

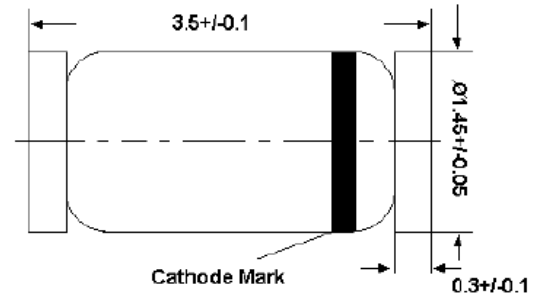
LL4148

Silicon Epitaxial Planar Switching Diode

FEATURES

- ◆ Fast switching diode in MiniMELF case especially suited for automatic surface mounting

LL-34



**Glass case MiniMELF
Dimensions in mm**

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

| PARAMETER | SYMBOL | VALUE | UNIT |
|---|-------------|-------------------|------------------|
| Peak Reverse Voltage | V_{RM} | 100 | V |
| Reverse Voltage | V_R | 75 | V |
| Average Rectified Forward Current | $I_{F(AV)}$ | 200 | mA |
| Non-repetitive Peak Forward Surge Current | I_{FSM} | 0.5 | A |
| at $t = 1$ s | | 1 | |
| at $t = 1$ ms | | 4 | |
| at $t = 1$ μ s | | | |
| Power Dissipation | P_{tot} | 500 ¹⁾ | mW |
| Junction Temperature | T_j | 175 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | - 65 to + 175 | $^\circ\text{C}$ |

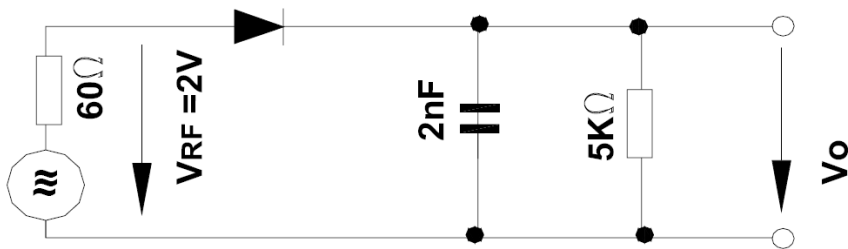
¹⁾ Valid provided that electrodes are kept at ambient temperature.

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Characteristics at Ta = 25°C

| PARAMETER | SYMBOL | MIN. | MAX. | UNIT |
|--|-------------|------|-------------|---------------|
| Forward Voltage at $I_F = 10 \text{ mA}$ | V_F | - | 1 | V |
| Leakage Current at $V_R = 20 \text{ V}$ | I_R | - | 25 | nA |
| at $V_R = 75 \text{ V}$ | I_R | - | 5 | μA |
| at $V_R = 20 \text{ V}, T_j = 150^\circ\text{C}$ | I_R | - | 50 | μA |
| Reverse Breakdown Voltage tested with $100 \mu\text{A}$ Pulses | $V_{(BR)R}$ | 100 | - | V |
| Capacitance at $V_R = 0, f = 1 \text{ MHz}$ | C_{tot} | - | 4 | pF |
| Voltage Rise when Switching ON tested with 50 mA Forward Pulses $t_p = 0.1 \text{ s}$, Rise Time < 30 ns , $f_p = 5 \text{ to } 100 \text{ KHz}$ | V_{fr} | - | 2.5 | V |
| Reverse Recovery Time at $I_F = 10 \text{ mA}$ to $I_R = 1 \text{ mA}$, $V_R = 6 \text{ V}$, $R_L = 100 \Omega$ | t_{rr} | - | 4 | ns |
| Thermal Resistance Junction to Ambient Air | R_{thA} | - | $0.35^{1)}$ | K/mW |
| Rectification Efficiency at $f = 100 \text{ MHz}$, $V_{RF} = 2 \text{ V}$ | η_V | 0.45 | - | - |

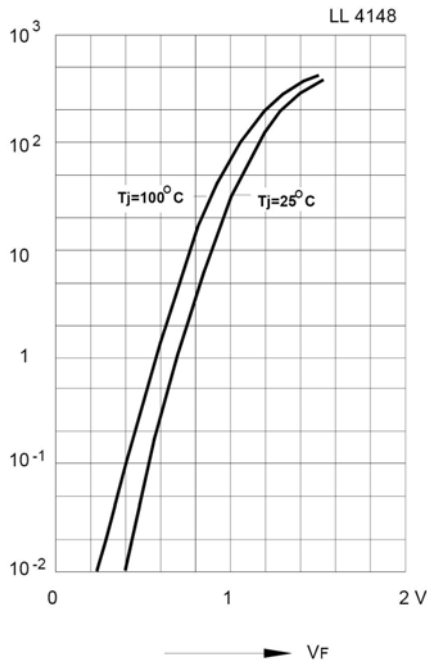
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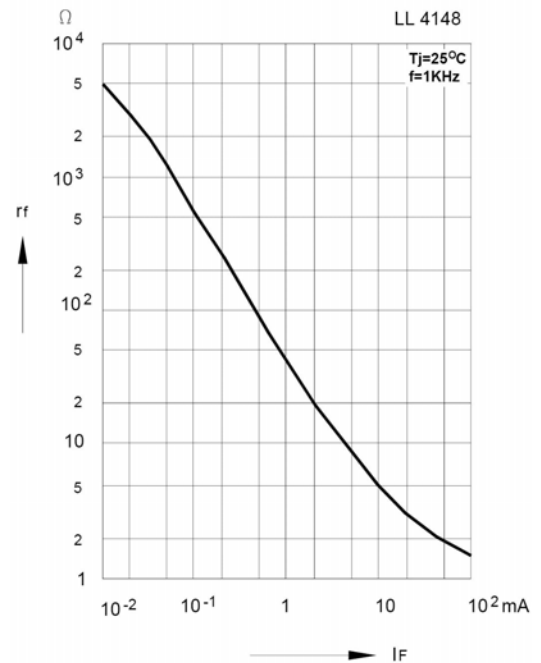
Rectification Efficiency Measurement Circuit

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Forward characteristics

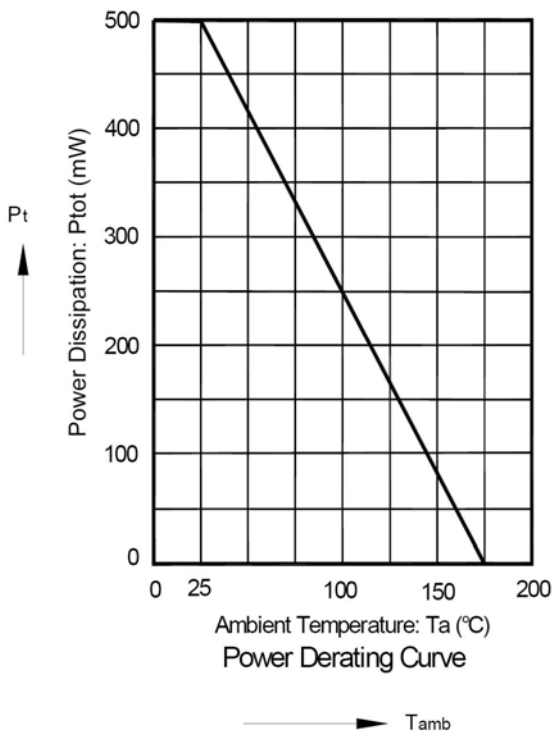


Dynamic forward resistance versus forward current

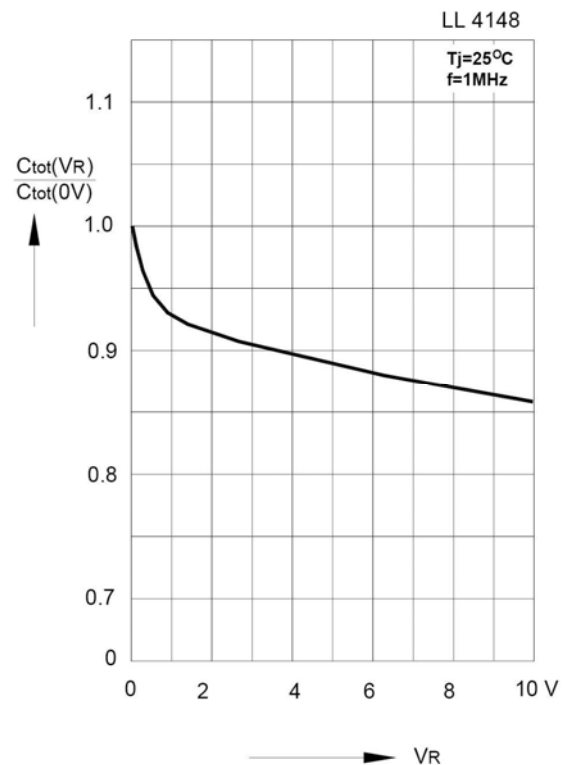


Admissible power dissipation versus ambient temperature

Valid provided that electrodes are kept at ambient temperature

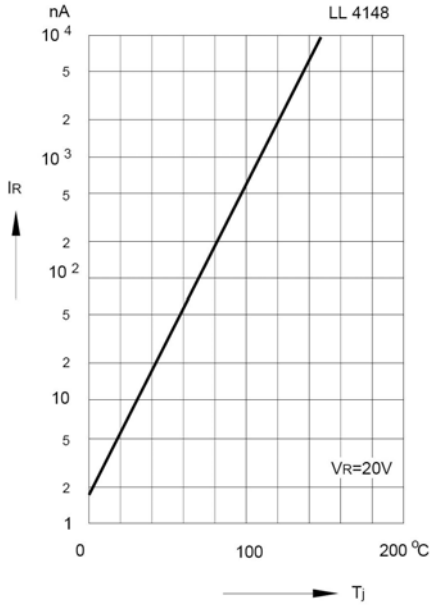


Relative capacitance versus reverse voltage



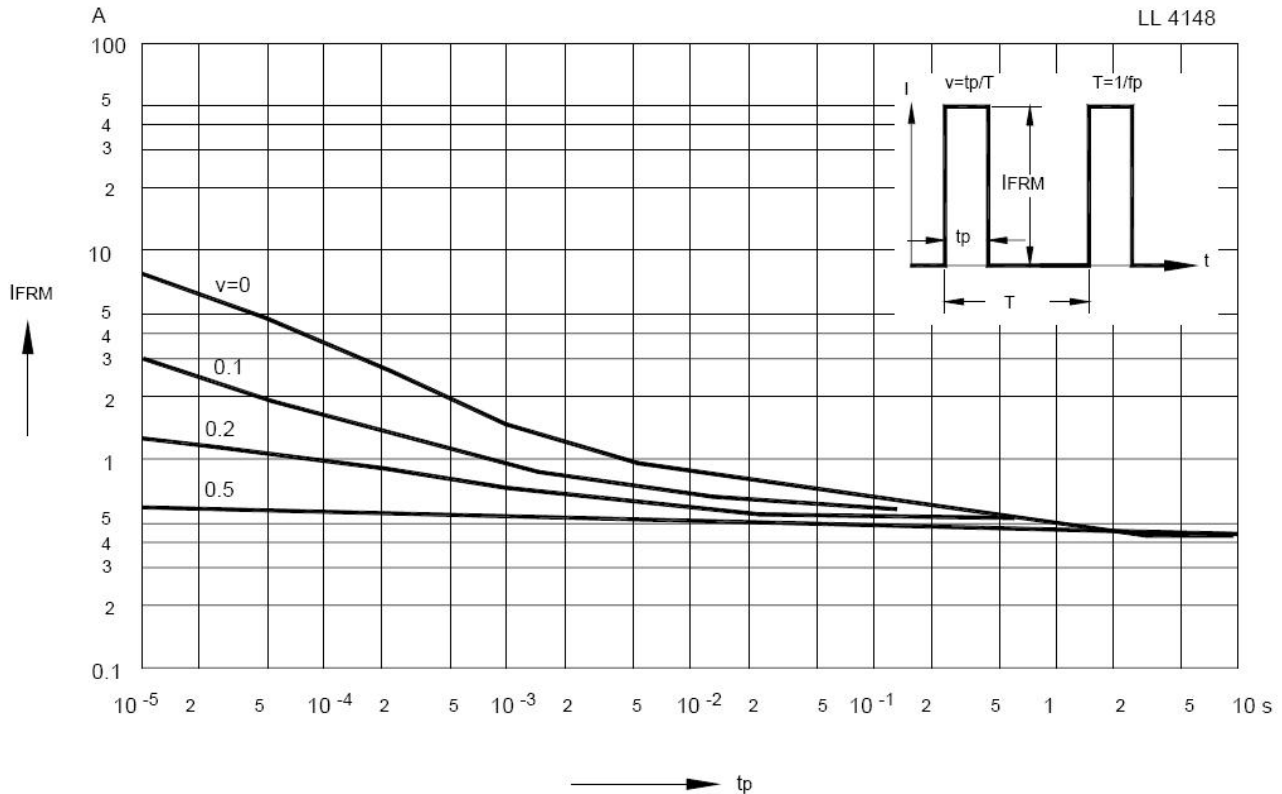
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Leakage current versus junction temperature



Admissible repetitive peak forward current versus pulse duration

Valid provided that electrodes are kept at ambient temperature



Note: Specifications are subject to change without notice.