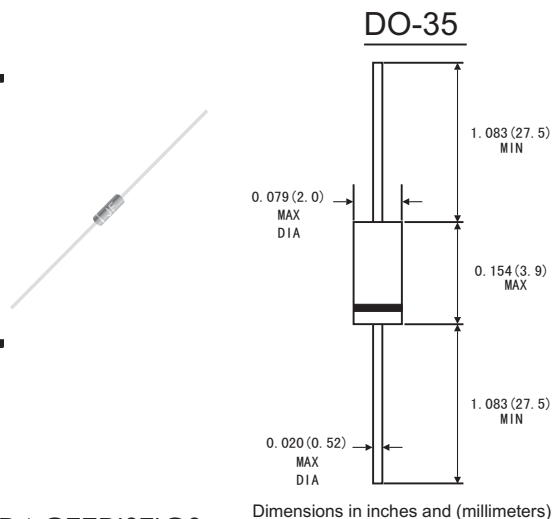


### FEATURES

- Silicon epitaxial planar diode
- Fast switching diode
- 500mW power dissipation
- This diode is also available in other case styles including: the MiniMelf case with the type designation LL4148, 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.

### MECHANICAL DATA

- Case: DO-35 glass case
- Polarity: Color band denotes cathode end
- Weight: Approx. 0.13gram



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

	Symbol	Value	Units
DC Blocking Voltage	$V_R$	75	Volts
Non-Repetitive Peak Reverse Voltage	$V_{RM}$	100	Volts
Non-Repetitive Peak Forward Surge Current @ $t=1.0s$	$I_{FSM}$	500	mA
Average rectified current, Half wave rectification with Resistive load at $T_A=25^{\circ}C$ and $f \geq 50Hz$	$I_{AV}$	150	mA
Surge forward current at $t_p=1\mu s$	$I_{FSM}$	2	A
Power dissipation at $T_A=25^{\circ}C$	$P_{tot}$	500 <sup>1)</sup>	mW
Junction temperature	$T_J$	200	$^{\circ}C$
Storage temperature range	$T_{STG}$	-65 to +200	$^{\circ}C$

1)Valid provided that leads at a distance of 8mm from case are kept at ambient temperature(DO-35)

### ELECTRICAL CHARACTERISTICS

(Ratings at 25 $^{\circ}C$  ambient temperature unless otherwise specified)

	Symbol	Min.	Typ.	Max	Units
Forward voltage at $I_F=10mA$	$V_F$			1	Volts
Leakage current at $V_R=20V$ at $V_R=75V$ at $V_R=20V, T_J=150^{\circ}C$	$I_R$			25	nA
	$I_R$			5	$\mu A$
	$I_R$			50	$\mu A$
Junction capacitance at $V_R=V_F=0V$	$C_J$			4	pF
Voltage rise when switching on tested with 50mA pulse $t_p=0.1\mu s$ , Rise time $<30\mu s$ , $f_p=5$ to 100kHz	$V_{fr}$			2.5	Volts
Reverse recovery time from $I_F=10mA$ to $I_R=1mA$ , $V_R=6V, R_L=100\Omega$	$t_{rr}$			4	ns
Thermal resistance junction to ambient	$R_{\theta JA}$			350 <sup>1)</sup>	K/W
Rectification efficiency at $f=100MHz, V_{RF}=2V$	$\eta$	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 1N4148

FIG 1-FORWARD CHARACTERISTICS

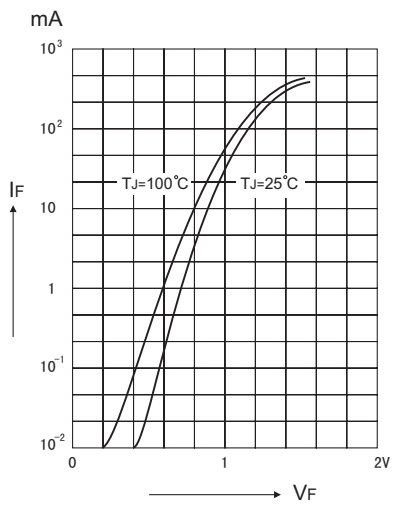


FIG 2: DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT

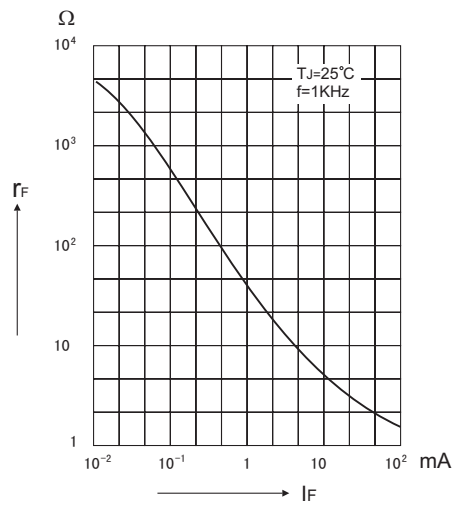


FIG 3-ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE

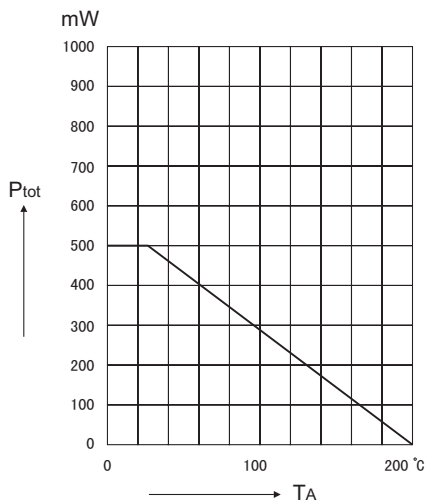
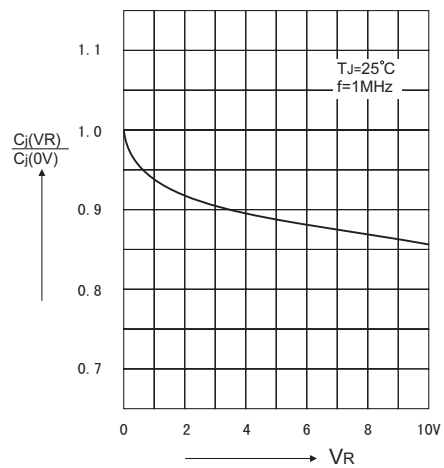


FIG. 4-RELATIVE CAPACITANCE VERSUS VOLTAGE



# RATINGS AND CHARACTERISTIC CURVES 1N4148

FIG.5 RECTIFICATION EFFICIENCY MEASUREMENT CIRCUIT

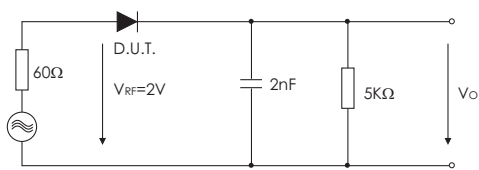


FIG 6: LEAKAGE CURRENT VERSUS JUNCTION TEMPERATURE

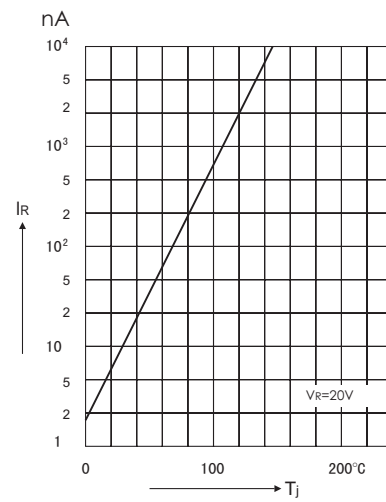


FIG 7: ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION

