

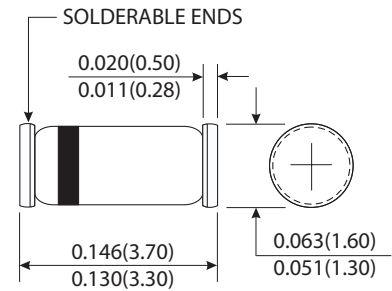
## LL4148

SMALL SIGNAL  
SWITCHING DIODES

### Features

- Silicon epitaxial planar diode
- Fast switching diodes
- 500mW power dissipation
- This diode is also available in the DO-35 case with the type designation 1N4148

### MELF (DO-35)



Dimensions in inches and (millimeters)

### Mechanical Data

- Case: Mini-MELF glass case(DO-35)
- Weight: Approx. 0.05 gram

### 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 <sup>1)</sup>	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 leads 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 $V_R=20\text{V}$	$I_R$			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	$\mu\text{A}$
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 <sup>1)</sup>	K/W
Rectification efficiency 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 LL4148

FIG.1-FORWARD CHARACTERISTICS

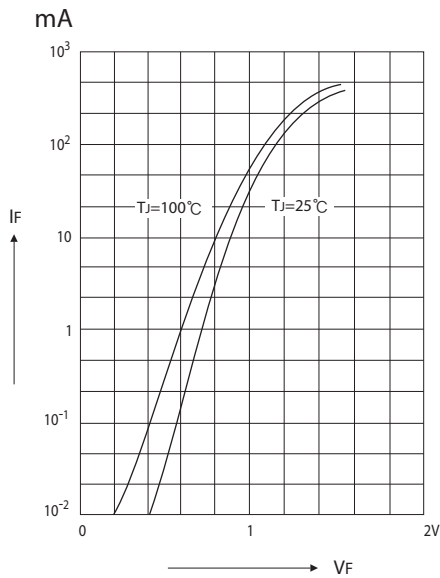


FIG.2-DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT

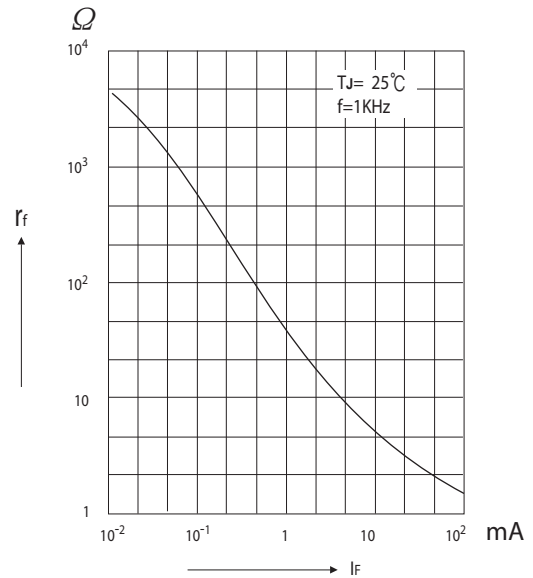


FIG.3-ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE

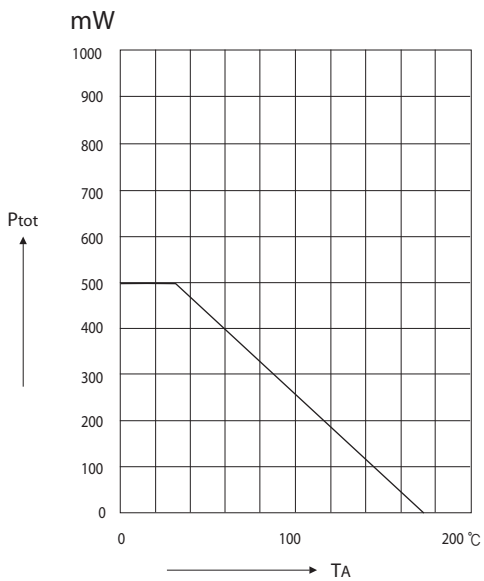
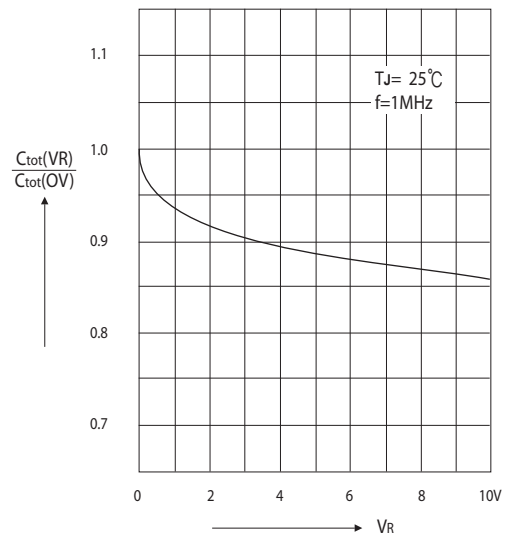


FIG. 4-RELATIVE CAPACITANCE VERSUS VOLTAGE



## RATINGS AND CHARACTERISTIC CURVES LL4148

FIG.5-RECTIFICATION EFFICIENCY MEASUREMENT CIRCUIT

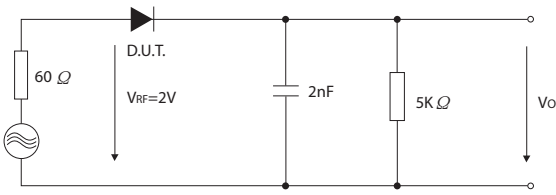


FIG.6-LEAKAGE CURRENT VERSUS JUNCTION TEMPERATURE

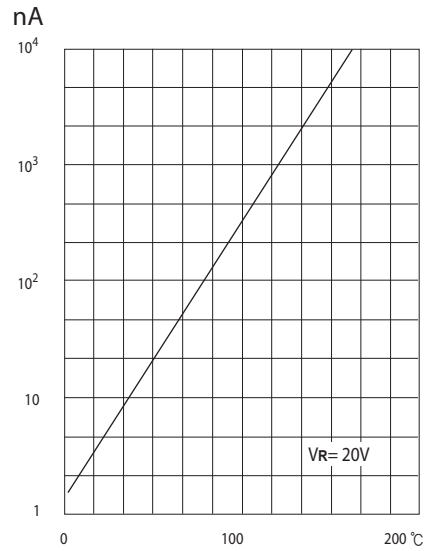


FIG.7-ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION

