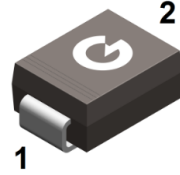


## Features

- For surface mounted applications
- Ideal for automated placement
- Low forward voltage drop
- High forward surge current capability
- RoHS compliant with Halogen-free

HF



SMB

## Mechanical Data

- Case: SMB
- Molding compound: UL flammability classification rating 94-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208
- Polarity: Color band denotes cathode end

## Ordering Information

| Part Number | Package | Shipping Quantity      | Marking Code |
|-------------|---------|------------------------|--------------|
| S2D         | SMB     | 3000 pcs / Tape & Reel | S2D          |
| S2G         | SMB     | 3000 pcs / Tape & Reel | S2G          |
| S2J         | SMB     | 3000 pcs / Tape & Reel | S2J          |
| S2K         | SMB     | 3000 pcs / Tape & Reel | S2K          |
| S2M         | SMB     | 3000 pcs / Tape & Reel | S2M          |

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

| Parameter                                               | Symbol             | S2D | S2G | S2J | S2K | S2M  | Unit |
|---------------------------------------------------------|--------------------|-----|-----|-----|-----|------|------|
| Peak Repetitive Reverse Voltage                         | V <sub>RRM</sub>   | 200 | 400 | 600 | 800 | 1000 | V    |
| RMS Reverse Voltage                                     | V <sub>RMS</sub>   | 140 | 280 | 420 | 560 | 700  | V    |
| DC Blocking Voltage                                     | V <sub>DC</sub>    | 200 | 400 | 600 | 800 | 1000 | V    |
| Average Forward Output Current                          | I <sub>F(AV)</sub> | 2.0 |     |     |     |      | A    |
| Peak Forward Surge Current, 8.3ms Single Half-Sine-Wave | I <sub>FSM</sub>   | 50  |     |     |     |      | A    |

## Thermal Characteristics

| Parameter                                         | Symbol           | S2D        | S2G | S2J | S2K | S2M | Unit |
|---------------------------------------------------|------------------|------------|-----|-----|-----|-----|------|
| Thermal Resistance Junction-to-Air <sup>*1</sup>  | R <sub>θJA</sub> | 60         |     |     |     |     | °C/W |
| Thermal Resistance Junction-to-Case <sup>*1</sup> | R <sub>θJC</sub> | 23         |     |     |     |     | °C/W |
| Thermal Resistance Junction-to-Lead <sup>*1</sup> | R <sub>θJL</sub> | 25         |     |     |     |     | °C/W |
| Thermal Resistance Junction-to-Air <sup>*2</sup>  | R <sub>θJA</sub> | 140        |     |     |     |     | °C/W |
| Thermal Resistance Junction-to-Lead <sup>*2</sup> | R <sub>θJL</sub> | 33         |     |     |     |     | °C/W |
| Operating Junction Temperature Range              | T <sub>J</sub>   | -55 ~ +150 |     |     |     |     | °C   |
| Storage Temperature Range                         | T <sub>STG</sub> | -55 ~ +150 |     |     |     |     | °C   |

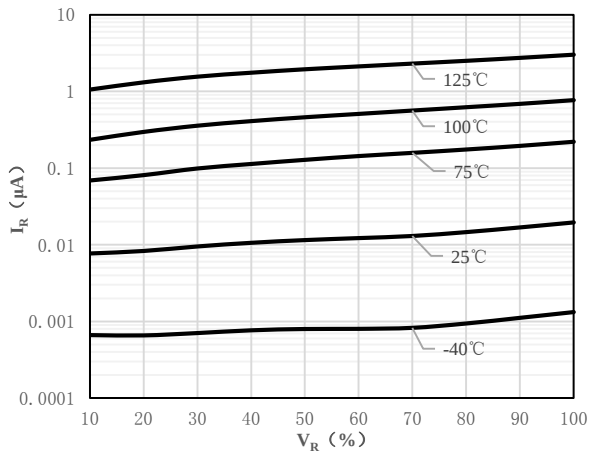
### Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter                       | Symbol     | Test Condition                          | Min. | Typ. | Max. | Unit          |
|---------------------------------|------------|-----------------------------------------|------|------|------|---------------|
| Reverse Breakdown Voltage       | $V_{(BR)}$ | $I_R = 2\mu\text{A}$ , S2D              | 200  | -    | -    | V             |
|                                 |            | $I_R = 2\mu\text{A}$ , S2G              | 400  | -    | -    | V             |
|                                 |            | $I_R = 2\mu\text{A}$ , S2J              | 600  | -    | -    | V             |
|                                 |            | $I_R = 2\mu\text{A}$ , S2K              | 800  | -    | -    | V             |
|                                 |            | $I_R = 2\mu\text{A}$ , S2M              | 1000 | -    | -    | V             |
| Forward Voltage *3              | $V_F$      | $I_F = 2\text{A}$                       | -    | -    | 1.15 | V             |
| Maximum Peak Reverse Current *4 | $I_R$      | Rated $V_R$ , $T_J = 25^\circ\text{C}$  | -    | -    | 5    | $\mu\text{A}$ |
|                                 |            | Rated $V_R$ , $T_J = 125^\circ\text{C}$ | -    | -    | 125  | $\mu\text{A}$ |

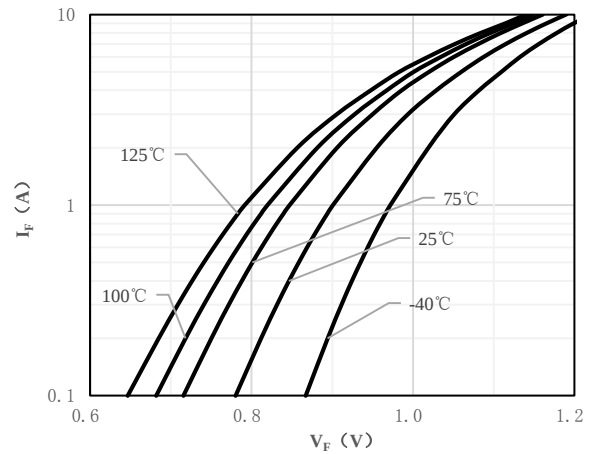
Notes:

1. The data tested by surface mounted on p.c.b. with 10 mm x 20 mm x 0.1 mm copper pad area
2. The data tested by surface mounted on a minimum recommended FR-4 board
3. The data tested by pulsed, pulse width  $\leq 300\mu\text{s}$ , duty cycle  $\leq 1\%$
4. The data tested by pulsed, pulse width  $\leq 40\text{ms}$

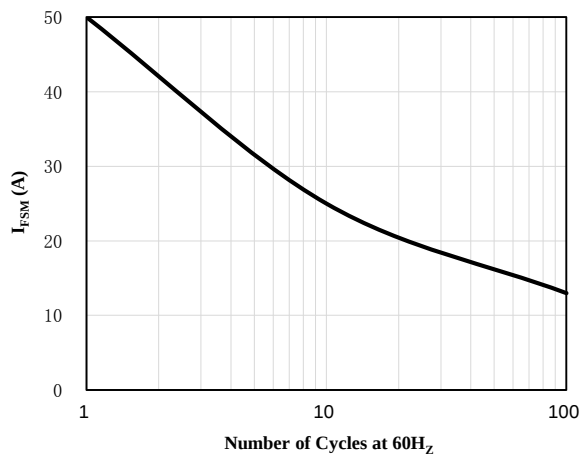
**Ratings and Characteristic Curves** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)



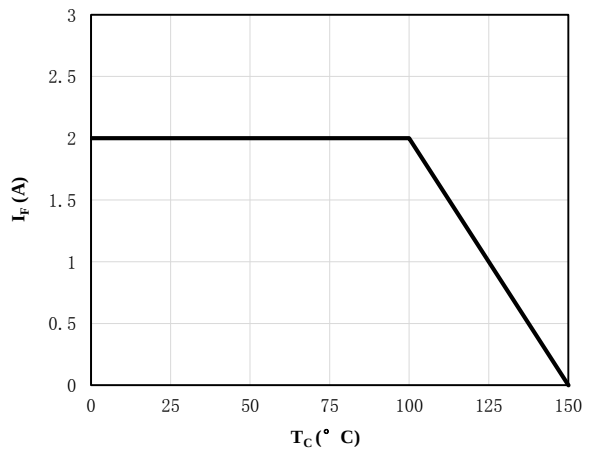
**Fig 1 Typical Reverse Characteristic**



**Fig 2 Typical Forward Characteristics**

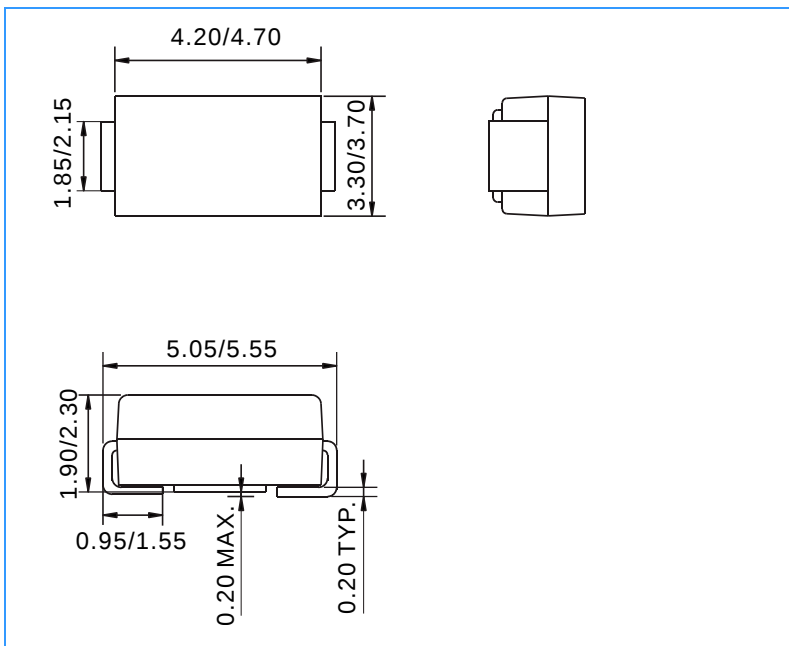


**Fig 3 Surge Current Derating Curve**



**Fig 4 Forward Current Derating Curve**

## Package Outline Dimensions (Unit: mm)



## Mounting Pad Layout (Unit: mm)

