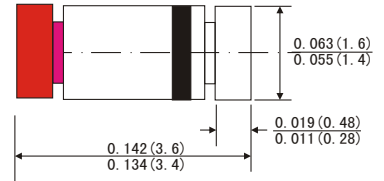


## FEATURES

- For general purpose applications
- These diodes features very low turn-on voltage and fast switching.
- These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges.
- This diode is also available in the DO-35 case with the type designation BAT46.
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



## MiniMELF



## MECHANICAL DATA

- Case: MiniMELF glass case(SOD-80)
- Weight: Approx. 0.05 gram

Dimensions in inches and (millimeters)

## ABSOLUTE RATINGS(LIMITING VALUES)

|  | Symbols   | Value             | Units            |
|--|-----------|-------------------|------------------|
| Repetitive Peak Reverse Voltage  | $V_{RRM}$ | 100               | V                |
| Forward Continuous Current at $T_A=25^\circ\text{C}$   | $I_F$     | 150 <sup>1)</sup> | mA               |
| Repetitive Peak Forward Current at $t_p < 1\text{s}$ , $\delta < 0.5$ , $T_A=25^\circ\text{C}$ | $I_{FRM}$ | 350 <sup>1)</sup> | mA               |
| Surge forward current at $t_p < 10\text{ms}$ , $T_A=25^\circ\text{C}$                          | $I_{FSM}$ | 750 <sup>1)</sup> | mA               |
| Power Dissipation at $T_A=65^\circ\text{C}$  | $P_{tot}$ | 150 <sup>1)</sup> | mW               |
| Junction temperature   | $T_J$     | 125               | $^\circ\text{C}$ |
| Ambient Operating temperature Range  | $T_A$     | -65 to +125       | $^\circ\text{C}$ |
| Storage Temperature Range  | $T_{STG}$ | -65 to +150       | $^\circ\text{C}$ |

1) Valid provided that electrodes are kept at ambient temperature

## ELECTRICAL CHARACTERISTICS

|   | Symbols  | Min. | Typ.    | Max.   | Unis   |
|---|--|------|---------|--|--|
| Reverse Breakdown Voltage Tested with 100 $\mu\text{A}$ Pulses  | $V_{(BR)R}$  | 100  |         |  | V  |
| Forward Voltage<br>Pulse Test $t_p < 300\mu\text{s}$ , $V_R=10\text{V}$ , $T_J=60^\circ\text{C}$ , $\delta < 2\%$<br>at $I_F=0.1\text{mA}$ ,<br>at $I_F=10\text{mA}$ ,<br>at $I_F=250\text{mA}$   | $V_F$<br>$V_F$<br>$V_F$  |      |         | 0.25<br>0.45<br>1                            | V<br>V<br>V  |
| Leakage current<br>pulse test $t_p < 300\mu\text{s}$ , $\delta < 2\%$<br>at $V_R=1.5\text{V}$<br>at $V_R=1.5\text{V}$ , $T_J=60^\circ\text{C}$<br>at $V_R=10\text{V}$<br>at $V_R=10\text{V}$ , $T_J=60^\circ\text{C}$<br>at $V_R=50\text{V}$<br>at $V_R=50\text{V}$ , $T_J=60^\circ\text{C}$<br>at $V_R=75\text{V}$<br>at $V_R=75\text{V}$ , $T_J=60^\circ\text{C}$ | $I_R$<br>$I_R$<br>$I_R$<br>$I_R$<br>$I_R$<br>$I_R$<br>$I_R$<br>$I_R$ |      |         | 0.5<br>5<br>0.8<br>7.5<br>2<br>15<br>5<br>20 | $\mu\text{A}$<br>$\mu\text{A}$<br>$\mu\text{A}$<br>$\mu\text{A}$<br>$\mu\text{A}$<br>$\mu\text{A}$<br>$\mu\text{A}$<br>$\mu\text{A}$ |
| Junction Capacitance at $V_R=0\text{V}$ , $f=1\text{MHz}$<br>at $V_R=1\text{V}$ , $f=1\text{MHz}$   | $C_J$<br>$C_J$   |      | 10<br>6 |  | pF<br>pF   |
| Thermal resistance junction to ambient Air  | $R_{\theta JA}$  |      |         | 300 <sup>1)</sup>                            | K/W  |

1) Valid provided that electrodes are kept at ambient temperature)

# RATINGS AND CHARACTERISTIC CURVES LL46

Figure 1. Forward current versus forward voltage at different temperatures (typical values)

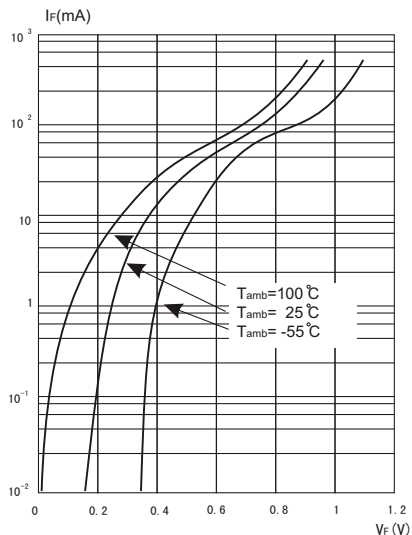


Figure 2. Forward current versus forward voltage (typical values)

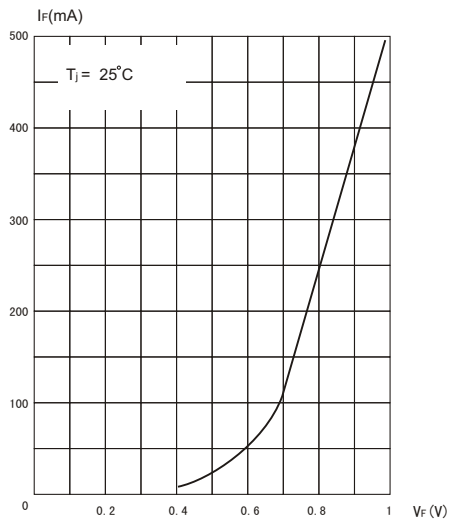
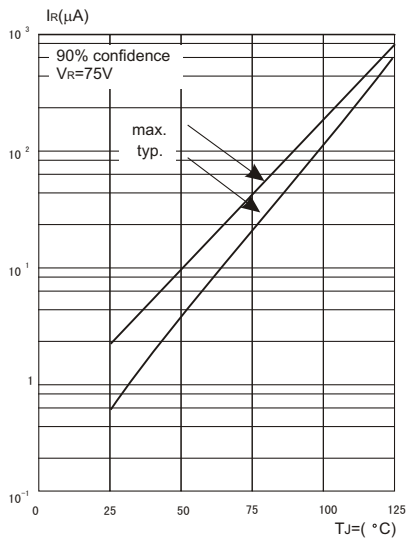


Figure 3. Reverse current versus junction temperature (typical values)



# RATINGS AND CHARACTERISTIC CURVES LL46

Figure 4. Reverse current versus continuous Reverse voltage

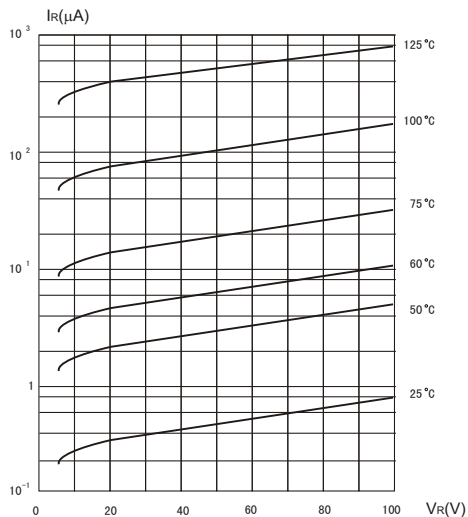


Figure 5. Capacitance  $C_J$  versus reverse applied voltage  $V_R$  (typical values)

