

# Kingtronics®

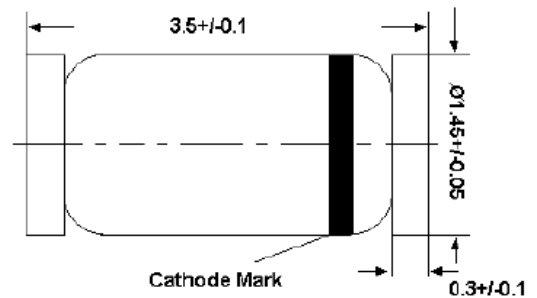
## LL4148

### 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 (Ta = 25°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 | at t = 1 s       | 0.5               |      |
|   | at t = 1 ms      | 1                 | A    |
|   | at t = 1 $\mu$ s | 4                 |      |
| Power Dissipation                         | $P_{tot}$        | 500 <sup>1)</sup> | mW   |
| Junction Temperature                      | $T_j$            | 175               | °C   |
| Storage Temperature Range                 | $T_{stg}$        | - 65 to + 175     | °C   |

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature.

**Kingtronics® International Company**

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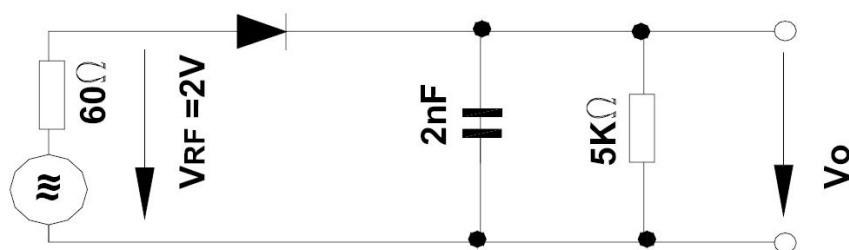
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### Silicon Epitaxial Planar Switching Diode

#### Characteristics at $T_a = 25^\circ\text{C}$

| 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                  | $\mu\text{A}$ |
| at $V_R = 20\text{ V}$ , $T_j = 150^\circ\text{C}$  | $I_R$       | -    | 50                 | $\mu\text{A}$ |
| Reverse Breakdown Voltage tested with $100\text{ }\mu\text{A}$ 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 $50\text{ mA}$ Forward Pulses   | $V_{fr}$    | -    | 2.5                | V             |
| $t_p = 0.1\text{ s}$ , Rise Time $< 30\text{ ns}$ , $f_p = 5\text{ to }100\text{ KHz}$          |             |      |                    |               |
| Reverse Recovery Time   |             |      |                    |               |
| at $I_F = 10\text{ mA}$ 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  | $R_{thA}$   | -    | 0.35 <sup>1)</sup> | K/mW          |
| Rectification Efficiency at $f = 100\text{ MHz}$ , $V_{RF} = 2\text{ V}$                        | $\eta_v$    | 0.45 | -                  | -             |

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature.



**Rectification Efficiency Measurement Circuit**

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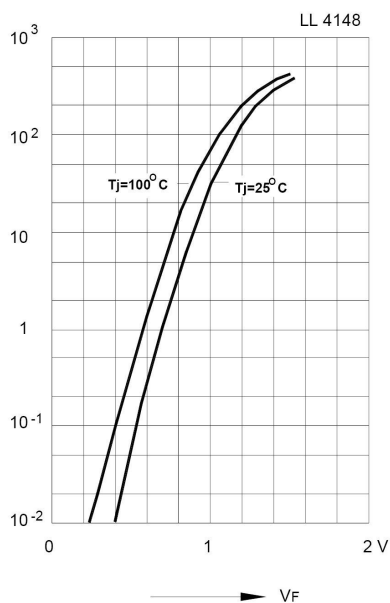
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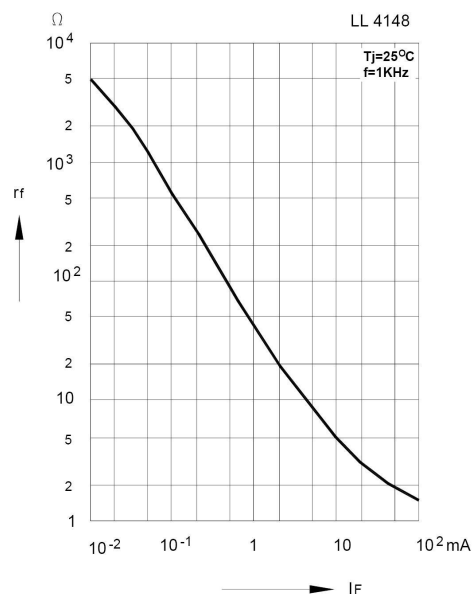
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### Silicon Epitaxial Planar Switching Diode

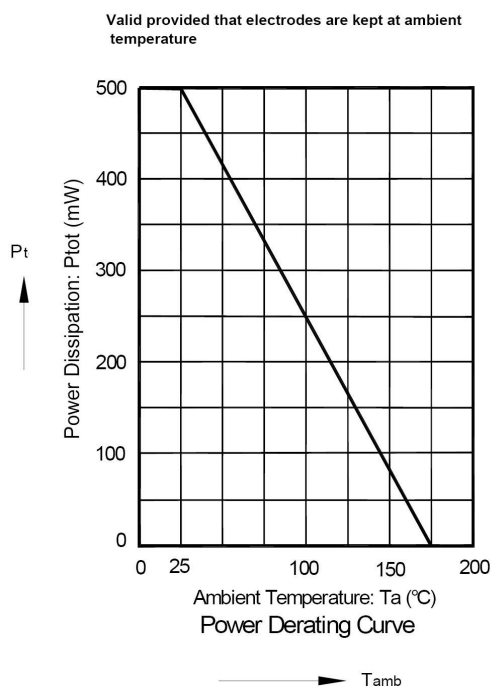
**Forward characteristics**



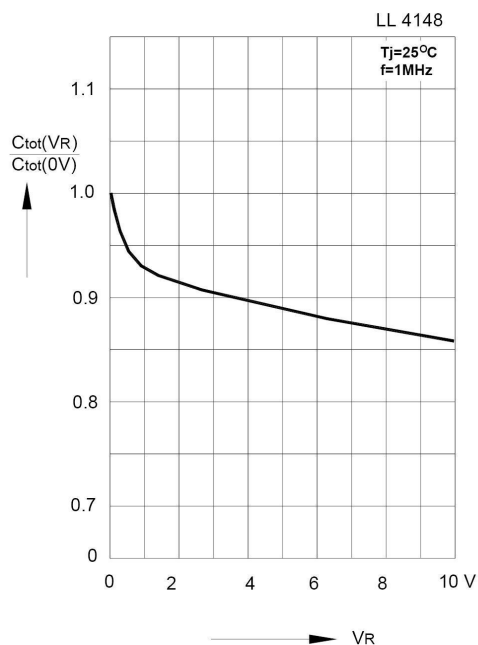
**Dynamic forward resistance versus forward current**



**Admissible power dissipation versus ambient temperature**



**Relative capacitance versus reverse voltage**



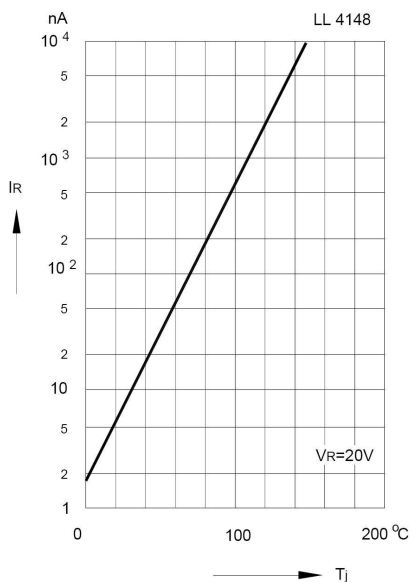
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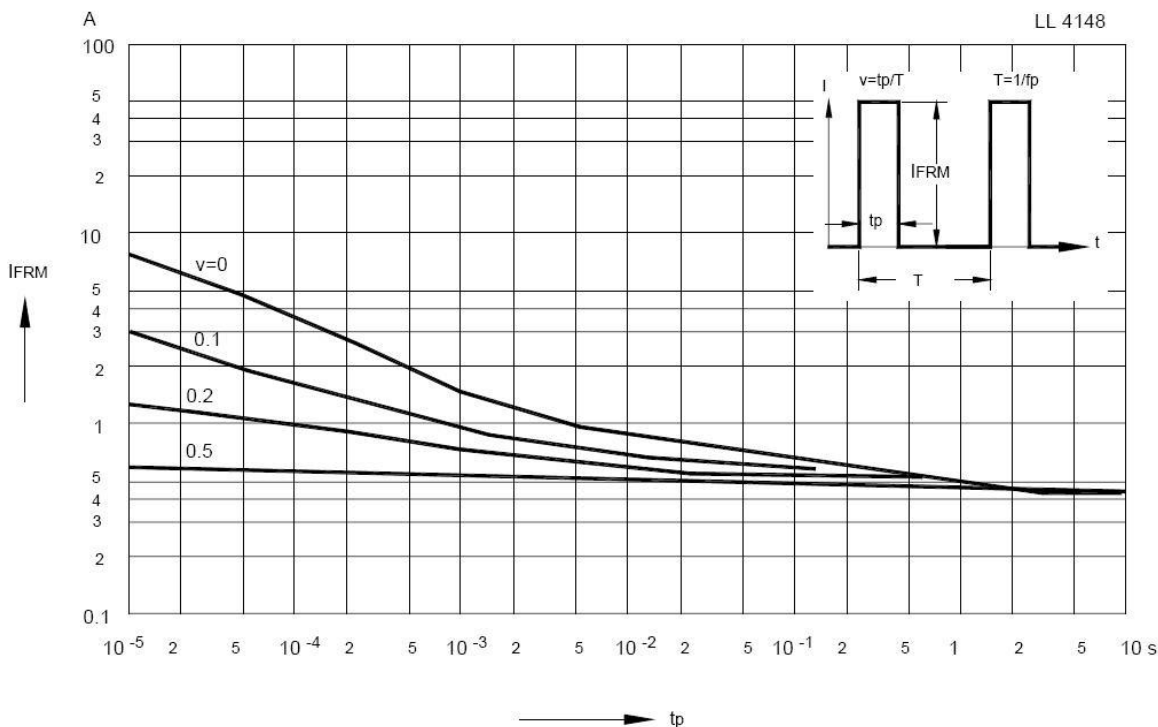
### Silicon Epitaxial Planar Switching Diode

#### 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.

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