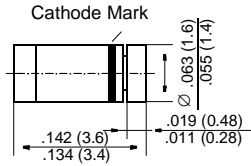


LL4448

Small Signal Diodes

MiniMELF



Dimensions in inches and (millimeters)

FEATURES

- ◆ Silicon Epitaxial Planar Diode
- ◆ Fast switching diode in MiniMELF case especially suited for automatic insertion.
- ◆ This diode is also available in other case styles including: the DO-35 case with the type designation 1N4448, the SOD-123 case with the type designation 1N4448W, and the SOT-23 case with the type designation IMBD4448.



MECHANICAL DATA

Case: MiniMELF Glass Case (SOD-80)

Weight: approx. 0.05 g

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

| | Symbol | Value | Unit |
|---|-----------|-------------------|------|
| Reverse Voltage | V_R | 75 | V |
| Peak Reverse Voltage | V_{RM} | 100 | V |
| Rectified Current (Average) Half Wave Rectification with Resist. Load at $T_{amb} = 25\text{ °C}$ and $f \geq 50\text{ Hz}$ | I_0 | 150 ¹⁾ | mA |
| Surge Forward Current at $t < 1\text{ s}$ and $T_j = 25\text{ °C}$ | I_{FSM} | 500 | mA |
| Power Dissipation at $T_{amb} = 25\text{ °C}$ | P_{tot} | 500 ¹⁾ | mW |
| Junction Temperature | T_j | 175 | °C |
| Storage Temperature Range | T_S | -65 to +175 | °C |

¹⁾ Valid provided that electrodes are kept at ambient temperature.

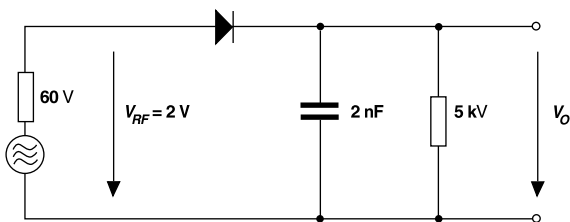
LL4448

ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

| | Symbol | Min. | Typ. | Max. | Unit |
|--|-------------------------|-------------|-------------|--------------------|--------------------------------------|
| Forward Voltage at $I_F = 5 \text{ mA}$ at $I_F = 100 \text{ mA}$ | V_F V_F | 0.62 – | – – | 0.72 1 | V V |
| Leakage Current at $V_R = 20 \text{ V}$ at $V_R = 75 \text{ V}$ at $V_R = 20 \text{ V}, T_j = 150 \text{ }^\circ\text{C}$ | I_R I_R I_R | – – – | – – – | 25 5 50 | nA μA μA |
| Capacitance at $V_F = V_R = 0$ | C_{tot} | – | – | 4 | pF |
| Reverse Recovery Time from $I_F = 10 \text{ mA}$ to $I_R = 1 \text{ mA}, V_R = 6 \text{ V}, R_L = 100 \text{ } \Omega$ | t_{rr} | – | – | 4 | ns |
| Thermal Resistance Junction to Ambient Air | R_{thJA} | – | – | 0.35 ¹⁾ | K/mW |
| Rectification Efficiency at $f = 100 \text{ MHz}, V_{\text{RF}} = 2 \text{ V}$ | η_v | 0.45 | – | – | – |

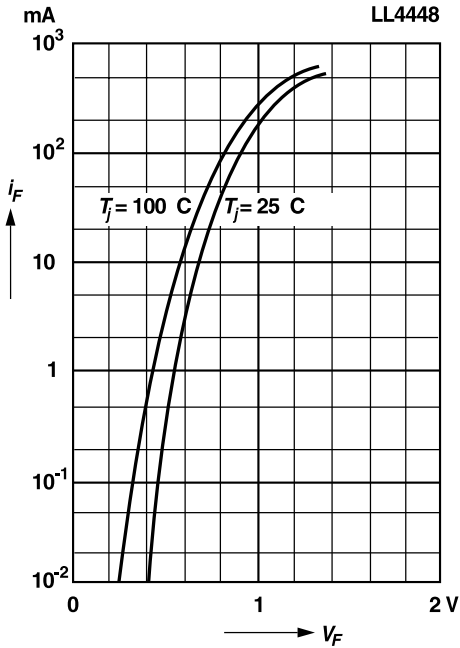
¹⁾ Valid provided that electrodes are kept at ambient temperature.



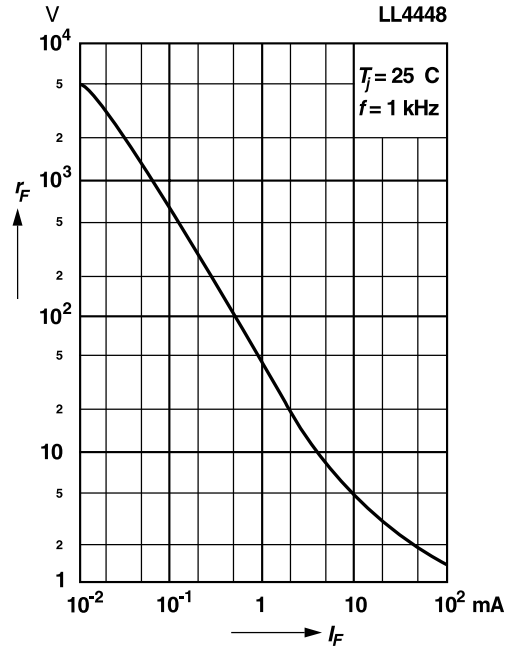
Rectification Efficiency Measurement Circuit

RATINGS AND CHARACTERISTIC CURVES LL4448

Forward characteristics

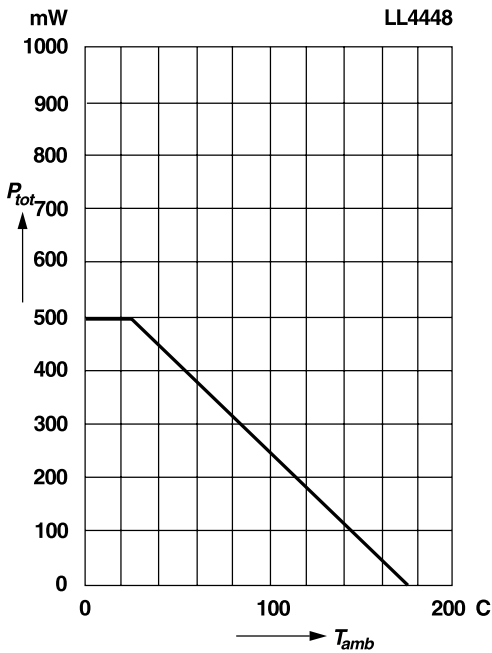


Dynamic forward resistance versus forward current

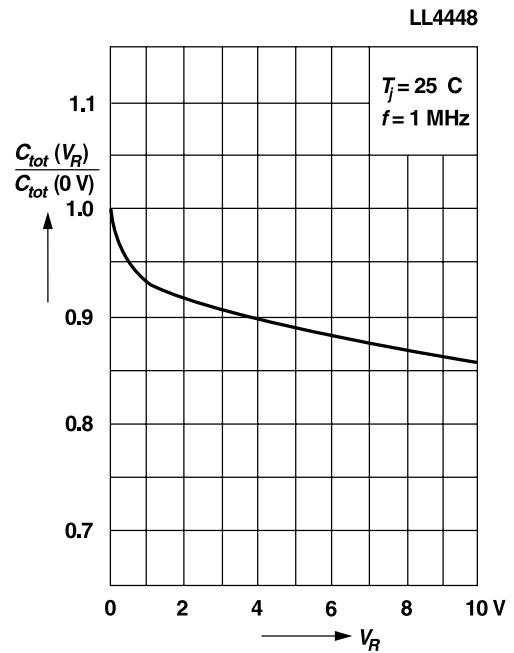


Admissible power dissipation versus ambient temperature

Valid provided that electrodes are kept at ambient temperature

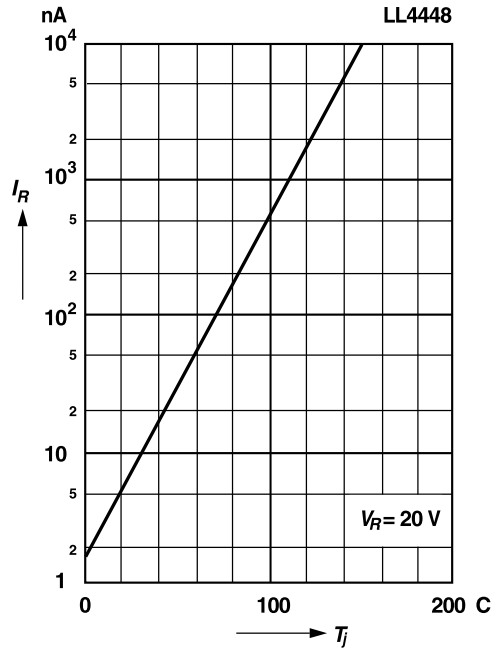


Relative capacitance versus reverse voltage



RATINGS AND CHARACTERISTIC CURVES LL4448

Leakage current
versus junction temperature



Admissible repetitive peak forward current versus pulse duration

Valid provided that electrodes are kept at ambient temperature

