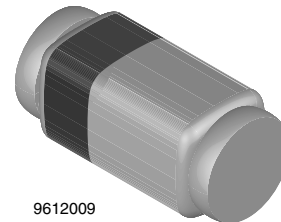


## Small Signal Schottky Diodes

### Features

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



9612009

### Applications

- HF-Detector
- Protection circuit
- Diode for low currents with a low supply voltage
- Small battery charger
- Power supplies
- DC / DC converter for notebooks

### Mechanical Data

**Case:** QuadromELF SOD-80

**Weight:** approx. 34 mg

**Cathode Band Color:** Black

**Packaging Codes/Options:**

GS18 / 10 k per 13" reel (8 mm tape), 10 k/box

GS08 / 2.5 k per 7" reel (8 mm tape), 12.5 k/box

### Parts Table

| Part   | Type differentiation                                           | Ordering code              | Remarks       |
|--------|----------------------------------------------------------------|----------------------------|---------------|
| LS101A | $V_R = 60\text{ V}$ , $V_F$ at $I_F = 1\text{ mA}$ max. 410 mV | LS101A-GS18 or LS101A-GS08 | Tape and Reel |
| LS101B | $V_R = 50\text{ V}$ , $V_F$ at $I_F = 1\text{ mA}$ max. 400 mV | LS101B-GS18 or LS101B-GS08 | Tape and Reel |
| LS101C | $V_R = 40\text{ V}$ , $V_F$ at $I_F = 1\text{ mA}$ max. 390 mV | LS101C-GS18 or LS101C-GS08 | Tape and Reel |

### Absolute Maximum Ratings

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

| Parameter                       | Test condition                | Part   | Symbol    | Value | Unit |
|---------------------------------|-------------------------------|--------|-----------|-------|------|
| Reverse voltage                 |                               | LS101A | $V_R$     | 60    | V    |
|                                 |                               | LS101B | $V_R$     | 50    | V    |
|                                 |                               | LS101C | $V_R$     | 40    | V    |
| Peak forward surge current      | $t_p = 10\text{ }\mu\text{s}$ |        | $I_{FSM}$ | 2     | A    |
| Repetitive peak forward current |                               |        | $I_{FRM}$ | 150   | mA   |
| Forward continuous current      |                               |        | $I_F$     | 30    | mA   |

## Thermal Characteristics

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

| Parameter                                  | Test condition                        | Symbol     | Value         | Unit               |
|--------------------------------------------|---------------------------------------|------------|---------------|--------------------|
| Thermal resistance junction to ambient air | on PC board<br>50 mm x 50 mm x 1.6 mm | $R_{thJA}$ | 320           | K/W                |
| Junction temperature                       |                                       | $T_j$      | 125           | $^{\circ}\text{C}$ |
| Storage temperature range                  |                                       | $T_{stg}$  | - 65 to + 150 | $^{\circ}\text{C}$ |

## Electrical Characteristics

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

| Parameter                 | Test condition                          | Part   | Symbol     | Min | Typ. | Max  | Unit |
|---------------------------|-----------------------------------------|--------|------------|-----|------|------|------|
| Reverse Breakdown Voltage | $I_R = 10\text{ }\mu\text{A}$           | LS101A | $V_{(BR)}$ | 60  |      |      | V    |
|                           |                                         | LS101B | $V_{(BR)}$ | 50  |      |      | V    |
|                           |                                         | LS101C | $V_{(BR)}$ | 40  |      |      | V    |
| Leakage current           | $V_R = 50\text{ V}$                     | LS101A | $I_R$      |     |      | 200  | nA   |
|                           | $V_R = 40\text{ V}$                     | LS101B | $I_R$      |     |      | 200  | nA   |
|                           | $V_R = 30\text{ V}$                     | LS101C | $I_R$      |     |      | 200  | nA   |
| Forward voltage drop      | $I_F = 1\text{ mA}$                     | LS101A | $V_F$      |     |      | 410  | mV   |
|                           |                                         | LS101B | $V_F$      |     |      | 400  | mV   |
|                           |                                         | LS101C | $V_F$      |     |      | 390  | mV   |
|                           | $I_F = 15\text{ mA}$                    | LS101A | $V_F$      |     |      | 1000 | mV   |
|                           |                                         | LS101B | $V_F$      |     |      | 950  | mV   |
|                           |                                         | LS101C | $V_F$      |     |      | 900  | mV   |
| Diode capacitance         | $V_R = 0\text{ V}$ , $f = 1\text{ MHz}$ | LS101A | $C_D$      |     |      | 2    | pF   |
|                           |                                         | LS101B | $C_D$      |     |      | 2.1  | pF   |
|                           |                                         | LS101C | $C_D$      |     |      | 2.2  | pF   |

## Typical Characteristics

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

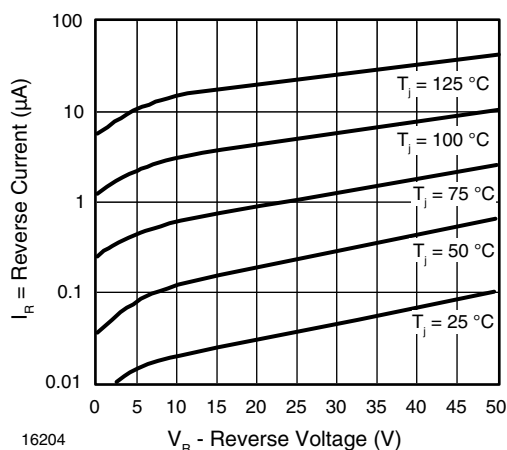


Figure 1. Reverse Current vs. Reverse Voltage

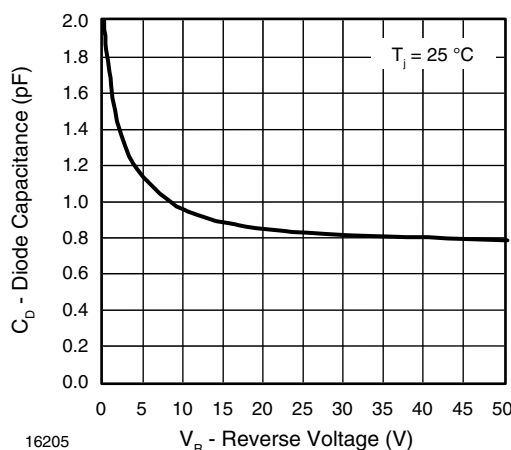


Figure 2. Diode Capacitance vs. Reverse Voltage

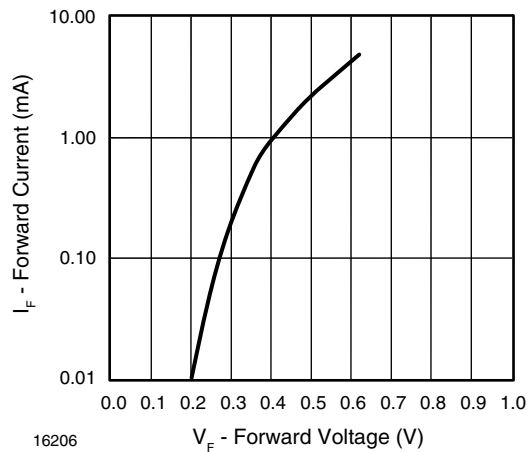
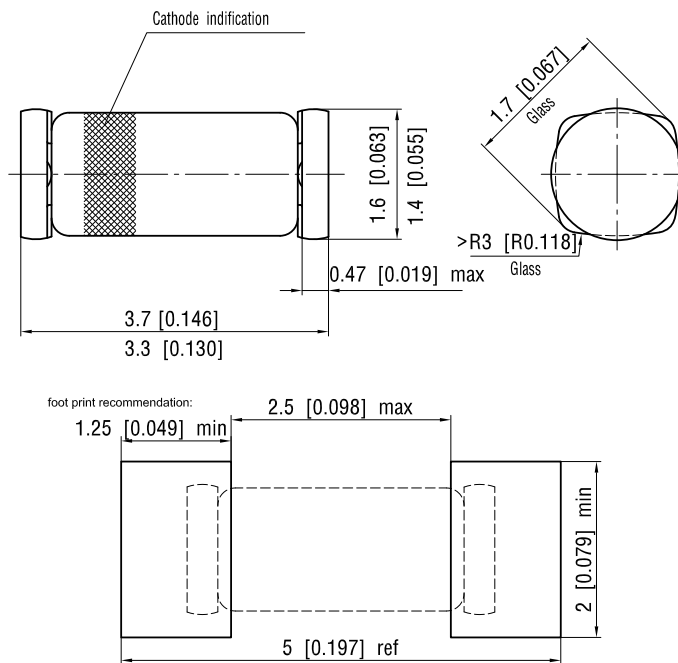
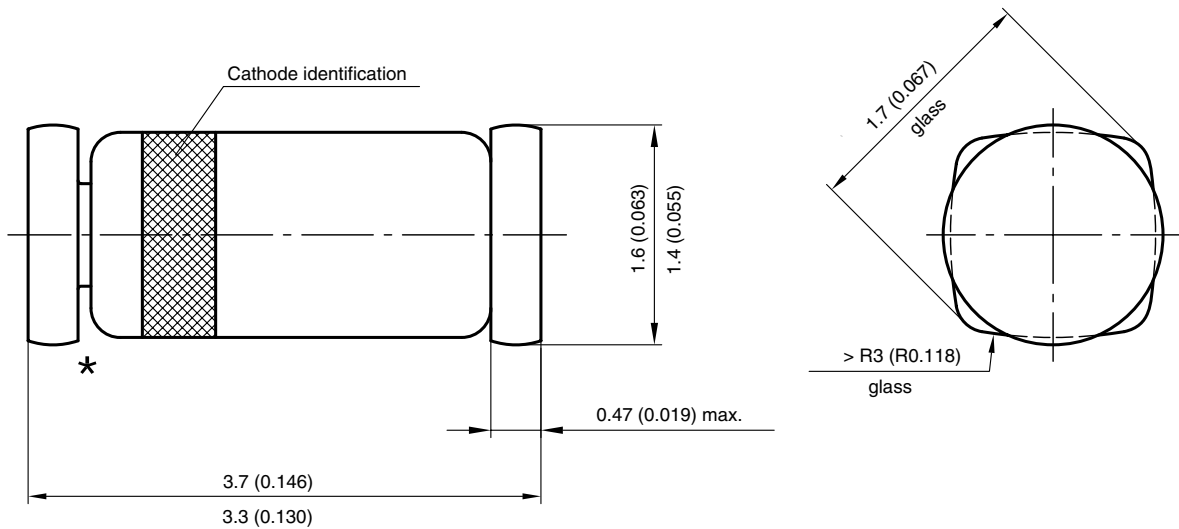


Figure 3. Forward Current vs. Forward Voltage

## Package Dimensions in millimeters (inches): QuadroMELF SOD-80

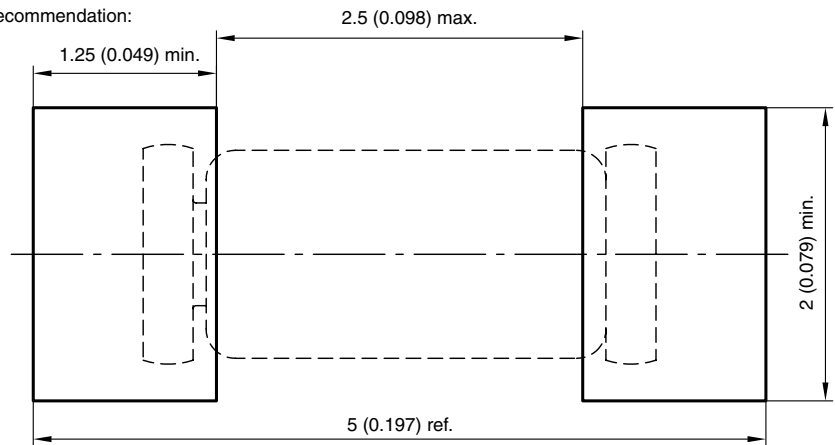


## PACKAGE DIMENSIONS in millimeters (inches)



★ The gap between plug and glass can be either on cathode or anode side

Foot print recommendation:



Created - Date: 03.November.2003  
Rev. 11 - Date: 07.June 2006  
Document no.: 6.560-5006.01-4  
96 12071



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