



Schottky Barrier Diode

Features

1. Small surface mounting type
2. High reliability
3. Low leakage current
4. low forward voltage drop
5. Low capacitance



Applications

Diode for low currents with a low supply voltage

Small battery charger

HF-Detector

Protection circuit

DC/DC converter for notebooks

Protection circuit

Absolute Maximum Ratings

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

| Parameter | Test Conditions | Type | Symbol | Value | Unit |
|---------------------------------|------------------|-------|-----------|----------|--------------------|
| Reverse voltage | | BAS81 | V_{RRM} | 40 | V |
| | | BAS82 | V_{RRM} | 50 | V |
| | | BAS83 | V_{RRM} | 60 | V |
| Repetitive peak forward current | | | I_{FRM} | 150 | mA |
| Peak forward surge current | $t_p=1\text{ s}$ | | I_{FSM} | 500 | mA |
| Forward current | | | I_F | 30 | mA |
| Junction temperature | | | T_j | 125 | $^{\circ}\text{C}$ |
| Storage temperature range | | | T_{stg} | -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.

Excel Semiconductor



Electrical Characteristics

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

| Parameter | Test Conditions | Type | Symbol | Min | Typ | Max | Unit |
|-------------------|--------------------------------|-------|--------|-----|-----|------|---------------|
| Forward voltage | $I_F=0.1\text{mA}$ | | V_F | | | 0.33 | V |
| | $I_F=1\text{mA}$ | | V_F | | | 0.41 | V |
| | $I_F=15\text{mA}$ | | V_F | | | 1 | V |
| Reverse current | $V_R=40\text{V}$ | BAS81 | I_R | | | 0.2 | μA |
| | $V_R=50\text{V}$ | BAS82 | I_R | | | 0.2 | μA |
| | $V_R=60\text{V}$ | BAS83 | I_R | | | 0.2 | μA |
| Diode capacitance | $V_R=1\text{V}, f=1\text{MHz}$ | | C_D | | | 1.6 | pF |

Characteristics ($T_j=25$

$^\circ\text{C}$ unless otherwise specified)

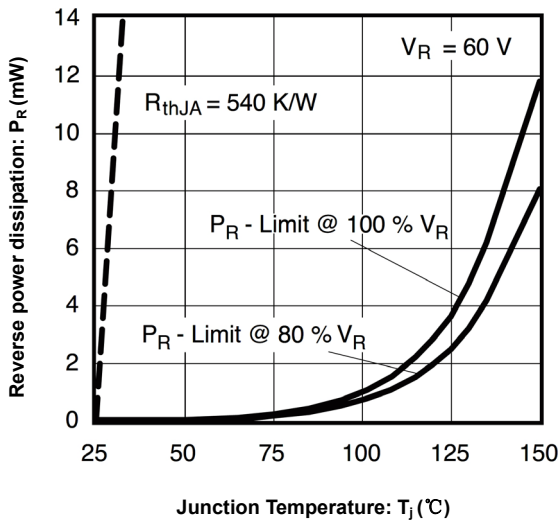


Figure 1. Max. reverse power dissipation vs. junction temperature

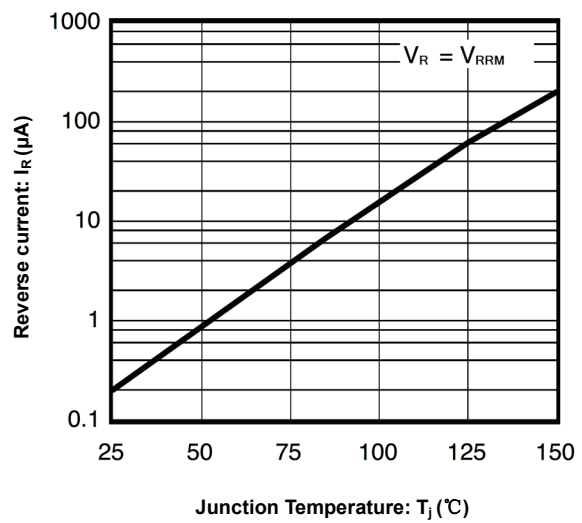


Figure 2. Reverse current vs. junction temperature

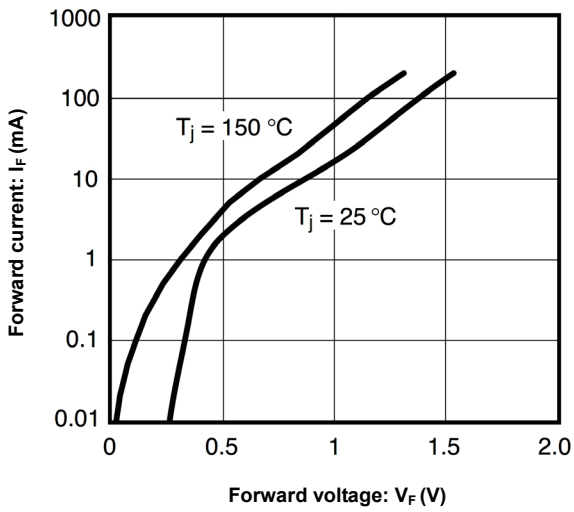


Figure 3. Forward current vs. forward voltage

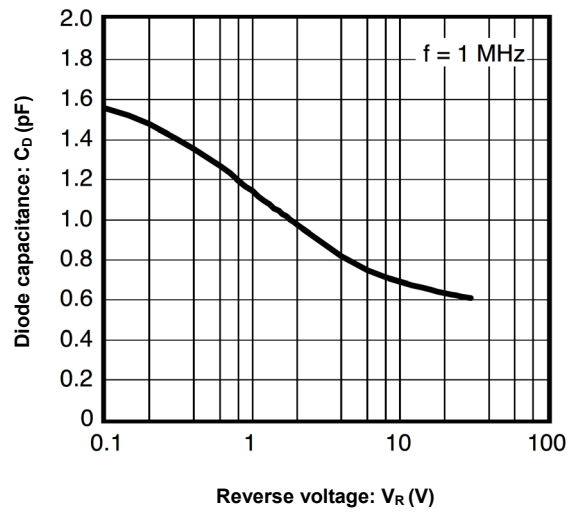
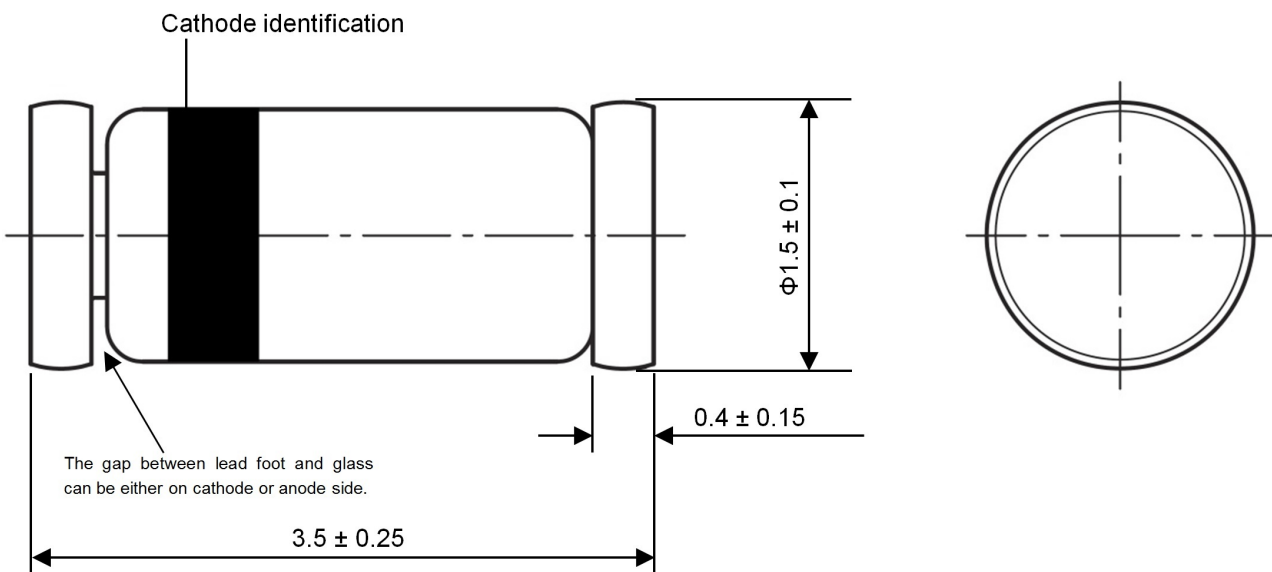


Figure 4. Diode capacitance vs. reverse voltage

Dimensions in mm



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