

MCL4148

SMALL SIGNAL
SWITCHING DIODES

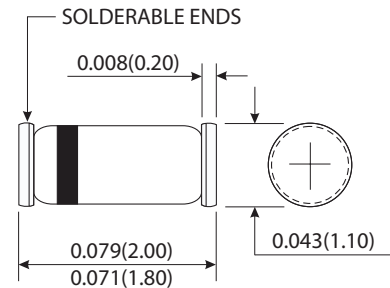
Features

- 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

Mechanical Data

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

MICRO MELF



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°C and F ≥ 50Hz	I _{AV}	150 ¹⁾	mA
Surge forward current at t<1S and T _J =25°C	I _{FSM}	500	mA
Power dissipation at T _A =25°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 =20V	I _R			25	nA
at V _R =75V	I _R			5	μA
at V _R =20V, T _J =150°C	I _R			50	μA
Junction Capacitance at V _R =V _F =0V	C _J			4	pF
Voltage rise when switching ON tested with 50mA pulse tp=0.1 μS, Rise time<30 μS, fp=5 to 100KHz	V _{fr}			2.5	Volts
Reverse Recovery time from I _F =10mA to I _R =1mA, V _R =6V, R _L =100Ω	t _{rr}			4	ns
Thermal resistance, junction to Ambient	R _{θJA}			350 ¹⁾	K/W
Rectification efficiency at f=100MHz, V _{RF} =2V	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 MCL4148

FIG.1-FORWARD CHARACTERISTICS

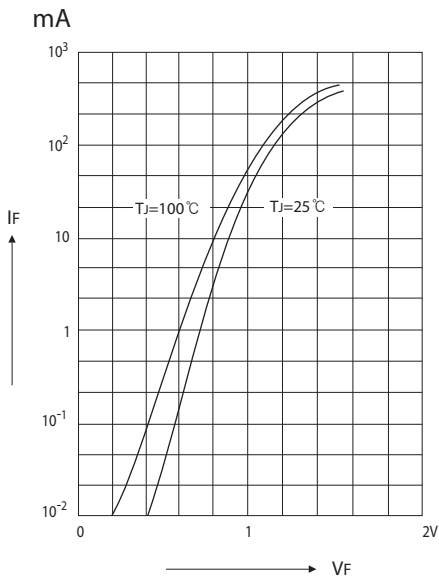


FIG.2-DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT

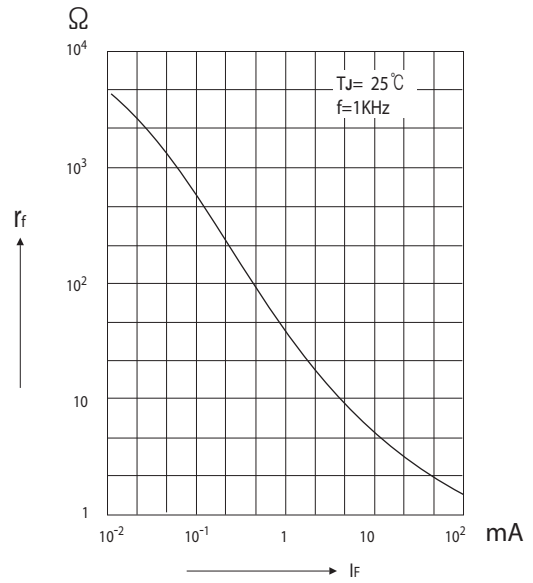


FIG.3-ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE

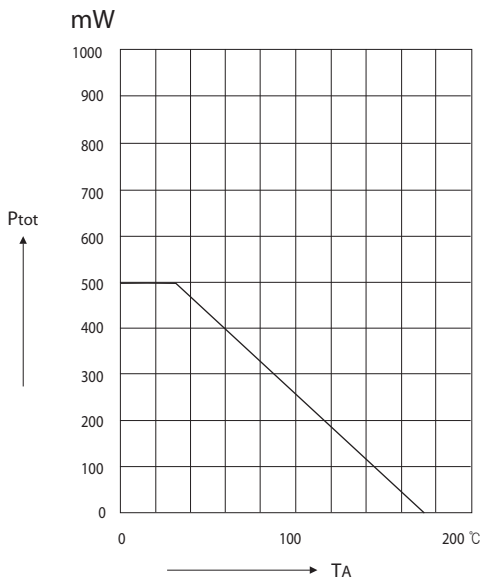
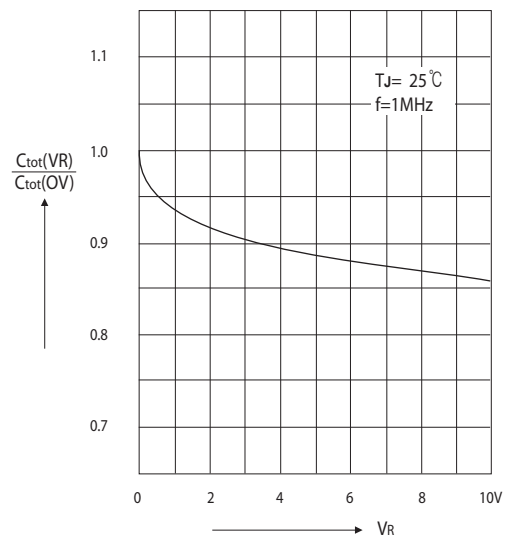


FIG. 4-RELATIVE CAPACITANCE VERSUS VOLTAGE



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FIG.5-RECTIFICATION EFFICIENCY MEASUREMENT CIRCUIT

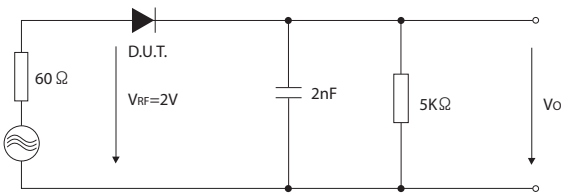


FIG.6-LEAKAGE CURRENT VERSUS JUNCTION TEMPERATURE

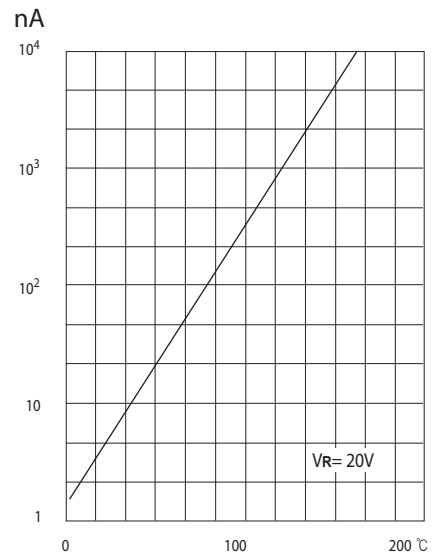


FIG.7-ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION

