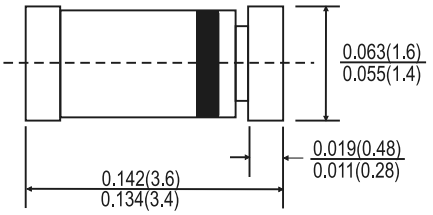
LL4148

SMALL SIGNAL SWITCHING DIODES

FEATURES:

- Silicon epitaxial planar diode
- Fast switching diodes in case MINI MELF, especially suited for automatic insertion

Mini-MELF



MECHANICAL DATA

Case: MINI MELF glass case (SOD-80)
Weight:Approx. 0.05gram

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25℃ ambient temp. unless otherwise specified.
Single phase, half sine wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20 %.

Characteristic	Symbol	LL4148	Units
Maximum peak reverse voltage	V_{RRM}	100	Volts
Maximum reverse voltage	V_R	75	Volts
Average rectified current .half wave rectification with Resistive load at Ta=25℃ And F ≥ 50HZ	$I_{(AV)}$	0.15 [1)]	Amps
Peak forward surge current, <1S single half sine-wave auperimposed on rated load Ta=25℃	I_{FSM}	0.5	Amps
Power dissipation at Ta=25℃	Ptot	500 [1)]	mW
Maximum instantaneous forward voltage drop per leg at 0.01A	V_F	1.0	Volts
Maximun Voltage rise when switching ON tested with 50mApluse t=0.1μS, Rise time <30μS, f=5 to 100 KHZ	Vfr	2.5	Volts
Maximun leakage current At V_R=20V At V_R=75V At V_R=20V Ta=150℃	I_R	25 5 50	nA uA uA
Maximum Reverse recovery time (Note 1)	TRR	4	ns
Maximun junction capacitance VR=VF=0V	Ctot	4	PF
Maximun Thermal resistance junction to ambient	Rth JA	350 [1)]	K /W
MINMUN rectification efficiency at f=100MHZ, V_{RF}=2V	η	045	
Operating temperature range	TJ	150	℃
storage temperature range	Tstg	-55 to+150	℃

NOTES:
(1)Reverse recovery condition I_F=0.01A, I_R =0.001A, V_R=6V, R_L=100
1):Valid provided that electrodes are kept at ambient temperature

FIG 1-FORWARD CHARACTERISTICS

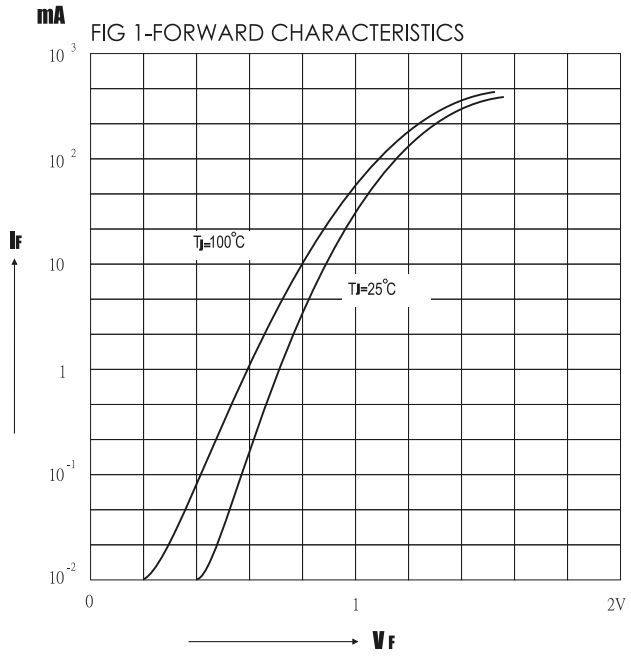


FIG 2: DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT

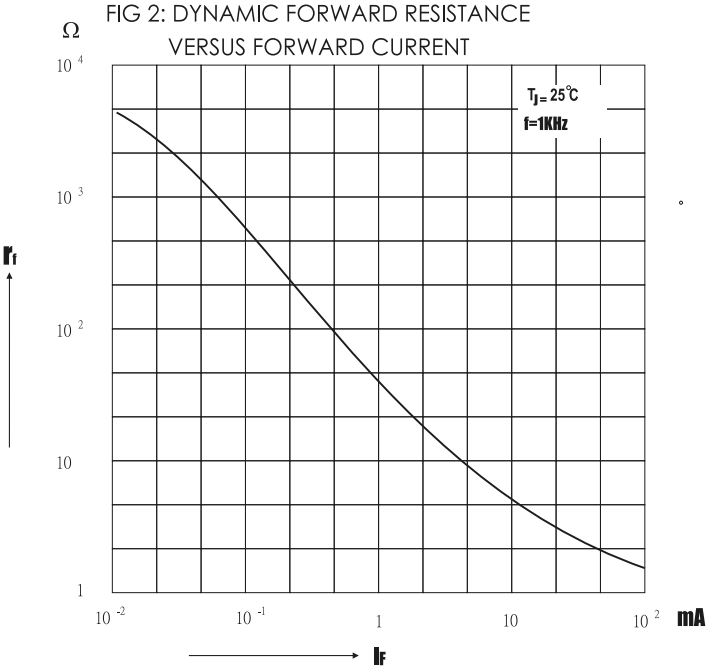


FIG 3-ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE

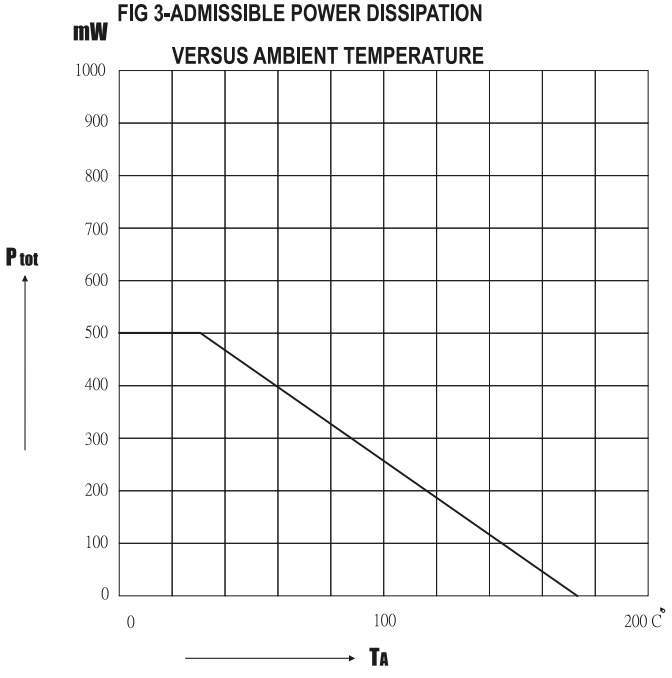


FIG. 4-RELATIVE CAPACITANCE VERSUS REVERS VOLTAGE

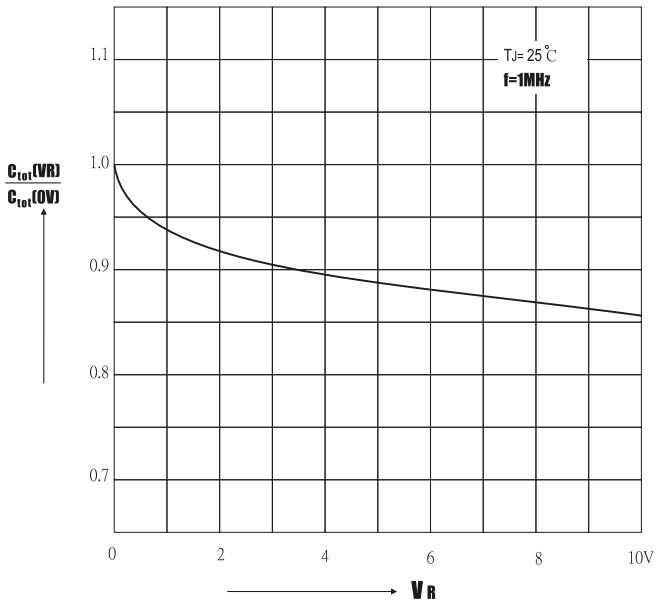


FIG.5 RECTIFICATION EFFICIENCY MEASUREMENT CIRCUIT

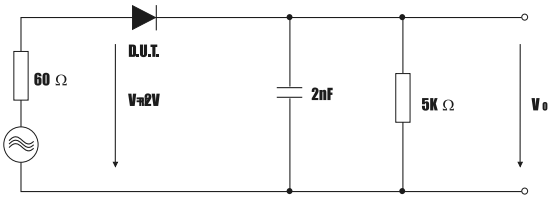


FIG 6: LEAKAGE CURRENT VERSUS JUNCTION TEMPERATURE

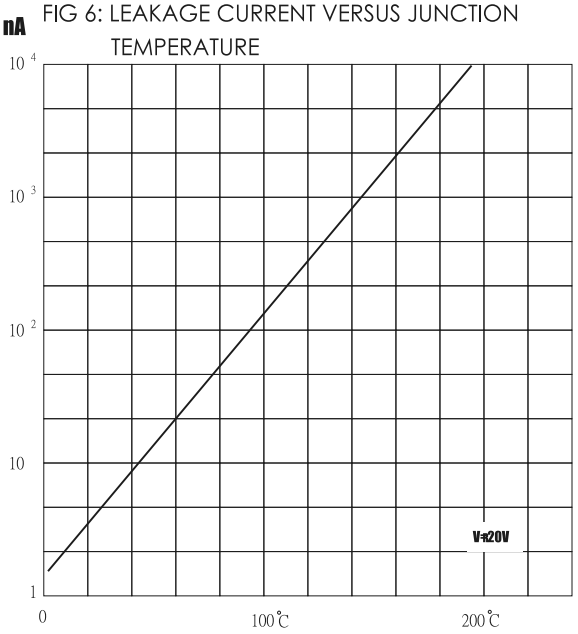


FIG 7: ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION