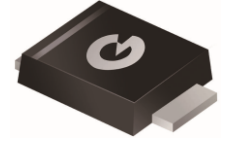


# Schottky Barrier Rectifier

## GVS53BF - GVS545BF

### Features

- Metal silicon junction, majority carrier conduction
- High forward surge current capability
- Low forward voltage drop
- High temperature soldering guaranteed: 260°C @ 10s
- Robust guarding for over voltage protection
- RoHS compliant with Halogen-free



### Mechanical Data

- Case: SMAF molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Matte tin plated leads; solderable per J-STD-002 and JESD22-B102
- Polarity: Color band denotes cathode end

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

| Parameter                                                  | Symbol            | GVS53BF | GVS54BF | GVS545BF | Unit |
|------------------------------------------------------------|-------------------|---------|---------|----------|------|
| Peak Repetitive Reverse Voltage                            | V <sub>RRM</sub>  | 30      | 40      | 45       | V    |
| RMS Reverse Voltage                                        | V <sub>RMS</sub>  | 21      | 28      | 31.5     | V    |
| DC Blocking Voltage                                        | V <sub>DC</sub>   | 30      | 40      | 45       | 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>  | 120     |         |          | A    |

### Thermal Characteristics

| Parameter                            | Symbol           | GVS53BF    | GVS54BF | GVS545BF | Unit |
|--------------------------------------|------------------|------------|---------|----------|------|
| Typical Thermal Resistance *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 p.c.b. with 10 mm x 20 mm x 0.1 mm copper pad area

**Schottky Barrier Rectifier****GVS53BF - GVS545BF****Electrical Characteristics** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)

| Parameter                                           | Symbol | Test Conditions     |                             | Typ. | Max. | Unit          |
|-----------------------------------------------------|--------|---------------------|-----------------------------|------|------|---------------|
| Maximum Instantaneous Forward Voltage <sup>*1</sup> | $V_F$  | $I_F = 5.0\text{A}$ | @ $T_A = 25^\circ\text{C}$  | -    | 0.44 | V             |
| Maximum Reverse Current <sup>*2</sup>               | $I_R$  | Rated $V_R$         | @ $T_J = 25^\circ\text{C}$  | -    | 500  | $\mu\text{A}$ |
|                                                     |        |                     | @ $T_J = 100^\circ\text{C}$ | -    | 40   | mA            |

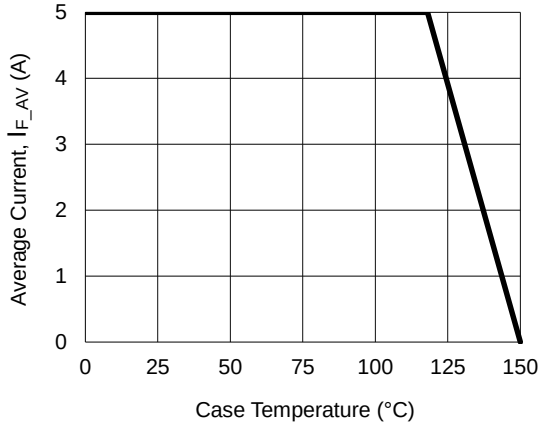
Note<sup>\*1</sup>: Pulse test: 300us pulse width, 1 % duty cycleNote<sup>\*2</sup>: Pulse test: Pulse width 40ms

# Schottky Barrier Rectifier

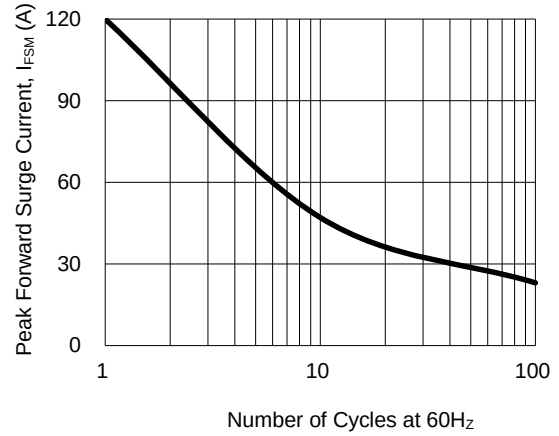
## GVS53BF - GVS545BF

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

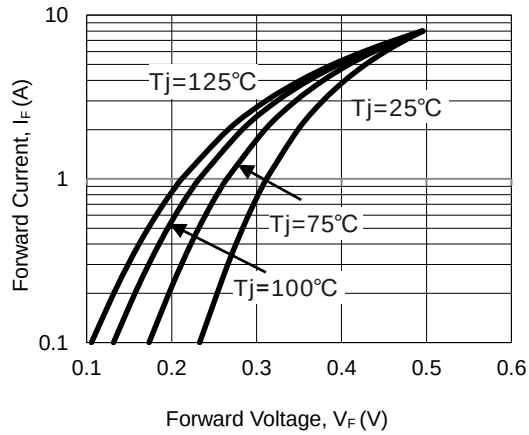
**Fig.1 Forward Current Derating Curve**



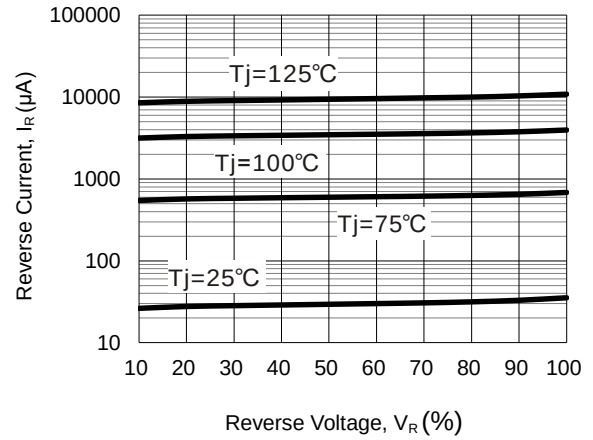
**Fig.2 Surge Current Derating Curve**



**Fig.3 Typical Forward Voltage Characteristics**



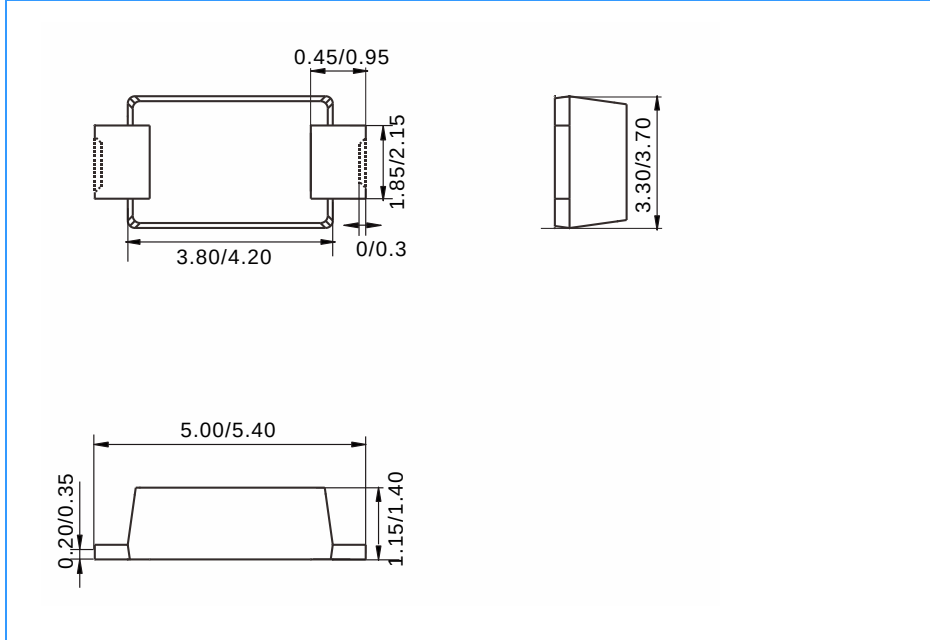
**Fig.4 Typical Reverse Characteristics**



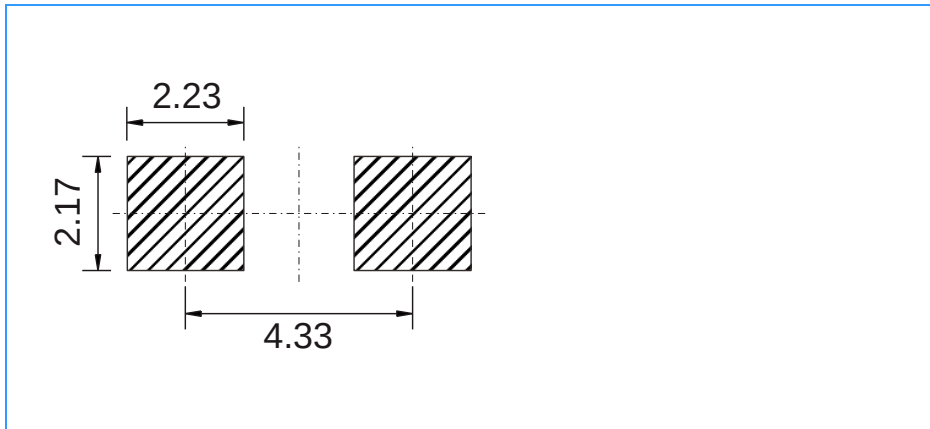
## Schottky Barrier Rectifier

## GVS53BF - GVS545BF

### Package Outline Dimensions (Unit: mm)



### Mounting Pad Layout (Unit: mm)



### Ordering Information

| Part Number | Marking | Package | Shipping Quantity  |
|-------------|---------|---------|--------------------|
| GVS53BF     | VS53BF  | SMBF    | 4000 / Tape & Reel |
| GVS54BF     | VS54BF  | SMBF    | 4000 / Tape & Reel |
| GVS545BF    | VS545BF | SMBF    | 4000 / Tape & Reel |