

# GSDSBAT42/43W

## Fast Switching Schottky Barrier Diodes

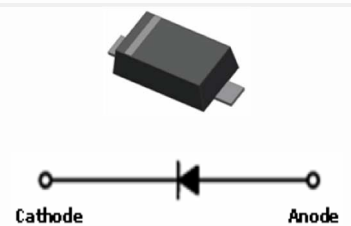
### Product Description

Fast Switching Schottky Barrier Diodes  
400mW / 30V

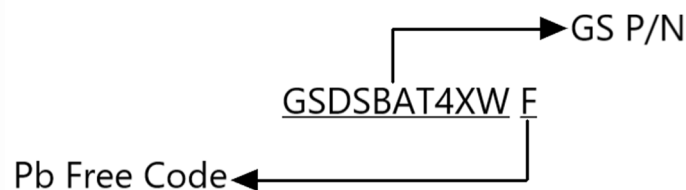
### Features

- Low Forward Voltage Drop
- Flat Lead SOD-123 Small Outline Plastic Package
- Surface Device Type Mounting
- RoHS Compliant
- Green EMC
- Matte Tin(Sn) Lead Finish
- Band Indicate Cathode

### Marking Information

| Part Number | Package | Part Marking | Equivalent Circuit diagram  |
|-------------|---------|--------------|---|
| GSDSBAT42WF | SOD-123 | C1           |  |
| GSDSBAT43WF | SOD-123 | C2           |   |

### Ordering Information



| Part Number | Package | Quantity |
|-------------|---------|----------|
| GSDSBAT42WF | SOD-123 | 3000 PCS |
| GSDSBAT43WF | SOD-123 |          |

## Absolute Maximum Ratings

(T<sub>A</sub>=25°C Unless otherwise noted)

| Symbol             | Parameter                         | Value       | Unit |
|--------------------|-----------------------------------|-------------|------|
| P <sub>D</sub>     | Power Dissipation                 | 400         | mW   |
| V <sub>RRM</sub>   | Repetitive Peak Reverse Voltage   | 30          | V    |
| V <sub>R</sub>     | Maximum DC Blocking Voltage       | 30          | V    |
| T <sub>J</sub>     | Operating Junction Temperature    | +125        | °C   |
| T <sub>STG</sub>   | Storage Temperature Range         | -65 to +125 | °C   |
| I <sub>F(AV)</sub> | Average Forward Rectified Current | 200         | mA   |
| I <sub>FSM</sub>   | Forward current surge peak        | 4           | A    |

These ratings are limiting values above which the serviceability of the diode may be impaired.

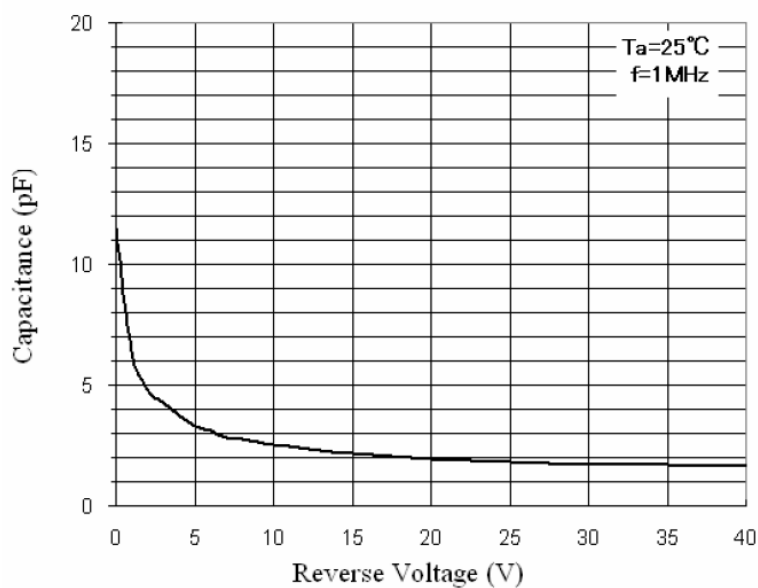
## Electrical Characteristics

(T<sub>A</sub>=25°C Unless otherwise noted)

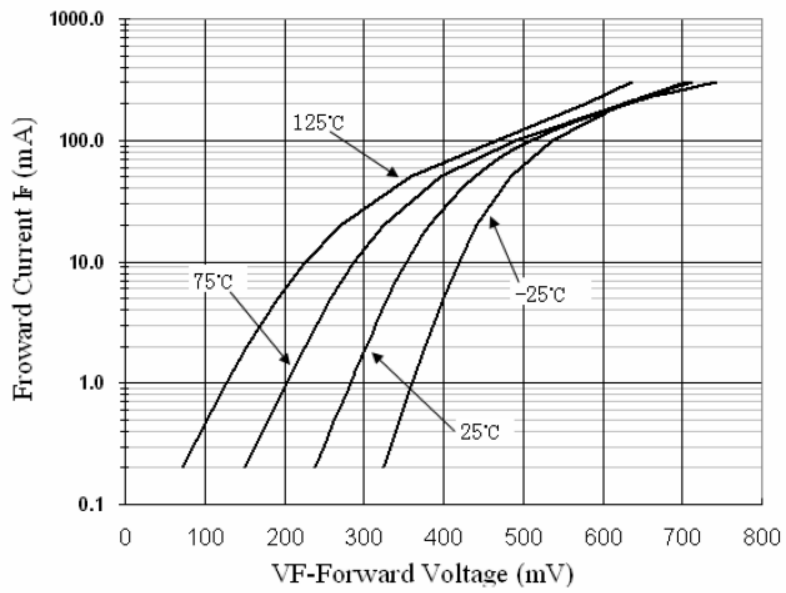
| Symbol          | Parameter                          | Test Condition   | Min        | Max  | Unit |
|-----------------|------------------------------------|--|------------|------|------|
| B <sub>V</sub>  | Breakdown Voltage                  | I <sub>R</sub> = 100μA   | 30         | -    | V    |
| I <sub>R</sub>  | Reverse Current                    | V <sub>R</sub> = 25V   | -          | 500  | nA   |
| V <sub>F</sub>  | Forward Voltage                    | GSDSBAT42W<br>I <sub>F</sub> = 10mA  | -          | 0.40 | V    |
|                 |                                    | I <sub>F</sub> = 50mA  | -          | 0.65 |      |
|                 | GSDSBAT43W<br>I <sub>F</sub> = 2mA | 0.26   | 0.33       |      |      |
|                 | I <sub>F</sub> = 15mA              | -  | 0.45       |      |      |
|                 | GSDSBAT42W, GSDSBAT43W             | I <sub>F</sub> = 200mA   | -          | 1.0  |      |
| T <sub>RR</sub> | Reverse Recovery Time              | I <sub>F</sub> = I <sub>R</sub> = 10mA<br>R <sub>L</sub> = 100Ω<br>I <sub>RR</sub> = 1mA | 5(Typical) |      | nS   |
| C               | Capacitance                        | V <sub>R</sub> = 1V, f = 1MHz  | 7(Typical) |      | pF   |

## Typical Characteristics

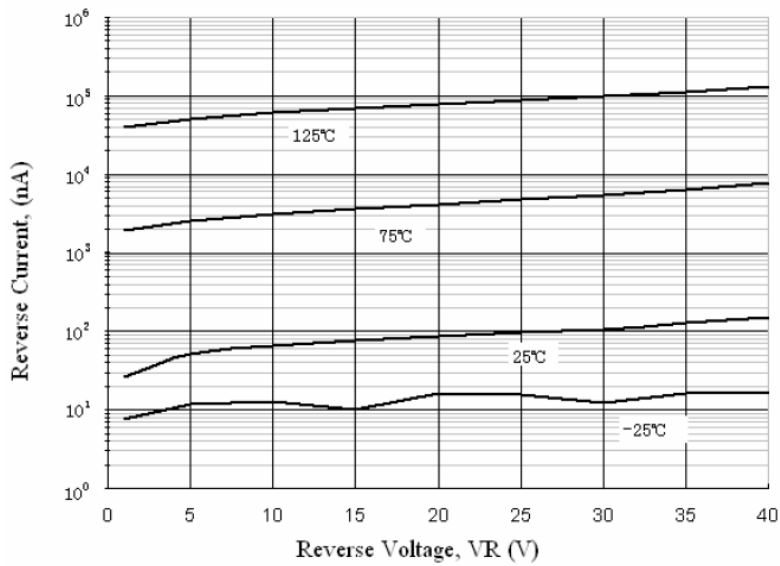
Total Capacitance



### Forward Voltage vs Ambient Temperature

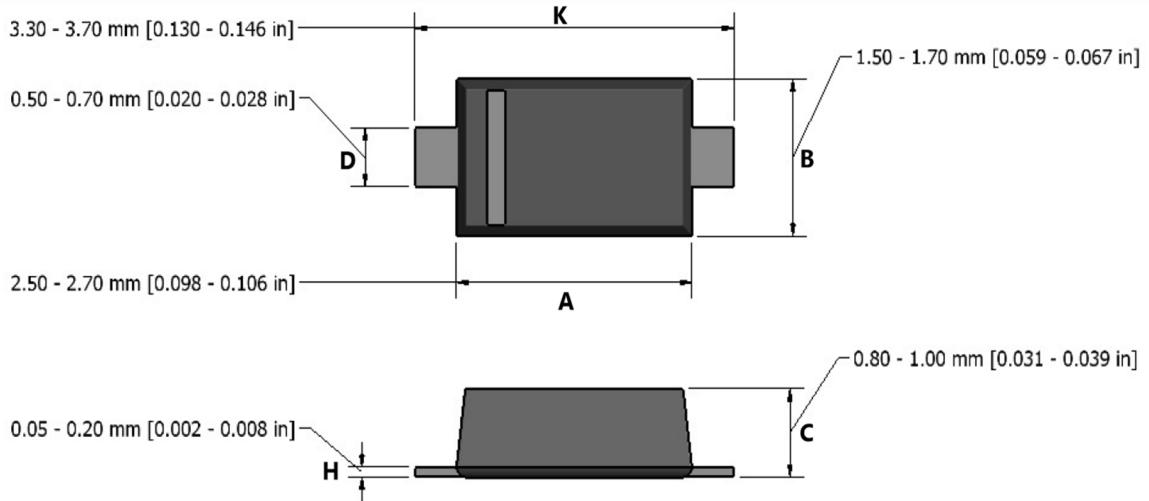


### Reverse Current vs Reverse Voltage



## Package Dimension

### SOD-123



Note: The above package outline is similar to JEITA SC-90.





| Dimensions |             |     |        |       |
|------------|-------------|-----|--------|-------|
| Symbol     | Millimeters |     | Inches |       |
|            | Min         | Max | Min    | Max   |
| <b>A</b>   | 2.5         | 2.7 | 0.098  | 0.106 |
| <b>B</b>   | 1.5         | 1.7 | 0.059  | 0.067 |
| <b>C</b>   | 0.8         | 1   | 0.031  | 0.039 |
| <b>D</b>   | 0.5         | 0.7 | 0.02   | 0.028 |
| <b>H</b>   | 0.05        | 0.2 | 0.002  | 0.008 |
| <b>K</b>   | 3.3         | 3.7 | 0.13   | 0.146 |

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