

# Schottky Barrier Diode

## Features

1. High reliability
2. Low reverse current and low forward voltage
3. Small surface mounting type



## Applications

Low current rectification and high speed switching

## Construction

Silicon epitaxial planar

## Absolute Maximum Ratings

$T_j=25^{\circ}\text{C}$

| Parameter                             | Test Conditions   | Symbol    | Value    | Unit               |
|---------------------------------------|---|-----------|----------|--------------------|
| Repetitive peak reverse voltage       |   | $V_{RRM}$ | 30       | V                  |
| Forward continuous current            | $T_a=25^{\circ}\text{C}$                                  | $I_F$     | 200      | mA                 |
| Repetitive peak forward surge current | $t_p < 1 \text{ s}, \delta < 0.5, T_a=25^{\circ}\text{C}$ | $I_{FRM}$ | 500      | mA                 |
| Surge forward current                 | $t_p < 10\text{ms}, T_a=25^{\circ}\text{C}$               | $I_{FSM}$ | 4        | A                  |
| Power dissipation                     | $T_a=65^{\circ}\text{C}$                                  | $P_{tot}$ | 200      | mW                 |
| Junction temperature                  |   | $T_j$     | 125      | $^{\circ}\text{C}$ |
| Storage temperature range             |   | $T_s$     | -65~+150 | $^{\circ}\text{C}$ |

Stresses exceeding maximum ratings may damage the device. Maximum ratings are stress ratings only. Functional operation above the recommended operating conditions is not implied. Extended exposure to stresses above the recommended operating conditions may affect device reliability.

**Electrical Characteristics**

$T_j=25^{\circ}\text{C}$

| Parameter  | Test Conditions  | Type | Symbol           | Min  | Typ | Max  | Unit          |
|--|--|------|------------------|------|-----|------|---------------|
| Reverse breakdown voltage                          |  |      | $V_{(BR)R}$      | 30   |     |      | V             |
| Forward voltage                                    | $I_F=10\text{mA}$  | LL42 | $V_F$            |      |     | 0.4  | V             |
|  | $I_F=200\text{mA}$   | LL42 | $V_F$            |      |     | 1.0  | V             |
|  | $I_F=2\text{mA}$   | LL43 | $V_F$            | 0.26 |     | 0.33 | V             |
|  | $I_F=15\text{mA}$  | LL43 | $V_F$            |      |     | 0.45 | V             |
|  | $I_F=50\text{mA}$  | LL43 | $V_F$            |      |     | 0.65 | V             |
|  | $I_F=200\text{mA}$   | LL43 | $V_F$            |      |     | 1.0  | V             |
| Reverse current                                    | $V_R=25\text{V}$   |      | $I_R$            |      |     | 0.5  | $\mu\text{A}$ |
| Pulse test $t_p < 300\mu\text{s}$ , $\delta < 0.5$ | $V_R=25\text{V}$ , $T_j=100^{\circ}\text{C}$                                   |      |                  |      |     | 100  |               |
| Capacitance  | $V_R=1\text{V}$ , $f=1\text{MHz}$  |      | $C_{\text{tot}}$ |      | 7.0 |      | pF            |
| Reverse recovery time                              | $I_F=10\text{mA}$ , $I_R=10\text{mA}$<br>$I_{rr}=1\text{mA}$ , $R_L=100\Omega$ |      | $t_{rr}$         |      |     | 5.0  | ns            |

**Characteristics ( $T_j=25^{\circ}\text{C}$  unless otherwise specified)**

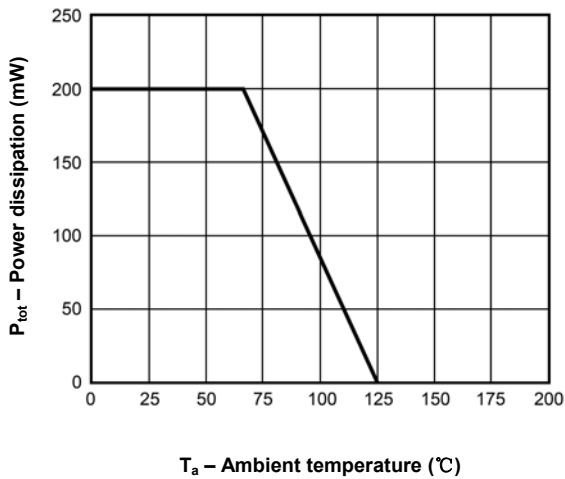


Figure 1. Admissible power dissipation vs. Ambient temperature

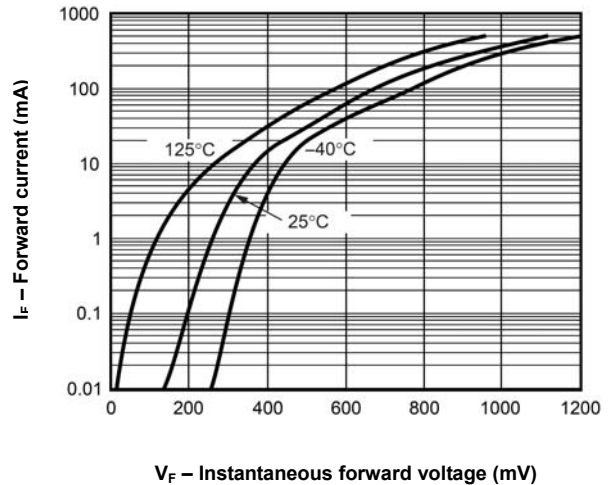


Figure 2. Typical reverse characteristics

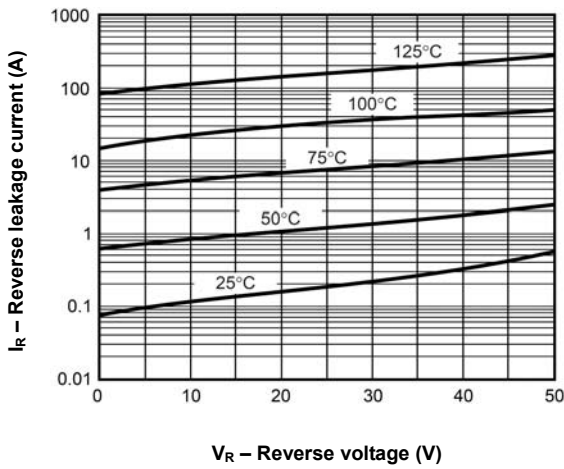


Figure 3. Typical reverse characteristics

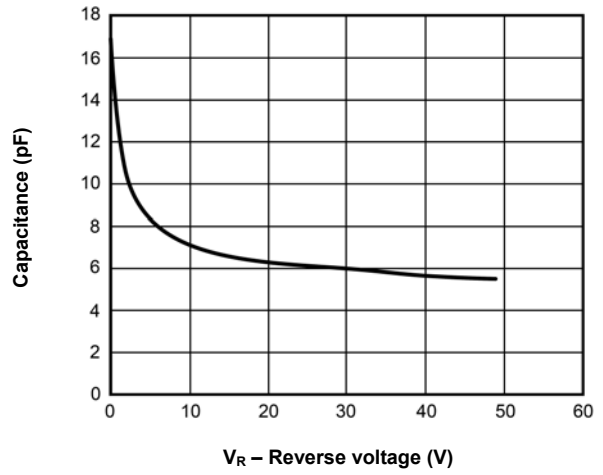
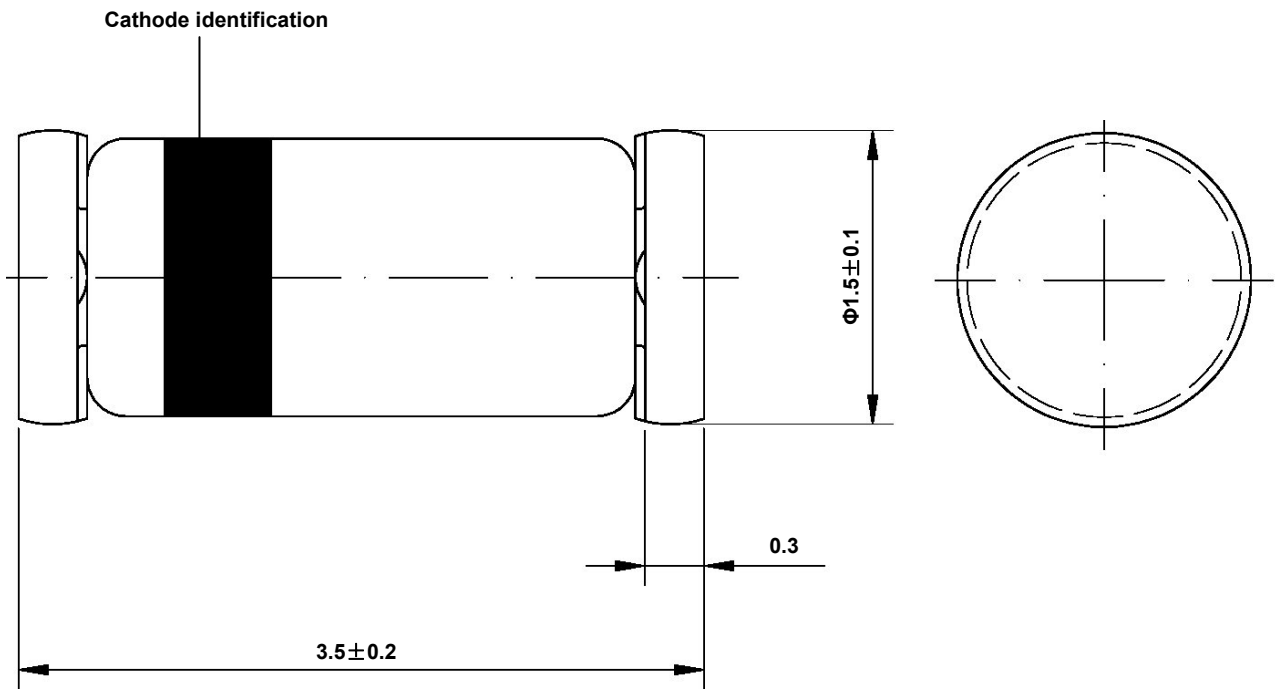


Figure 4. Typical capacitance vs. reverse applied voltage

Dimensions in mm



Glass Case  
 Mini Melf / SOD-80  
 JEDEC DO-213 AA