# Schottky Barrier Diode

## Features

1. Very low switching time
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℃

| Parameter | Test Conditions | Type | Symbol | Value | Unit |
|---|---|---|---|---|---|
| Reverse voltage | | BAT81S | $V_{RRM}$ | 40 | V |
| | | BAT82S | $V_{RRM}$ | 50 | V |
| | | BAT83S | $V_{RRM}$ | 60 | V |
| Repetitive peak forward current | | | $I_{FRM}$ | 150 | mA |
| Peak forward surge current | $t_p$=1 s | | $I_{FSM}$ | 500 | mA |
| Forward current | | | $I_F$ | 30 | mA |
| Junction temperature | | | $T_j$ | 125 | ℃ |
| Storage temperature range | | | $T_{stg}$ | -65~+150 | ℃ |

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℃

| Parameter | Test Conditions | Type | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|
| Forward voltage | $I_F$=0.1mA | | $V_F$ | | | 0.33 | V |
| | $I_F$=1mA | | $V_F$ | | | 0.41 | V |
| | $I_F$=15mA | | $V_F$ | | | 1 | V |
| Reverse current | $V_R$=40V | BAT81S | $I_R$ | | | 0.2 | μA |
| | $V_R$=50V | BAT82S | $I_R$ | | | 0.2 | μA |
| | $V_R$=60V | BAT83S | $I_R$ | | | 0.2 | μA |
| Diode capacitance | $V_R$=1V, f=1MHz | | $C_D$ | | | 1.6 | pF |

## Characteristics ($T_j$=25℃ unless otherwise specified)

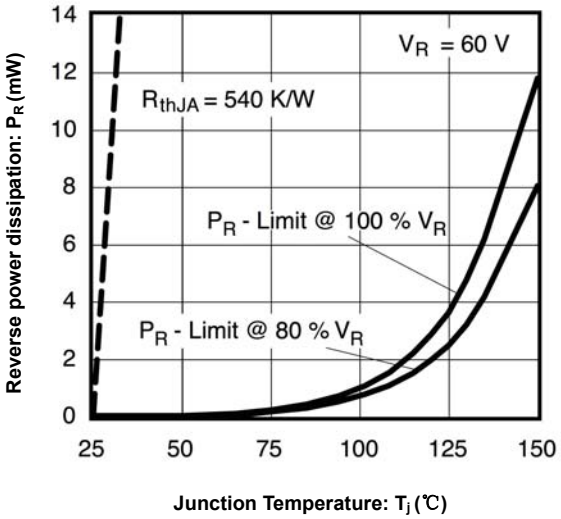



**Figure 1. Max. reverse power dissipation vs. junction temperature**

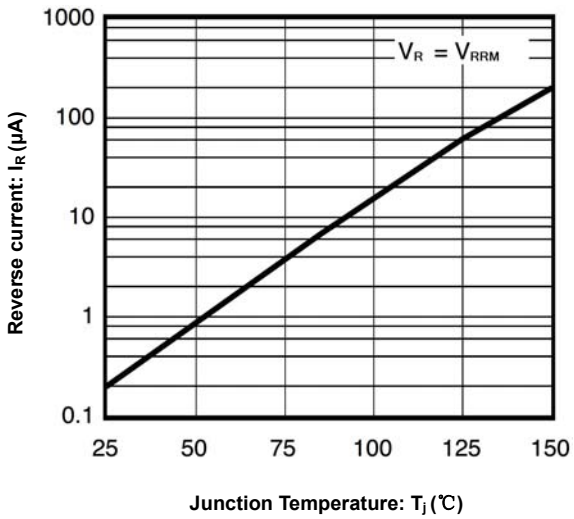



**Figure 2. Reverse current vs. junction temperature**

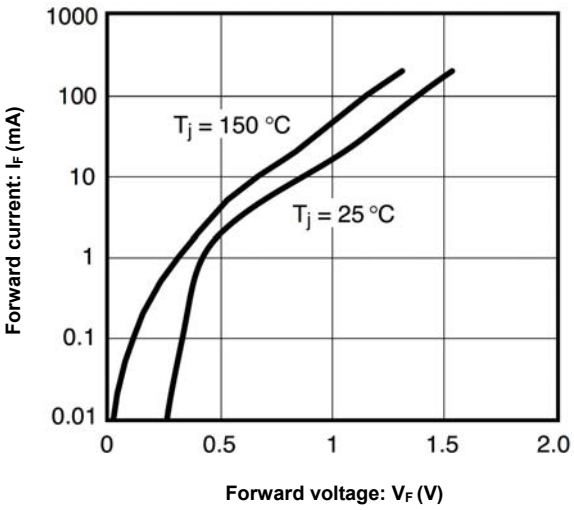



**Figure 3. Forward current vs. forward voltage**

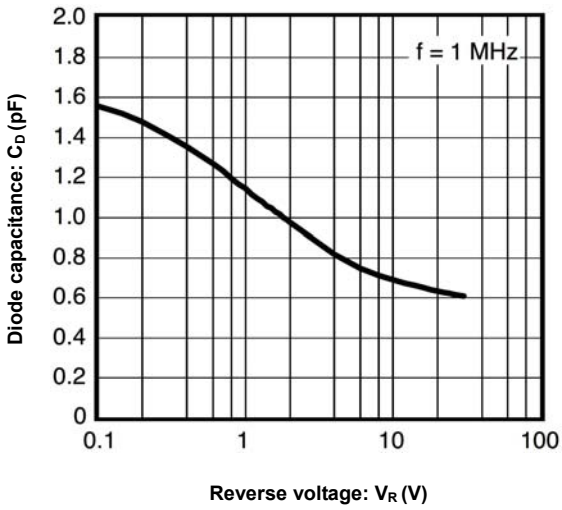
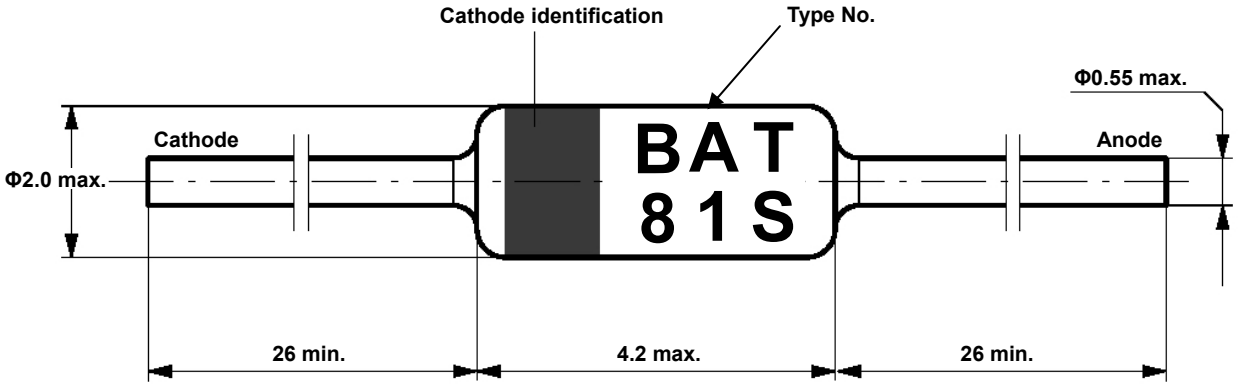



**Figure 4. Diode capacitance vs. reverse voltage**

## Dimensions in mm




Standard Glass Case
JEDEC DO-35

## Marking