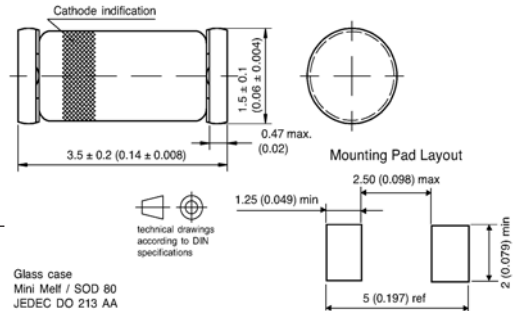


### Features

- ◆ 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 1N4148.

### Mechanical Data

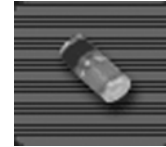
- ◆ Case: MiniMELF Glass Case (SOD-80)
- ◆ Weight: approx. 0.05g
- ◆ Cathode Band Color: Black



### Maximum Ratings and Thermal Characteristics

( $T_A=25^\circ\text{C}$  unless otherwise noted.)

Parameter	Symbol	Limit	Unit
Reverse voltage	$V_R$	75	Volts
Peak reverse voltage	$V_{RM}$	100	Volts
Forward DC current at $T_{amb}=25^\circ\text{C}$ <sup>(1)</sup>	$I_F$	200	mA
Average rectified current half wave rectification with resistive load at $T_{amb}=25^\circ\text{C}$ $f_{250}$ Hz <sup>(1)</sup>	$I_{F(AV)}$	150	mA
Surge forward current at $t<1\text{s}$ and $T_J=25^\circ\text{C}$	$I_{FSM}$	500	mA
Power dissipation at $T_{amb}=25^\circ\text{C}$ <sup>(1)</sup>	$P_{tot}$	500	mW
Thermal resistance junction to ambient air <sup>(2)</sup>	$R_{\theta JA}$	350	$^\circ\text{C}/\text{W}$
Thermal resistance junction to tie-point	$R_{\theta Jtp}$	300	$^\circ\text{C}/\text{W}$
Junction temperature	$T_J$	175	$^\circ\text{C}$
Storage temperature range	$T_S$	-65 to +175	$^\circ\text{C}$



### Electrical Characteristics

( $T_J=25^\circ\text{C}$  unless otherwise noted.)

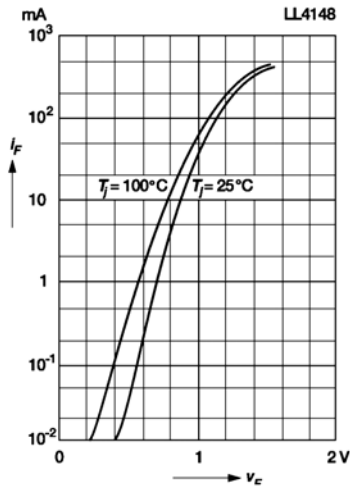
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Forward voltage	$V_F$	$I_F=10\text{mA}$	-	-	1.0	Volt
Leakage current	$I_R$	$V_R=20\text{V}$	-	-	25	nA
		$V_R=75\text{V}$	-	-	5.0	$\mu\text{A}$
		$V_R=20\text{V}$ , $T_J=150^\circ\text{C}$	-	-	50	$\mu\text{A}$
Capacitance	$C_{tot}$	$V_F=V_R=0\text{V}$	-	-	4.0	pF
Voltage rise when switching ON (tested with 50mA forward pulses)	$V_{fr}$	$tp=0.1\mu\text{s}$ , Rise time<30ns $fp=5$ to 100kHz	-	-	2.5	Volts
Reverse recovery time	$t_{rr}$	$I_F=10\text{mA}$ , $I_R=1\text{mA}$ $V_R=6\text{V}$ , $R_L=100\Omega$	-	-	4.0	ns
Rectification efficiency (See third page)	$\eta_V$	$f=100\text{MHz}$ , $V_{RF}=2\text{V}$	0.45	-	-	-

- Notes:**
1. Valid provided that electrodes are kept at ambient temperature
  2. Device mounted on FR4 printed-circuit board

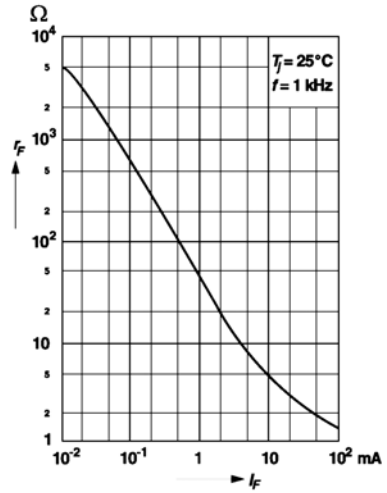
# RATINGS AND CHARACTERISTIC CURVES

( $T_A = 25^\circ\text{C}$  unless otherwise noted.)

**Forward characteristics**

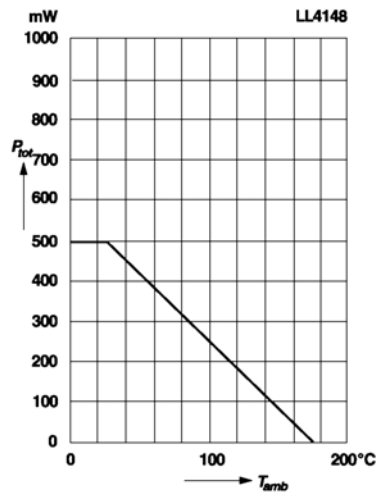


**Dynamic forward resistance versus forward current**

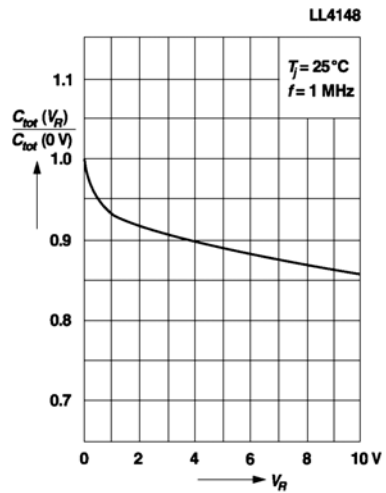


**Admissible power dissipation versus ambient temperature**

Valid provided that electrodes are kept at ambient temperature



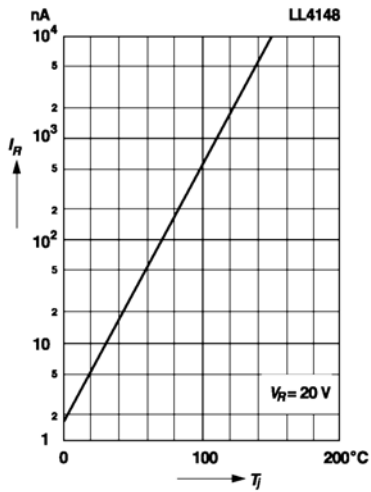
**Relative capacitance versus reverse voltage**



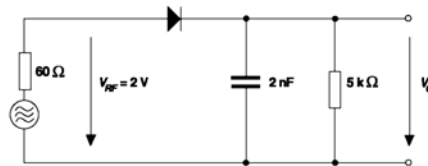
# RATINGS AND CHARACTERISTIC CURVES

( $T_A = 25^\circ\text{C}$  unless otherwise noted.)

**Leakage current versus junction temperature**



**Rectification Efficiency Measurement Circuit**



**Admissible repetitive peak forward current versus pulse duration**

Valid provided that electrodes are kept at ambient temperature

