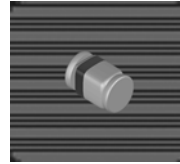


### Features

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop



### 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: MicroMELF Glass Case
- Weight: approx. 12.3 mg
- Cathode Band Color: Black

### Absolute Maximum Ratings

( $T_{amb}=25^{\circ}\text{C}$  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      | $t_p = 10 \mu\text{s}$ |         | $I_{FSM}$ | 2     | A    |
| Repetitive peak forward current |                        |         | $I_{FRM}$ | 150   | mA   |
| Forward current                 |                        |         | $I_F$     | 30    | mA   |

### Thermal Characteristics

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

| Parameter                 | Test Condition                      | Symbol          | Value       | Unit               |
|---------------------------|-------------------------------------|-----------------|-------------|--------------------|
| Junction ambient          | on PC board<br>50 mm X 50mm X 1.6mm | $R_{\theta JA}$ | 320         | K/W                |
| Junction temperature      |                                     | $T_J$           | 125         | $^{\circ}\text{C}$ |
| Storage temperature range |                                     | $T_{stg}$       | -65 to +150 | $^{\circ}\text{C}$ |

### Electrical Characteristics

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

| Parameter                 | Test Condition             | Part    | Symbol      | Min. | Typ. | Max. | Unit |
|---------------------------|----------------------------|---------|-------------|------|------|------|------|
| Reverse breakdown voltage | $I_R = 10 \mu\text{A}$     | MCL101A | $V_{(BR)R}$ | 60   |      |      | V    |
|                           |                            | MCL101B |             | 50   |      |      |      |
|                           |                            | MCL101C |             | 40   |      |      |      |
| Leakage current           | $V_R = 50\text{V}$         | MCL101A | $I_r$       |      |      | 200  | nA   |
|                           | $V_R = 40\text{V}$         | MCL101B |             |      |      | 200  |      |
|                           | $V_R = 30\text{V}$         | MCL101C |             |      |      | 200  |      |
| Forward voltage drop      | $I_F = 1 \text{ mA}$       | MCL101A | $V_F$       |      |      | 0.41 | V    |
|                           |                            | MCL101B |             |      |      | 0.4  |      |
|                           |                            | MCL101C |             |      |      | 0.39 |      |
|                           | $I_F = 15 \text{ mA}$      | MCL101A |             |      |      | 1    |      |
|                           |                            | MCL101B |             |      |      | 0.95 |      |
|                           |                            | MCL101C |             |      |      | 0.9  |      |
| Diode capacitance         | $V_R = 0, f = 1\text{MHz}$ | MCL101A | $C_D$       |      |      | 2.0  | pF   |
|                           |                            | MCL101B |             |      |      | 2.1  |      |
|                           |                            | MCL101C |             |      |      | 2.2  |      |

## ■ Typical characteristics

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

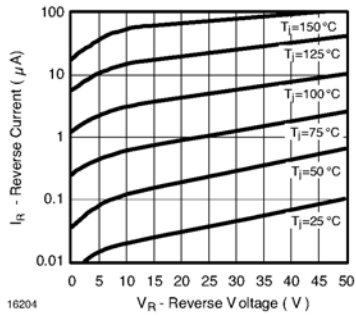


Fig. 1 Reverse Current vs. Reverse Voltage

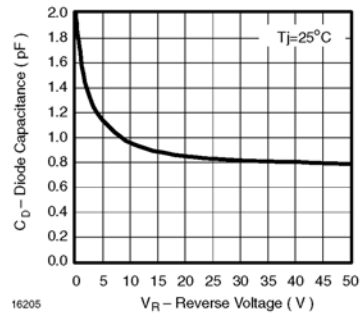


Fig. 2 Diode Capacitance vs. Reverse Voltage

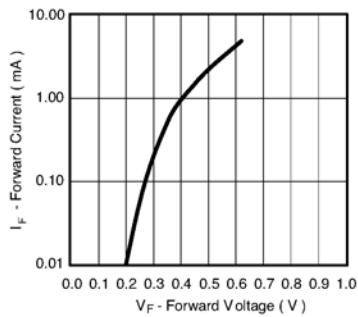


Fig. 3 Forward Current vs. Forward Voltage

## Package Dimensions in mm (inches)

