

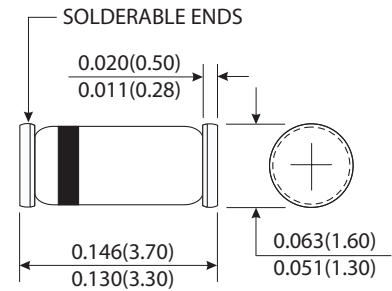
LL4148

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 ¹⁾	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 ¹⁾	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	μA
at $V_R=20\text{V}, T_J=150^\circ\text{C}$	I_R			50	μA
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 ¹⁾	K/W
Rectification efficiency at $f=100\text{MHz}$, $V_{RF}=2\text{V}$	η	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

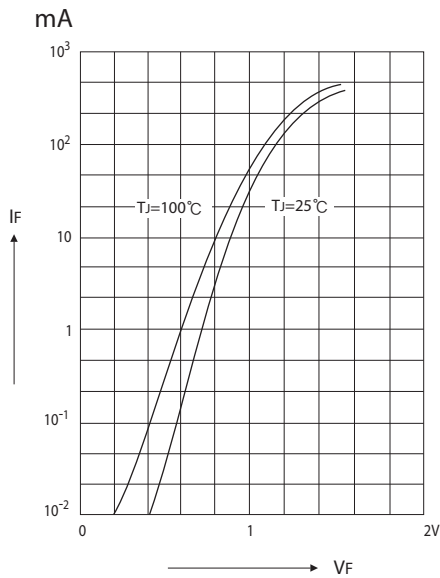


FIG.2-DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT

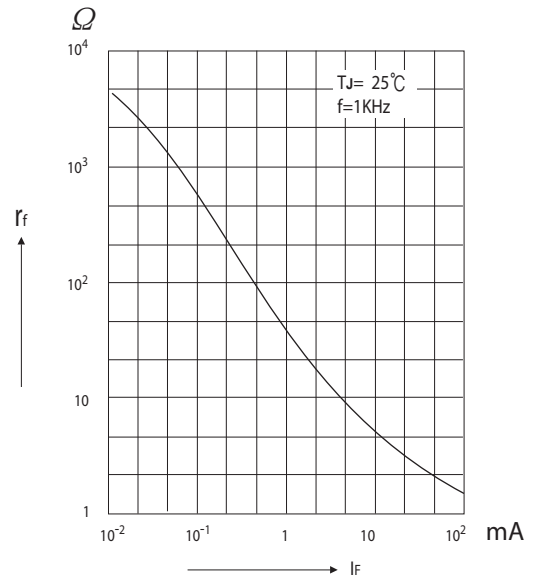


FIG.3-ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE

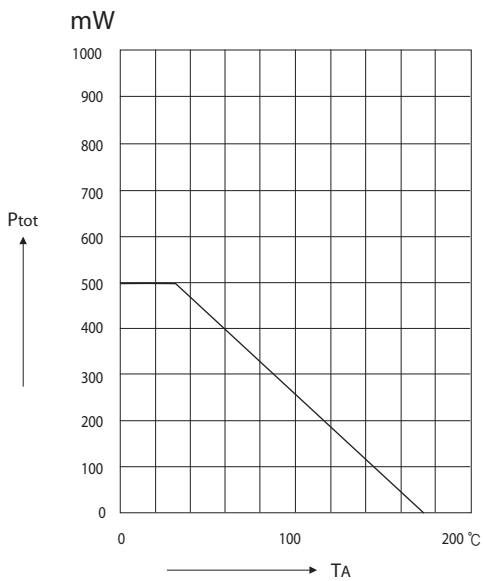
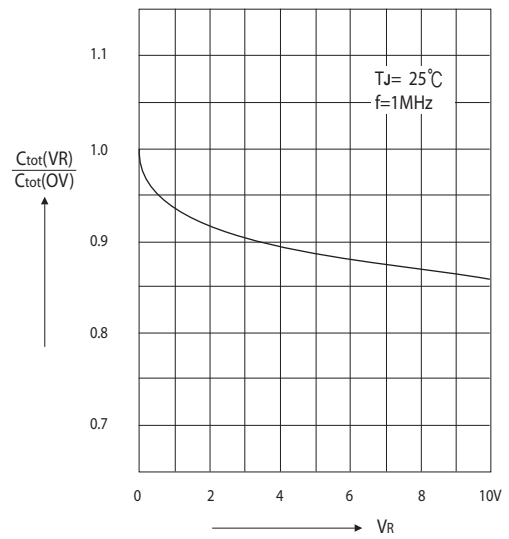


FIG.4-RELATIVE CAPACITANCE VERSUS VOLTAGE



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FIG.5-RECTIFICATION EFFICIENCY MEASUREMENT CIRCUIT

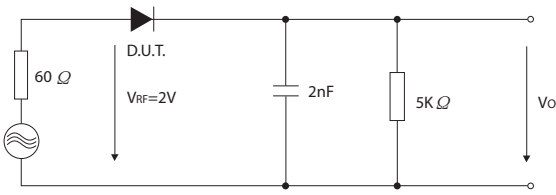


FIG.6-LEAKAGE CURRENT VERSUS JUNCTION TEMPERATURE

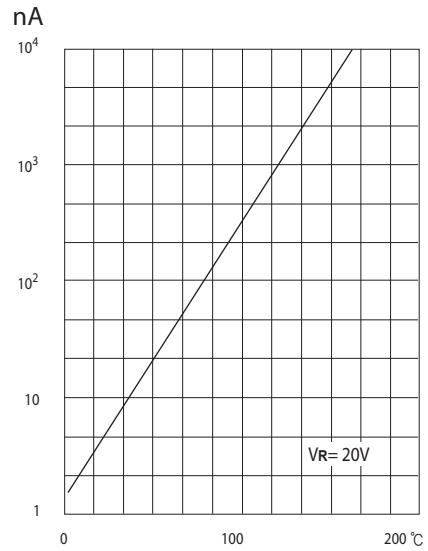


FIG.7-ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION

