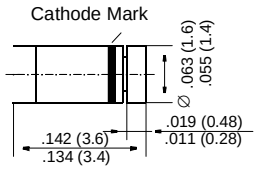
FAST SWITCHING DIODES

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: apprax: 0.05gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25℃ 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 °C	I_F	150	mA
Rectified Current (Average) Half Wave Rectification with Resist. Load at T_{amb} = 25 °C and f ≥ 50 Hz	I_0	150[1)]	mA
Surge Forward Current at t < 1 s and T_j = 25 °C	I_{FSM}	500	mA
Power Dissipation at T_{amb} = 25 °C	P_{tot}	500[1)]	mW
Junction Temperature	T_j	175	°C
Storage Temperature Range	T_S	–65 to +175	°C

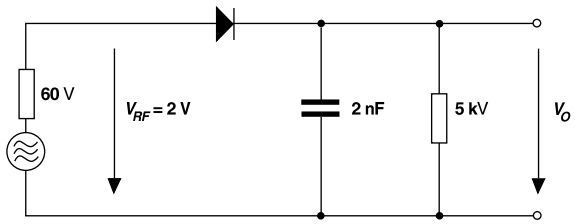
[1)] Valid provided that electrodes are kept at ambient temperature.

ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

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

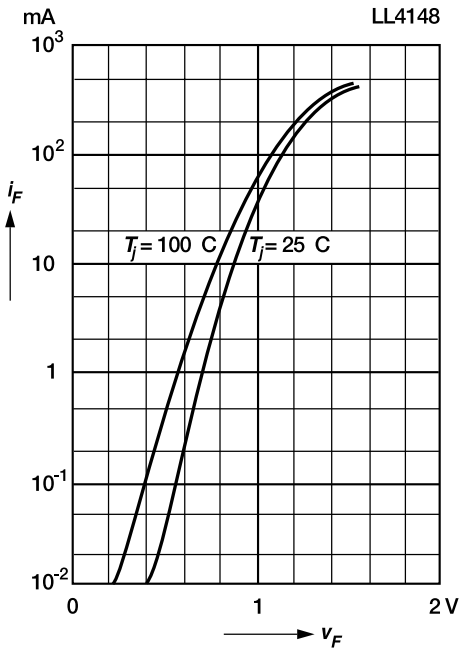
[1)] Valid provided that electrodes are kept at ambient temperature.



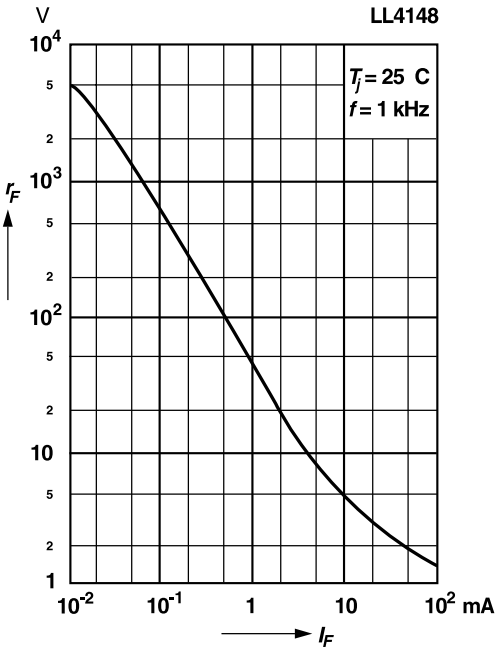
Rectification Efficiency Measurement Circuit

RATINGS AND CHARACTERISTIC CURVES LL4148

Forward characteristics

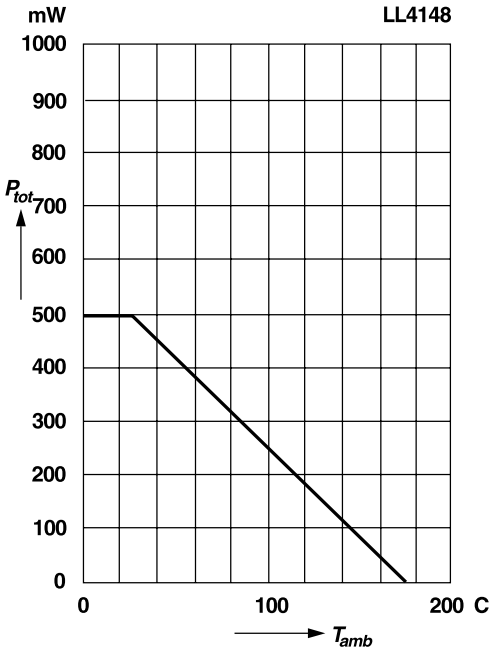


Dynamic forward resistance versus forward current

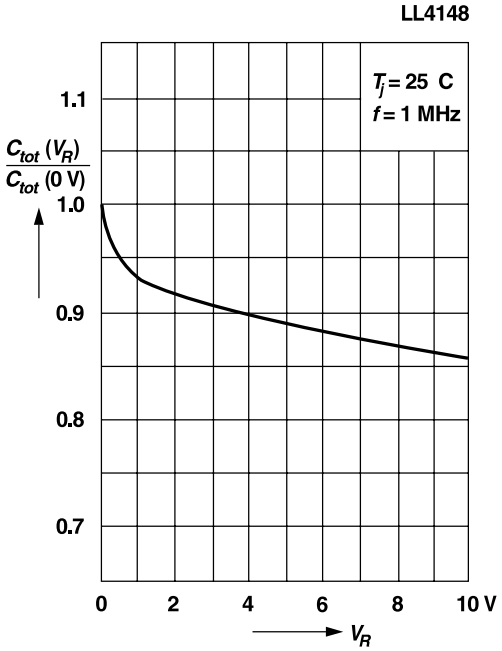


Admissible power dissipation versus ambient temperature

Valid provided that electrodes are kept at ambient temperature



Relative capacitance versus reverse voltage



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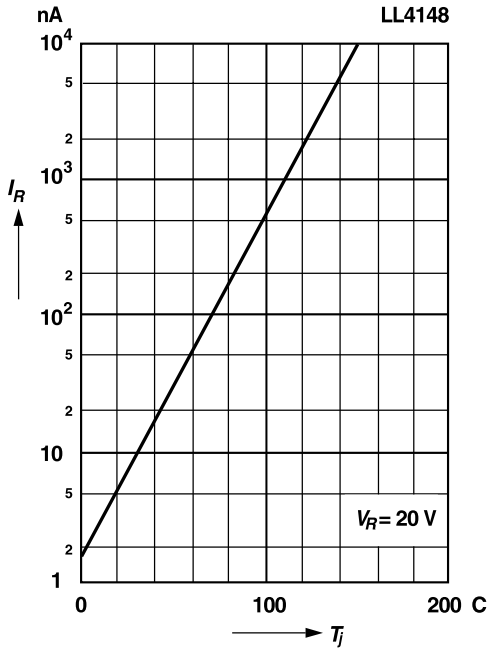
Leakage current
versus junction temperature



Admissible repetitive peak forward current versus pulse duration

Valid provided that electrodes are kept at ambient temperature