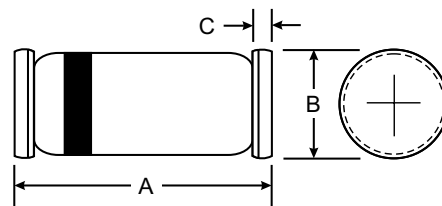


Features

- For general purpose applications
- The LL101 series is a metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring.
- The low forward voltage drop and fast switching make it ideal for protection of MOS devices, steering, biasing and coupling diodes for fast switching and low logic level applications.
- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- This diode is also available in the DO35 case with type designation SD101A, B, C and in the SOD123 case with type designation SD101AW, SD101BW, SD101CW.
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



| SOD-80 | | |
|-----------------------------|------|------|
| Dim | Min | Max |
| A | 3.30 | 3.70 |
| B | 1.30 | 1.60 |
| C | 0.28 | 0.50 |
| All Dimensions in mm | | |

Mechanical Data

- **Case:** MiniMELF Glass case (SOD80)
- **Weight:** approx. 31 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

Maximum Ratings and Electrical Characteristics @ T_A = 25°C unless otherwise specified

| Parameter | Test condition | Part | Symbol | Value | Unit |
|---|----------------|--------|------------------|-------------------|------|
| Peak inverse voltage | | LL101A | V _{RRM} | 60 | V |
| | | LL101B | V _{RRM} | 50 | V |
| | | LL101C | V _{RRM} | 40 | V |
| Power dissipation (infinite heatsink) | | | P _{tot} | 400 ¹⁾ | mW |
| Forward continuous current | | | I _F | 30 | mA |
| Maximum single cycle surge 10 μs square wave | | | I _{FSM} | 2 | A |

¹⁾ Valid provided that electrodes are kept at ambient temperature

| Parameter | Test condition | Part | Symbol | Min | Typ. | Max | Unit |
|---------------------------|--|--------|-------------|-----|------|------|------|
| Reverse Breakdown Voltage | $I_R = 10 \mu\text{A}$ | LL101A | $V_{(BR)R}$ | 60 | | | V |
| | | LL101B | $V_{(BR)R}$ | 50 | | | V |
| | | LL101C | $V_{(BR)R}$ | 40 | | | V |
| Leakage current | $V_R = 50 \text{ V}$ | LL101A | I_R | | | 200 | nA |
| | $V_R = 50 \text{ V}$ | LL101B | I_R | | | 200 | nA |
| | $V_R = 50 \text{ V}$ | LL101C | I_R | | | 200 | nA |
| Forward voltage drop | $I_F = 1 \text{ mA}$ | LL101A | V_F | | | 410 | mV |
| | $I_F = 1 \text{ mA}$ | LL101B | V_F | | | 400 | mV |
| | $I_F = 1 \text{ mA}$ | LL101C | V_F | | | 390 | mV |
| | $I_F = 15 \text{ mA}$ | LL101A | V_F | | | 1000 | mV |
| | $I_F = 15 \text{ mA}$ | LL101B | V_F | | | 950 | mV |
| | $I_F = 15 \text{ mA}$ | LL101C | V_F | | | 900 | mV |
| Diode capacitance | $V_R = 0 \text{ V}, f = 1 \text{ MHz}$ | LL101A | C_D | | | 2.0 | pF |
| | $V_R = 0 \text{ V}, f = 1 \text{ MHz}$ | LL101B | C_D | | | 2.1 | pF |
| | $V_R = 0 \text{ V}, f = 1 \text{ MHz}$ | LL101C | C_D | | | 2.2 | pF |
| Reverse recovery time | $I_F = I_R = 5 \text{ mA}$, recover to $0.1 I_R$ | | t_{rr} | | | 1 | ns |

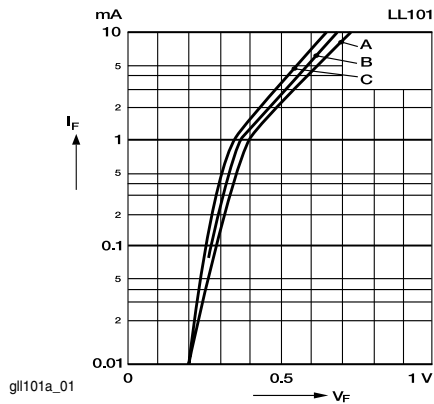


Figure 1. Typ. I_F vs. V_F for primary conduction through the Schottky barrier

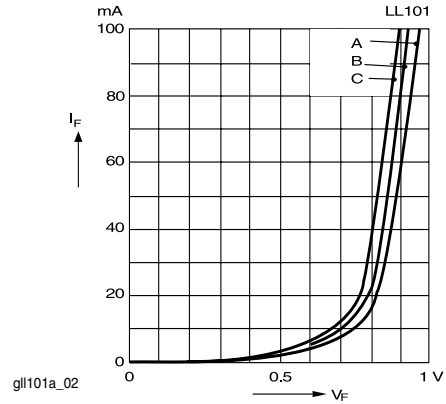


Figure 2. Typ. I_F of combination Schottky barrier and PN junction guard ring

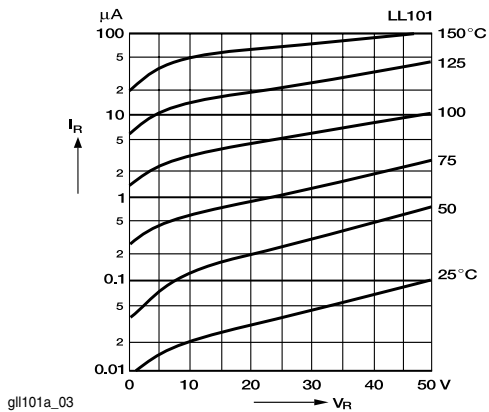


Figure 3. Typical Variation of Reverse Current at Various Temperatures

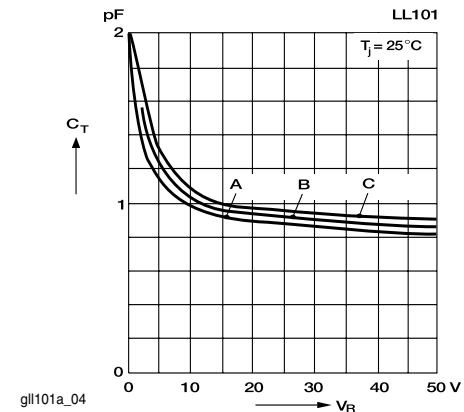


Figure 4. Typical Capacitance Curve as a Function of Reverse Voltage