

## 1N4148 DO34

SMALL SIGNAL  
SWITCHING DIODES

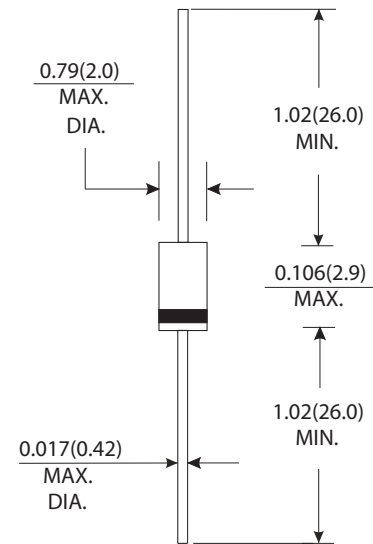
### Features

- Silicon epitaxial planar diode
- Fast switching diodes
- 500mW power dissipation
- This diode is also available in the Mini-MELF case with the type designation LL4148

### Mechanical Data

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

DO-34(GLASS)



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 <sub>R</sub>	75	Volts
Peak Reverse Voltage	V <sub>RM</sub>	100	Volts
Average rectified current, Half wave rectification with Resistive load at T <sub>A</sub> =25°C and F ≥ 50Hz	I <sub>AV</sub>	150 <sup>1)</sup>	mA
Surge forward current at t<1S and T <sub>J</sub> =25°C	I <sub>FSM</sub>	500	mA
Power dissipation at T <sub>A</sub> =25°C	P <sub>tot</sub>	500 <sup>1)</sup>	mW
Junction temperature	T <sub>J</sub>	175	°C
Storage temperature range	T <sub>STG</sub>	-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 <sub>F</sub>			1	Volts
Leakage current at V <sub>R</sub> =20V at V <sub>R</sub> =75V at V <sub>R</sub> =20V, T <sub>J</sub> =150°C	I <sub>R</sub>			25	nA
	I <sub>R</sub>			5	μA
	I <sub>R</sub>			50	μA
Junction Capacitance at V <sub>R</sub> =V <sub>F</sub> =0V	C <sub>J</sub>			4	pF
Voltage rise when switching ON tested with 50mA pulse tp=0.1 μS, Rise time<30 μS, fp=5 to 100KHz	V <sub>fr</sub>			2.5	Volts
Reverse Recovery time from I <sub>F</sub> =10mA to I <sub>R</sub> =1mA, V <sub>R</sub> =6V, R <sub>L</sub> =100Ω	t <sub>rr</sub>			4	ns
Thermal resistance, junction to Ambient	R <sub>θ JA</sub>			350 <sup>1)</sup>	K/W
Rectification efficiency at f=100MHz, V <sub>RF</sub> =2V	η <sub>r</sub>	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

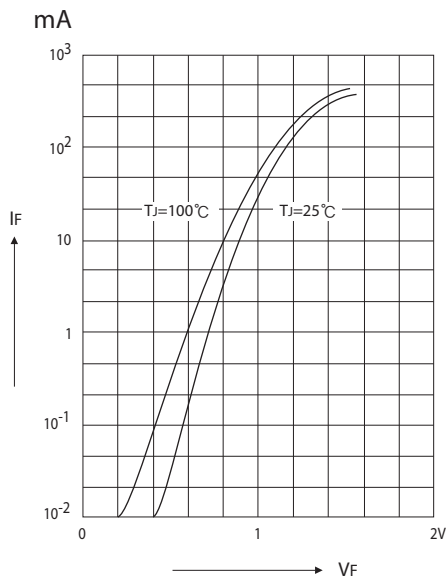


FIG.2-DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT

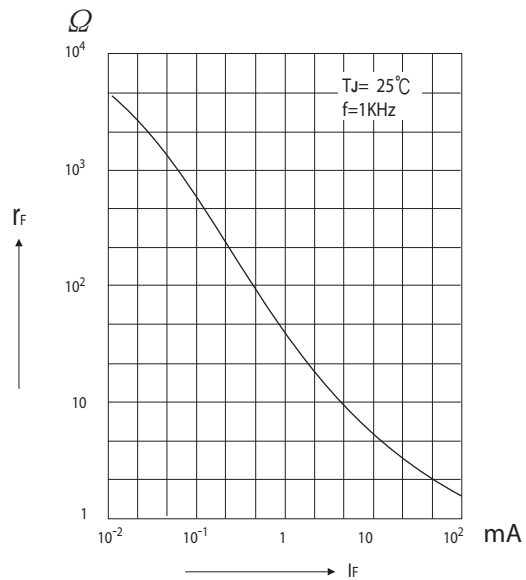


FIG.3-ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE

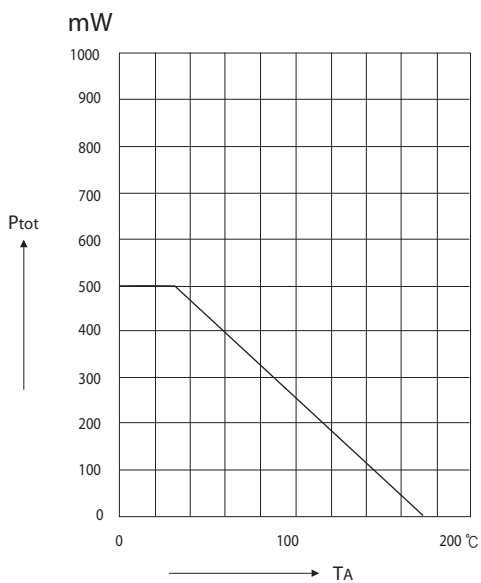
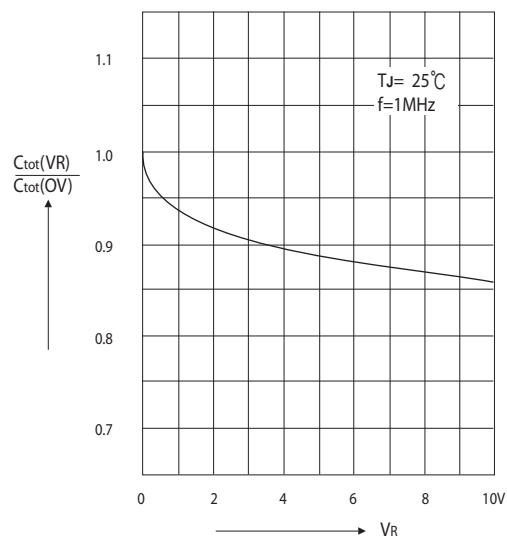


FIG.4-RELATIVE CAPACITANCE VERSUS VOLTAGE



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FIG.5-RECTIFICATION EFFICIENCY MEASUREMENT CIRCUIT

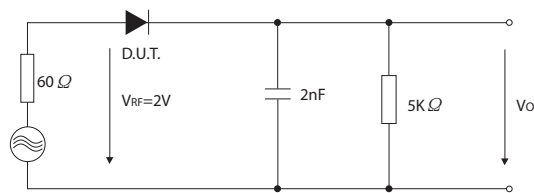


FIG.6-LEAKAGE CURRENT VERSUS JUNCTION TEMPERATURE

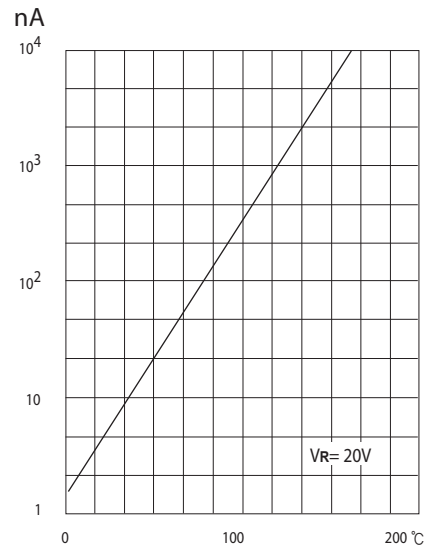


FIG.7-ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PULSE DURATION

