

## Surface mount diode

## Standard silicon rectifier diodes

### GL 1A...GL 1M

**Forward Current: 1 A**

**Reverse Voltage: 50 to 1000 V**

## Features

- Max. solder temperature: 260°C
- Plastic material has UL classification 94V-0
- white ring denotes "cathode" and "standard rectifier family"
- colored ring denotes "repetitive peak reverse voltage"

## Mechanical Data

- Plastic case MiniMelf / SOD-80 / DO-213AA
- Weight approx.: 0,04 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position: any
- Standard packaging: 10000,2500 pieces per reel

1) Max. temperature of the terminals  $T_T = 75^\circ\text{C}$

2)  $I_F = 1 \text{ A}$ ,  $T_j = 25^\circ\text{C}$

3)  $T_A = 25^\circ\text{C}$

4) Mounted on P.C. board with 25 mm<sup>2</sup> copper pads at each terminal

| Type  | Polarity color band | Repetitive peak reverse voltage<br>$V_{RRM}$<br>V | Surge peak reverse voltage<br>$V_{RSM}$<br>V | Maximum forward voltage<br>$T_j = 25^\circ\text{C}$<br>$I_F = 1,0 \text{ A}$ | Maximum reverse recovery time<br>$I_F = 0,5 \text{ A}$<br>$I_R = 1 \text{ A}$<br>$I_{RR} = 0,25 \text{ A}$<br>$t_{rr}$<br>ns |
|-------|---------------------|---|--|--|--|
| GL 1A | gray                | 50  | 50   | 1,2  | 1500   |
| GL 1B | red                 | 100   | 100  | 1,2  | 1500   |
| GL 1D | orange              | 200   | 200  | 1,2  | 1500   |
| GL 1G | yellow              | 400   | 400  | 1,2  | 1500   |
| GL 1J | green               | 600   | 600  | 1,3  | 1500   |
| GL 1K | blue                | 800   | 800  | 1,3  | 1500   |
| GL 1M | violet              | 1000  | 1000   | 1,3  | 1500   |

## Absolute Maximum Ratings

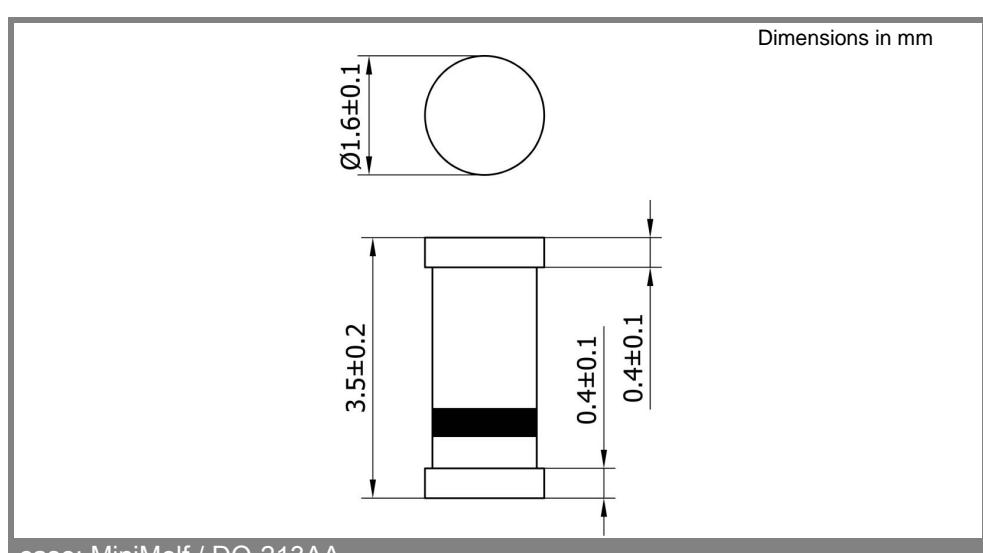
$T_c = 25^\circ\text{C}$ , unless otherwise specified

| Symbol    | Conditions   | Values         | Units            |
|-----------|--|----------------|------------------|
| $I_{FAV}$ | Max. averaged fwd. current, R-load, $T_T = 75^\circ\text{C}$ <sup>1)</sup> | 1              | A                |
| $I_{FRM}$ | Repetitive peak forward current $f > \text{Hz}$                            | -              | A                |
| $I_{FSM}$ | Peak fwd. surge current 50 Hz half sinus-wave <sup>3)</sup>                | 24,9           | A                |
| $I_{ft}$  | Rating for fusing, $t < 10 \text{ ms}$ <sup>3)</sup>                       | 4,5            | A <sup>2</sup> s |
| $R_{thA}$ | Max. thermal resistance junction to ambient <sup>4)</sup>                  | 150            | K/W              |
| $R_{thT}$ | Max. thermal resistance junction to terminals                              | 60             | K/W              |
| $T_j$     | Operating junction temperature   | - 50 ... + 175 | °C               |
| $T_s$     | Storage temperature  | - 50 ... + 175 | °C               |

## Characteristics

$T_c = 25^\circ\text{C}$ , unless otherwise specified

| Symbol    | Conditions   | Values    | Units    |
|-----------|--|-----------|----------|
| $I_R$     | Maximum leakage current, $T_j = 25^\circ\text{C}$ ; $V_R = V_{RRM}$<br>$T_j = 125^\circ\text{C}$ ; $V_R = V_{RRM}$   | <5<br><50 | µA<br>µA |
| $C_J$     | Typical junction capacitance<br>(at MHz and applied reverse voltage of V)  | -         | pF       |
| $Q_{rr}$  | Reverse recovery charge<br>( $U_R = V$ ; $I_F = A$ ; $dI_F/dt = A/\text{ms}$ )                                       | -         | µC       |
| $E_{RSM}$ | Non repetitive peak reverse avalanche energy<br>( $I_R = mA$ ; $T_j = ^\circ\text{C}$ ; inductive load switched off) | -         | mJ       |



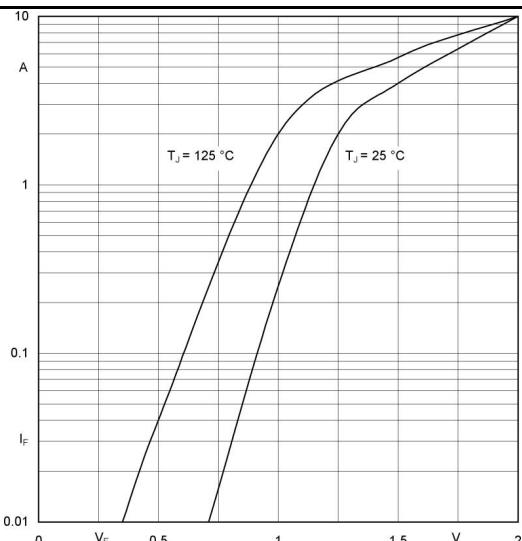


Fig. 1 Forward characteristic ( typical values )

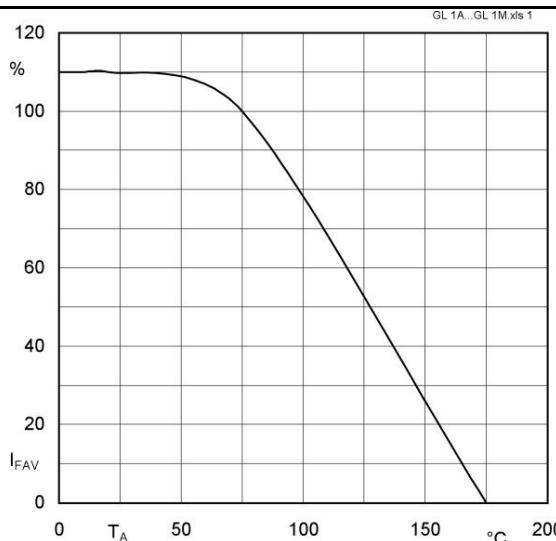


Fig. 2 Rated forward current vs. temp. of the terminals <sup>4)</sup>