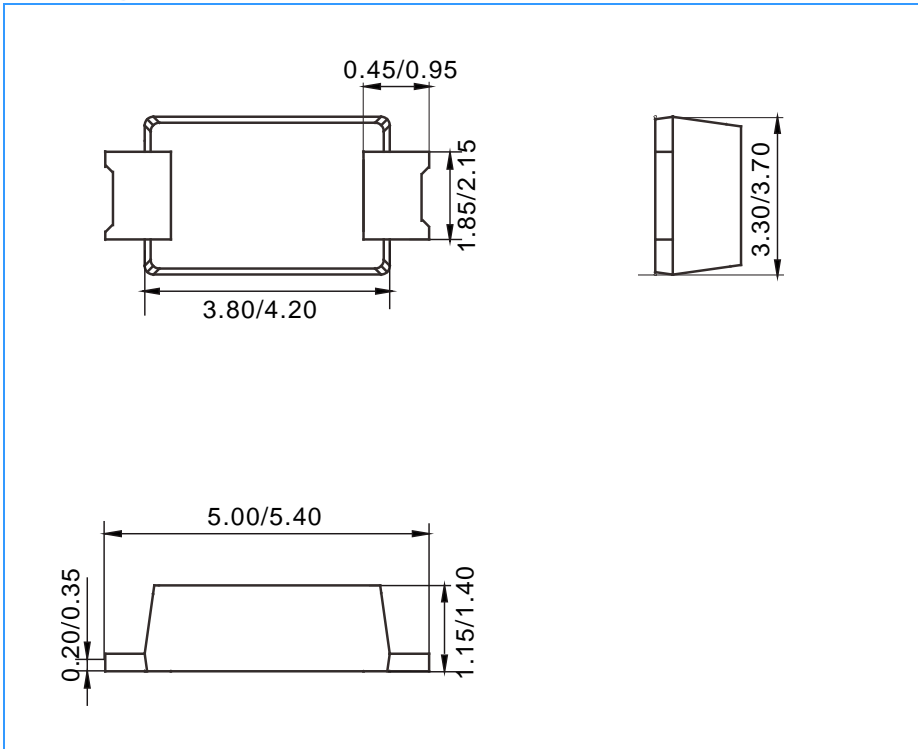
Fig.4- Typical Reverse Characteristic



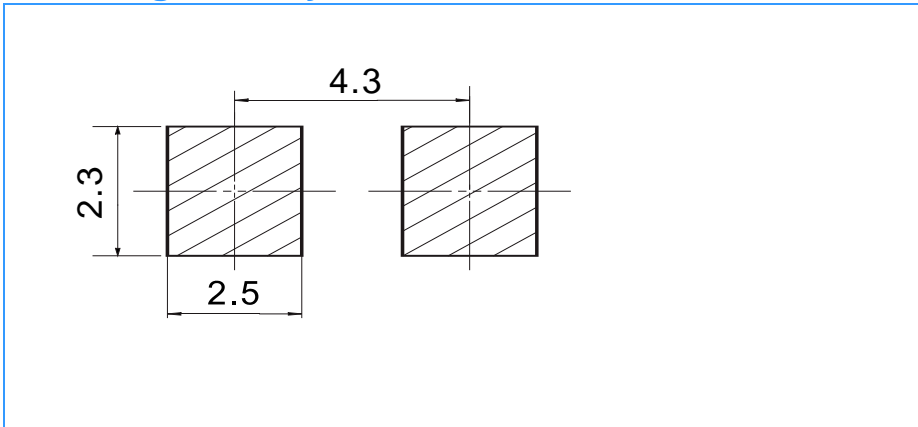
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### Package Outline Dimensions(unit:mm)



### Mounting Pad Layout(unit:mm)



### Ordering Information

| Part No. | Marking | Package | Shipping         |
|----------|---------|---------|------------------|
| GVS58BF  | VS58BF  | SMBF    | 4000 / Tape&Reel |
| GVS59BF  | VS59BF  | SMBF    | 4000 / Tape&Reel |
| GVS510BF | VS5ABF  | SMBF    | 4000 / Tape&Reel |