

## MBR0540W

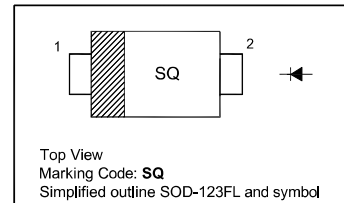
### Surface Mount Schottky Barrier Diode

#### Features

- Low forward voltage
- High conductance

#### PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |



#### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

| Parameter   | Symbol          | Value         | Unit               |
|---|-----------------|---------------|--------------------|
| Peak Repetitive Reverse Voltage                           | $V_{RRM}$       | 40            | V                  |
| Reverse Voltage   | $V_R$           | 40            | V                  |
| Average Rectified Forward Current                         | $I_{F(AV)}$     | 0.5           | A                  |
| Peak Forward Surge Current (8.3 ms Single Half Sine-wave) | $I_{FSM}$       | 20            | A                  |
| Thermal Resistance Junction to Lead <sup>1)</sup>         | $R_{\theta JL}$ | 118           | $^\circ\text{C/W}$ |
| Thermal Resistance Junction to Ambient <sup>2)</sup>      | $R_{\theta JA}$ | 206           | $^\circ\text{C/W}$ |
| Operating Junction Temperature Range                      | $T_j$           | - 65 to + 150 | $^\circ\text{C}$   |
| Storage Temperature Range                                 | $T_{stg}$       | - 65 to + 150 | $^\circ\text{C}$   |

<sup>1)</sup> Device mounted on FR-4 PCB 0.013 mm.

<sup>2)</sup> 1 inch" pad size (1 X 0.5 inch for each lead ) on FR4 board.

#### Characteristics at $T_a = 25^\circ\text{C}$

| Parameter   | Symbol | Max.                         | Unit                                       |
|---|--------|------------------------------|--|
| Forward Voltage<br>at $I_F = 0.5\text{ A}$<br>at $I_F = 1\text{ A}$<br>at $I_F = 0.5\text{ A}, T_a = 100^\circ\text{C}$<br>at $I_F = 1\text{ A}, T_a = 100^\circ\text{C}$ | $V_F$  | 0.51<br>0.62<br>0.46<br>0.61 | V  |
| Reverse Current<br>at $V_R = 20\text{ V}$<br>at $V_R = 40\text{ V}$<br>at $V_R = 20\text{ V}, T_a = 100^\circ\text{C}$<br>at $V_R = 40\text{ V}, T_a = 100^\circ\text{C}$ | $I_R$  | 10<br>20<br>5<br>13          | $\mu\text{A}$<br>$\mu\text{A}$<br>mA<br>mA |

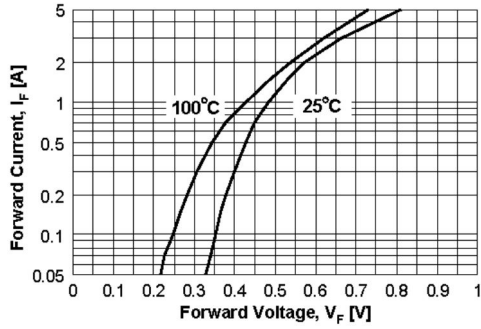


Figure 1. Forward Voltage Characteristics

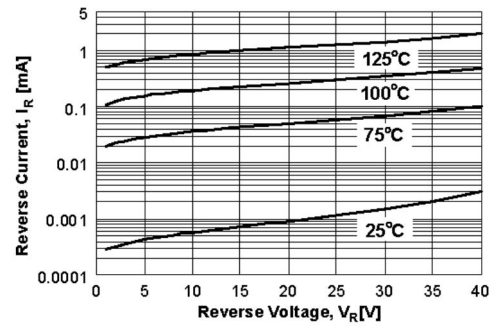


Figure 2. Reverse Current vs Reverse Voltage

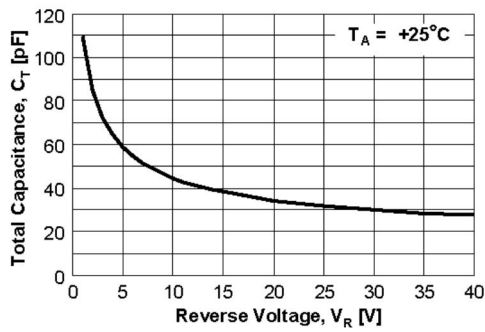
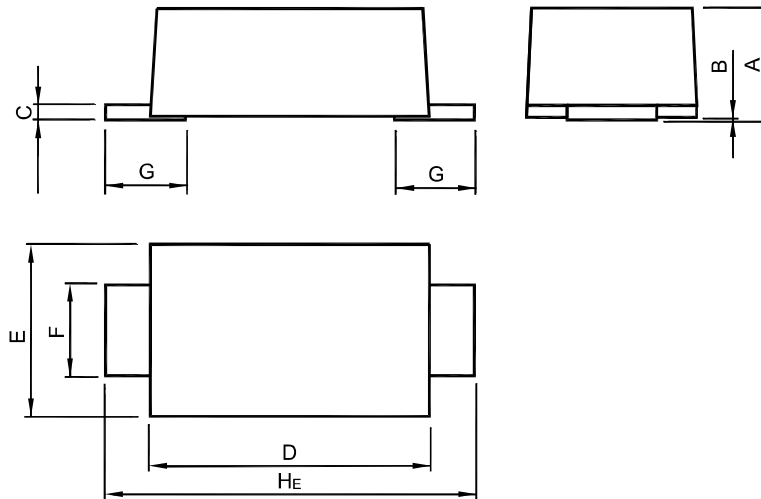


Figure 3. Total Capacitance

## PACKAGE OUTLINE

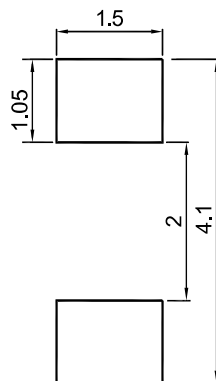
Plastic surface mounted package; 2 leads

SOD-123FL



| UNIT | A    | B   | C   | D   | E   | F   | G   | H <sub>E</sub> |
|------|------|-----|-----|-----|-----|-----|-----|----------------|
| mm   | 1.08 | 0.1 | 0.2 | 2.9 | 1.9 | 1.1 | 0.9 | 3.9            |
|      | 0.88 | 0   | 0.1 | 2.6 | 1.7 | 0.8 | 0.7 | 3.5            |

### Recommended Soldering Footprint



### Packing information

| Package   | Tape Width (mm) | Pitch   |               | Reel Size |      | Per Reel Packing Quantity |
|-----------|-----------------|---------|---------------|-----------|------|---------------------------|
|           |                 | mm      | inch          | mm        | inch |                           |
| SOD-123FL | 8               | 4 ± 0.1 | 0.157 ± 0.004 | 178       | 7    | 3,000                     |