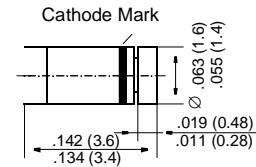


## LL4148

### FEATURES

- Silicon Epitaxial Planar Diode
- Fast switching diode
- This diode is also available in other case styles including: the DO-35 case with the type designation 1N4148, the SOD-23 case with the type designation 1N4148W, and the SOT-23 case with the type designation

#### MiniMELF



*Dimensions in inches and (millimeters)*

### MECHANICAL DATA

- Case: MiniMELF
- Weight: approx: 0.05gram

### 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
Forward DC current at $T_{amb} = 25\text{ }^\circ\text{C}$	$I_F$	200 <sup>1)</sup>	mA
Rectified Current (Average) Half Wave Rectification with Resist. Load at $T_{amb} = 25\text{ }^\circ\text{C}$ and $f \geq 50\text{ Hz}$	$I_0$	150 <sup>1)</sup>	mA
Surge Forward Current at $t < 1\text{ s}$ and $T_j = 25\text{ }^\circ\text{C}$	$I_{FSM}$	500	mA
Power Dissipation at $T_{amb} = 25\text{ }^\circ\text{C}$	$P_{tot}$	500 <sup>1)</sup>	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.			

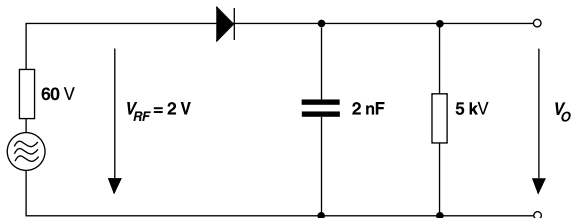
## LL4148

### ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage at $I_F = 10 \text{ mA}$	$V_F$	–	–	1	V
Leakage Current at $V_R = 20 \text{ V}$ at $V_R = 75 \text{ V}$ at $V_R = 20 \text{ V}, T_j = 150 \text{ °C}$	$I_R$ $I_R$ $I_R$	– – –	– – –	25 5 50	nA $\mu\text{A}$ $\mu\text{A}$
Capacitance at $V_F = V_R = 0$	$C_{\text{tot}}$	–	–	4	pF
Voltage Rise when Switching ON tested with 50 mA Forward Pulses $t_p = 0.1 \mu\text{s}$ , Rise Time < 30 ns, $f_p = 5$ to 100 kHz	$V_{\text{fr}}$	–	–	2.5	V
Reverse Recovery Time from $I_F = 10 \text{ mA}$ to $I_R = 1 \text{ mA}$ , $V_R = 6 \text{ V}$ , $R_L = 100 \Omega$	$t_{\text{rr}}$	–	–	4	ns
Thermal Resistance Junction to Ambient Air	$R_{\text{thJA}}$	–	–	0.35 <sup>1)</sup>	K/mW
Rectification Efficiency at $f = 100 \text{ MHz}$ , $V_{\text{RF}} = 2 \text{ V}$	$\eta_v$	0.45	–	–	–

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

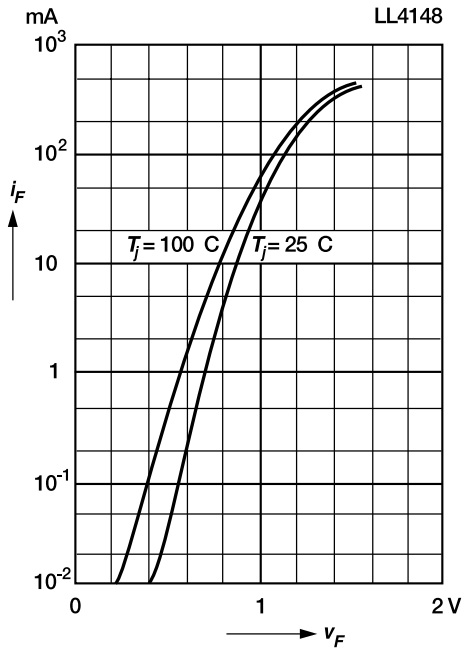


**Rectification Efficiency Measurement Circuit**

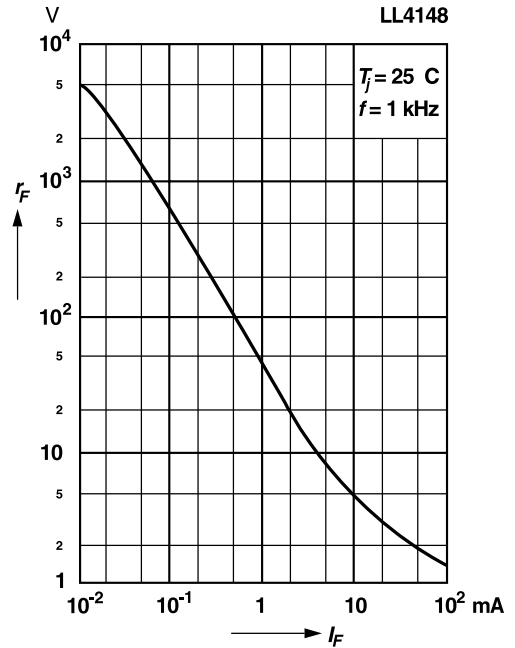
## LL4148

### RATINGS AND CHARACTERISTIC CURVES LL4148

**Forward characteristics**

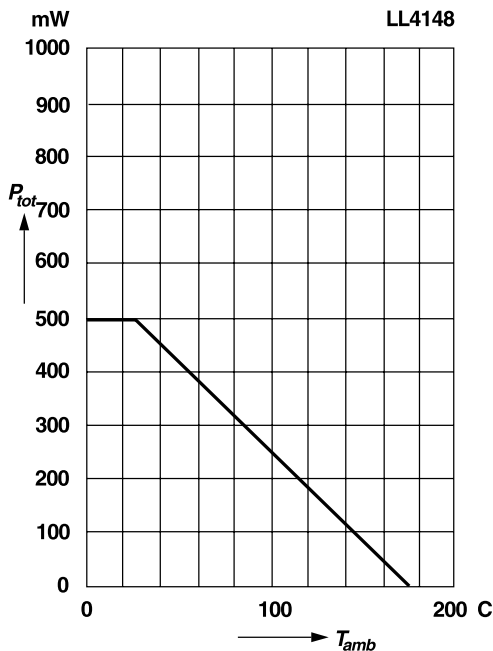


**Dynamic forward resistance versus forward current**

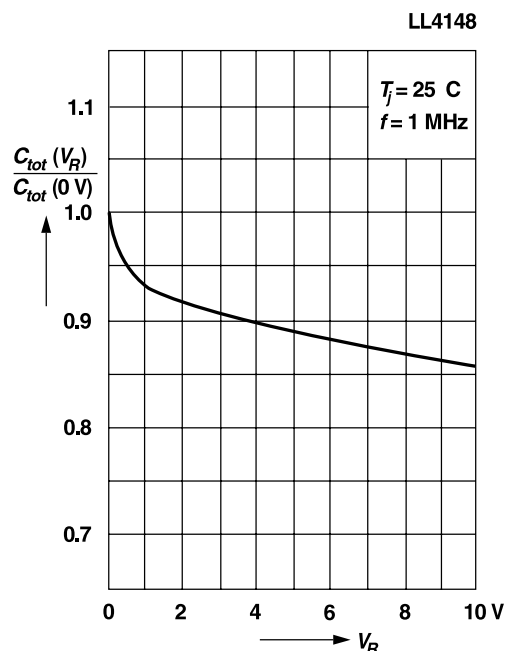


**Admissible power dissipation versus ambient temperature**

Valid provided that electrodes are kept at ambient temperature

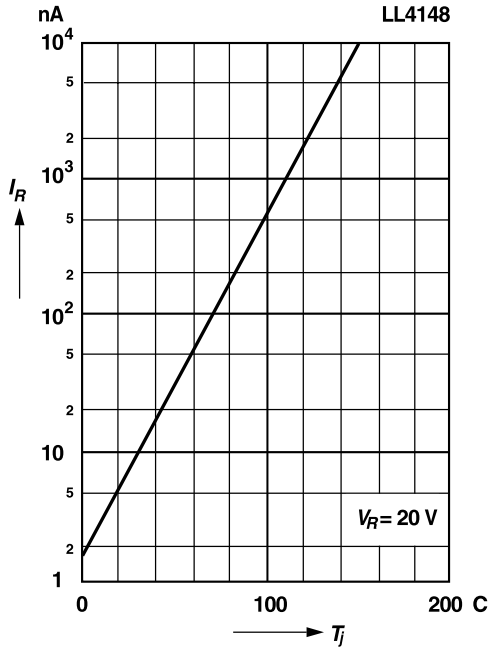


**Relative capacitance versus reverse voltage**



## LL4148

Leakage current versus junction temperature



Admissible repetitive peak forward current versus pulse duration

Valid provided that electrodes are kept at ambient temperature

