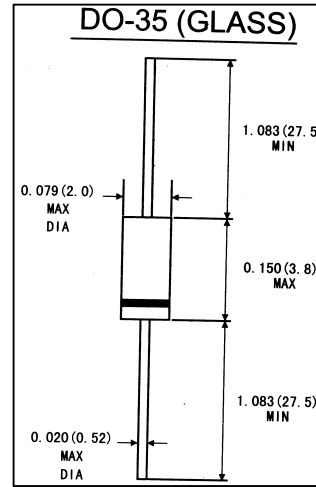


**FEATURES**

- . Silicon epitaxial planar diode
- . Fast swithching diodes
- . 500mW power dissipation
- . The diode is also available in the Mini-Melf case with the type designation LL4148

**MECHANICAL DATA**

- . **Case:** DO-35 glass case
- . **Polarity:** Color brand denotes cathode end
- . **Weight:** Approx. 0.13gram



Dimensions in inches and (millimeters)

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

(Ratings at 25°C ambient temperature unless otherwise specified)

	Symbol	Value	Units
Reverse voltage	$V_R$	75	Volts
Peak reverse voltage	$V_{RM}$	100	Volts
Average rectified current, Half wave rectification with Resistive load at $T_A=25^\circ\text{C}$ and $F \geq 50\text{Hz}$	$I_{AV}$	150	mA
Surge forward current at $t < 1\text{S}$ and $T_J=25^\circ\text{C}$	$I_{FSM}$	500	mA
Power dissipation at $T_A=25^\circ\text{C}$	$P_{tot}$	500 <sup>1)</sup>	mW
Junction temperature	$T_J$	175	°C
Storage temperature range	$T_{STG}$	-65 to + 175	°C

1)Valid provided that at a distance of 8mm from case are kept at ambient temperature(DO-35)

**ELECTRICAL CHARACTERISTICS**

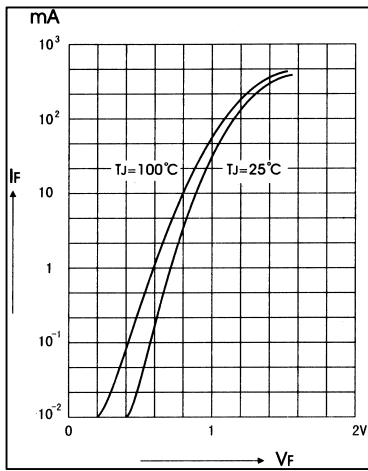
(Ratings at 25°C ambient temperature unless otherwise specified)

	Symbols	Min.	Typ.	Max.	Units
Forward voltage	$V_F$			1	Volts
Leakage current at $V_R=20\text{V}$ at $V_R=75\text{V}$ at $V_R=20\text{V}, T_J=150^\circ\text{C}$	$I_R$			25	nA
	$I_R$			5	nA
	$I_R$			50	nA
Junction capacitance at $V_R=V_F=0\text{V}$	$C_J$			4	pF
Voltage rise when switching ON tested with 50mA pulse $T_p=0.1 \mu\text{S}$ , Rise time $< 30 \mu\text{S}$ , $f_p=5$ to 100KHz	$V_{fr}$			2.5	Volts
Reverse recovery time from $I_F=10\text{mA}$ to $I_R=1\text{mA}$ , $V_R=6\text{V}, R_L=100 \Omega$	$t_{rr}$			4	ns
Thermal resistance junction to ambient	$R_{\theta JA}$			350	K/W
Rectification effience at $f=100\text{MHz}, V_{RF}=2\text{V}$	$\eta$	0.45			

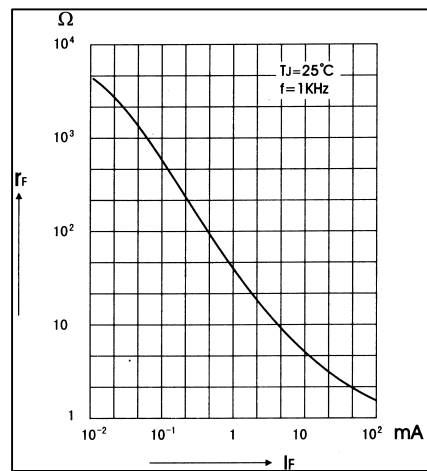
1)Valid provided that leads at a distance of 8mm from case are kept at ambient temperature(DO-35)

**RATINGS AND CHARACTERISTIC CURVES 1N4148**

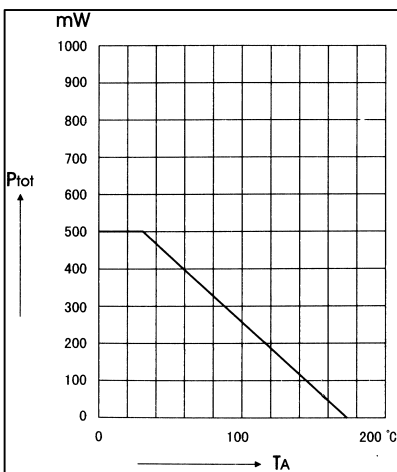
**FIG.1-FORWARD CHARACTERISTICS**



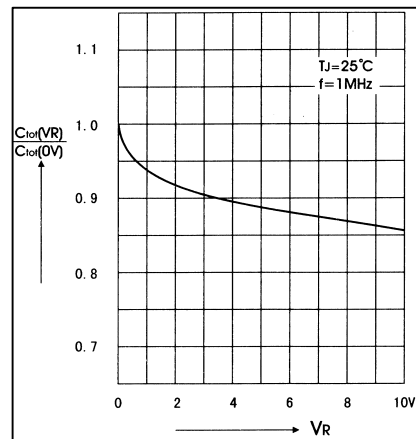
**FIG.2-DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT**



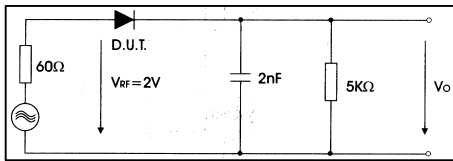
**FIG.3-ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE**



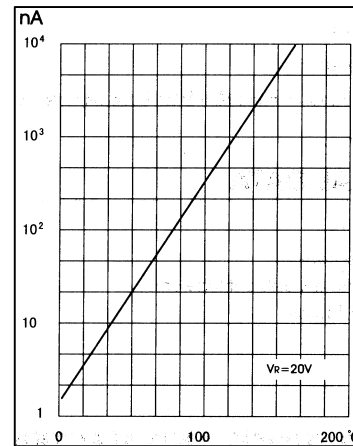
**FIG.4-RELATIVE CAPACITANCE VERSUS VOLTAGE**



**FIG.5-RECTIFICATION EFFICIENCY MEASUREMENT  
CIRCUIT**



**FIG.6-LEAKAGE CURRENT VERSUS JUNCTION  
TEMPERATURE**



**FIG.7-ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION**

