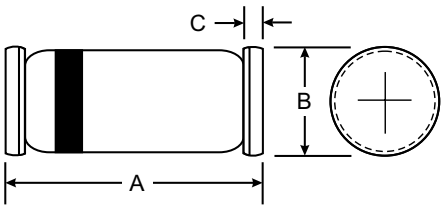
# MCL101A-MCL101C

30mA Surface Mount Schottky Barrier Diode

## Features

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- 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:**SOD-80 Glass case
- **Weight:** approx. 12 mg
- **Cathode Band Color:** Black
- **Packaging Codes/Options:**

  TR3 / 10 k per 13" reel (8 mm tape), 10 k/box

  TR / 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 |
|---|---|---|---|---|---|
| Reverse voltage | | MCL101A | $V_R$ | 60 | V |
| | | MCL101B | $V_R$ | 50 | V |
| | | MCL101C | $V_R$ | 40 | V |
| Peak forward surge current | $t_p$ = 10 µs | | $I_{FSM}$ | 2 | A |
| Repetitive peak forward current | | | $I_{FRM}$ | 150 | mA |
| Forward continuous current | | | $I_F$ | 30 | mA |

| Parameter | Test condition | Part | Symbol | Min | Typ. | Max | Unit |
|---|---|---|---|---|---|---|---|
| Reverse Breakdown Voltage | $I_R$ = 10 µA | MCL101A | $V_{(BR)R}$ | 60 | | | V |
| | | MCL101B | $V_{(BR)R}$ | 50 | | | V |
| | | MCL101C | $V_{(BR)R}$ | 40 | | | V |
| Leakage current | $V_R$ = 50 V | MCL101A | $I_R$ | | | 200 | nA |
| | $V_R$ = 40 V | MCL101B | $I_R$ | | | 200 | nA |
| | $V_R$ = 30 V | MCL101C | $I_R$ | | | 200 | nA |
| Forward voltage drop | $I_F$ = 1 mA | MCL101A | $V_F$ | | | 410 | mV |
| | | MCL101B | $V_F$ | | | 400 | mV |
| | | MCL101C | $V_F$ | | | 390 | mV |
| | $I_F$ = 15 mA | MCL101A | $V_F$ | | | 1000 | mV |
| | | MCL101B | $V_F$ | | | 950 | mV |
| | | MCL101C | $V_F$ | | | 900 | mV |
| Diode capacitance | $V_R$ = 0 V, f = 1 MHz | MCL101A | $C_D$ | | | 2.0 | pF |
| | | MCL101B | $C_D$ | | | 2.1 | pF |
| | | MCL101C | $C_D$ | | | 2.2 | pF |

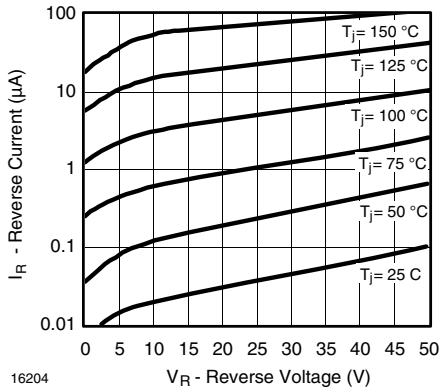



Figure 1. Reverse Current vs. Reverse Voltage

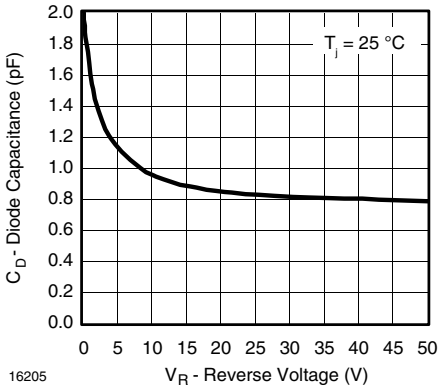



Figure 2. Diode Capacitance vs. Reverse Voltage

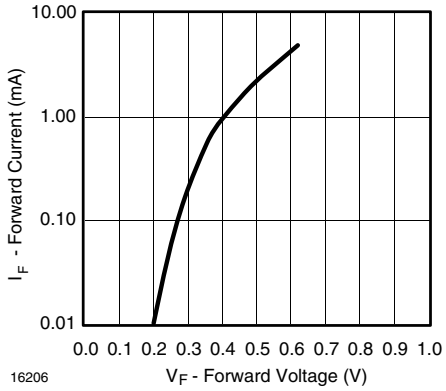



Figure 3. Forward Current vs. Forward Voltage