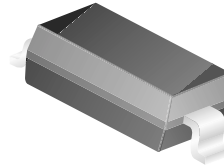




# MBR0540

## Features

- 0.5 ampere; forward voltage less than 460 mv.
- 400 milliwatt Power Dissipation package.
- Compact surface mount package with same footprint as mini-melf.



**SOD123**  
Color Band Denotes Cathode  
Mark: B4

## Schottky Rectifiers

### Absolute Maximum Ratings\* T<sub>A</sub> = 25°C unless otherwise noted

| Symbol             | Parameter   | Value       | Units |
|--------------------|---|-------------|-------|
| V <sub>RRM</sub>   | Maximum Repetitive Reverse Voltage  | 40          | V     |
| I <sub>F(AV)</sub> | Average Rectified Forward Current   | 500         | mA    |
| I <sub>FSM</sub>   | Non-repetitive Peak Forward Surge Current<br>half wave, single phase, 60 Hz | 5.5         | A     |
| T <sub>stg</sub>   | Storage Temperature Range   | -65 to +150 | °C    |
| T <sub>J</sub>     | Operating Junction Temperature  | -65 to +125 | °C    |

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Thermal Characteristics

| Symbol           | Parameter                                 | Value | Units |
|------------------|---|-------|-------|
| R <sub>θJA</sub> | Thermal Resistance, Junction to Ambient * | 206   | °C/W  |
| R <sub>θJL</sub> | Thermal Resistance, Junction to Lead **   | 118   | °C/W  |

\* 1.0 inch" pad size (1.0 x 0.5 inch for each lead) on FR4 board.

\*\* Device mounted on FR-4 PCB 0.013 mm.

### Electrical Characteristics T<sub>A</sub> = 25°C unless otherwise noted

| Symbol         | Parameter  | Value | Units |
|----------------|--|-------|-------|
| V <sub>F</sub> | Forward Voltage @ I <sub>F</sub> = 500 mA,<br>I <sub>F</sub> = 500 mA, T <sub>A</sub> = 100°C<br>I <sub>F</sub> = 1.0 A,<br>I <sub>F</sub> = 1.0 A, T <sub>A</sub> = 100°C | 510   | mV    |
|                |  | 460   | mV    |
|                |  | 620   | mV    |
|                |  | 610   | mV    |
| I <sub>R</sub> | Reverse Current @ V <sub>R</sub> = 20 V,<br>V <sub>R</sub> = 20 V, T <sub>A</sub> = 100°C<br>V <sub>R</sub> = 40 V,<br>V <sub>R</sub> = 40 V, T <sub>A</sub> = 100°C       | 10    | μA    |
|                |  | 5.0   | mA    |
|                |  | 20    | μA    |
|                |  | 13    | mA    |

Typical Characteristics

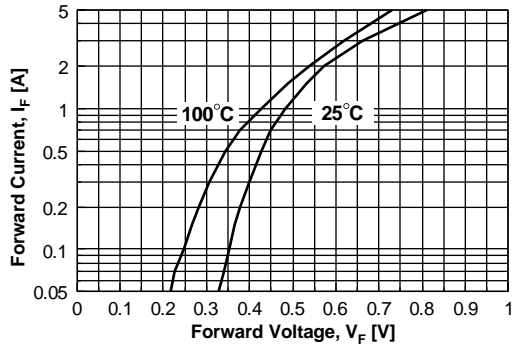


Figure 1. Forward Voltage Characteristics

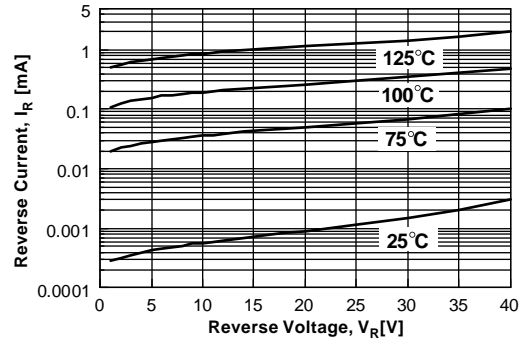


Figure 2. Reverse Current vs Reverse Voltage

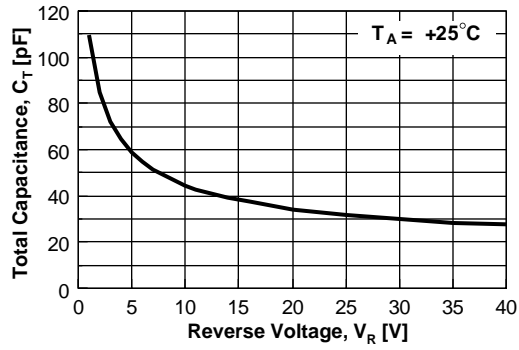


Figure 3. Total Capacitance

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| Bottomless <sup>TM</sup>          | FAST <sub>r</sub> <sup>TM</sup>  | OPTOPLANAR <sup>TM</sup>         | STAR*POWER <sup>TM</sup>     |                   |
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| DenseTrench <sup>TM</sup>         | GTO <sup>TM</sup>                | Power247 <sup>TM</sup>           | SuperSOT <sup>TM</sup> -6    |                   |
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| FACT Quiet Series <sup>TM</sup>   | MICROWIRE <sup>TM</sup>          | SILENT SWITCHER <sup>®</sup>     | UltraFET <sup>®</sup>        |                   |

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