SEMICONDUCTOR

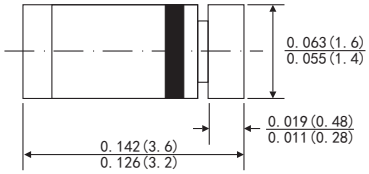
LL4148

SMALL SIGNAL SWITCHING DIODE

FEATURES

- Silicon epitaxial planar diode
- Fast switching diode
- 500mW power dissipation
- This diode is also available in other case styles including: the DO-35 case with the type designation 1N4148, the MicroMelf case with the type designation MCL4148, the SOD-123 case with the type designation 1N4148W, the SOD-323 case with the type designation 1N4148WS, the SOD-523 case with the type designation 1N4148WT.

MiniMelf



Dimensions in inches and (millimeters)

MECHANICAL DATA

- *Case*: MinMELF glass case (SOD- 80)
- *Weight*: Approx. 0.05gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Ratings at 25℃ ambient temperature unless otherwise specified)

	Symbol	Value	Units
DC Blocking Voltage	V_R	75	Volts
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	Volts
Average rectified current, Half wave rectification with Resistive load at T_A=25℃ and f ≥50Hz	I_{AV}	200	mA
Non-Repetitive Peack Forward Surge Current @t=1.0s	I_{FSM}	500	mA
Power dissipation at T_A=25℃	P_{tot}	500[1)]	mW
Junction temperature	T_J	175	℃
Storage temperature range	T_{STG}	-65 to +175	℃
[1)] Valid provided that electrodes are kept at ambient temperature.			

ELECTRICAL CHARACTERISTICS

(Ratings at 25℃ ambient temperature unless otherwise specified)

	Symbol	Min.	Typ.	Max	Units
Forward voltage at IF=10mA	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℃	I_R			50	μA
Junction capacitance at V_R=0V，f=1MHZ	C_J			4	pF
Voltage rise when switching on tested with 50mA pulse t_P=0.1μs, Rise time<30μs, f_P=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	$R_{\theta JA}$			500[1)]	K/W
Rectification efficiency at f=100MHz, V_{RF}=2V	η	0.45			
[1)] Valid provided that electrodes are kept at ambient temperature.					

RATINGS AND CHARACTERISTIC CURVES LL4148

FIG 1-FORWARD CHARACTERISTICS

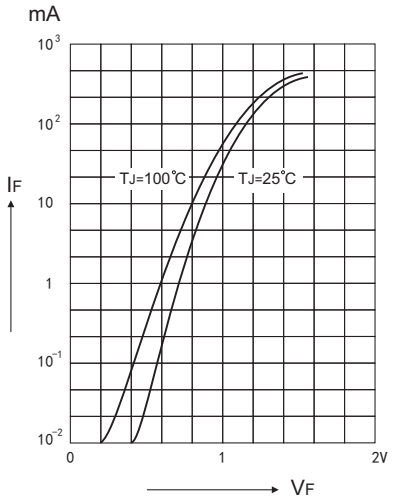


FIG 2: DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT

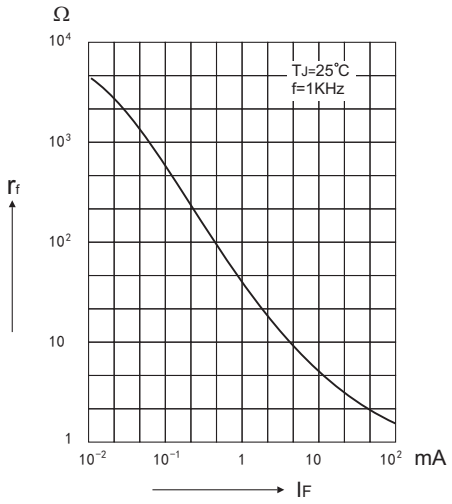


FIG 3-ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE

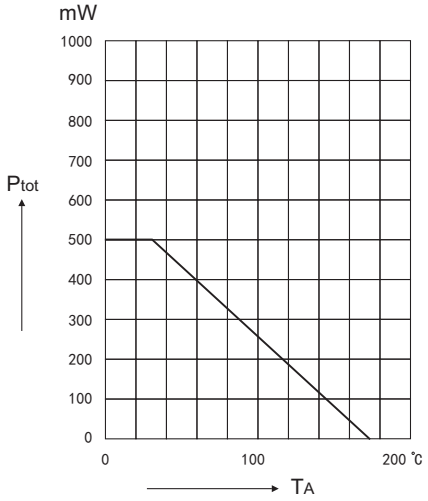


FIG. 4-RELATIVE CAPACITANCE VERSUS VOLTAGE

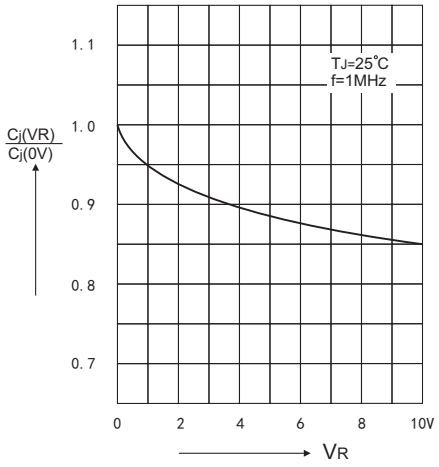


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FIG.5 RECTIFICATION EFFICIENCY MEASUREMENT CIRCUIT

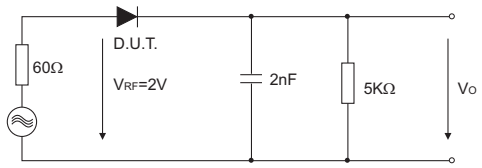

FIG 6: LEAKAGE CURRENT VERSUS JUNCTION TEMPERATURE

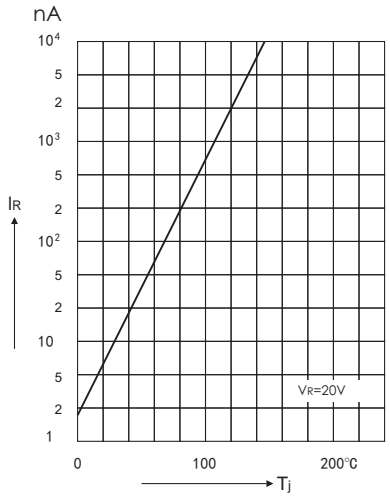

FIG 7: ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION