1N4148

Small-Signal Diode
Fast Switching Diode

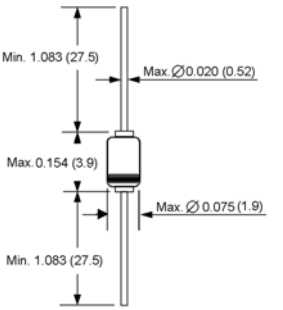
Features

- Silicon Epitaxial Planar Diode
- Fast switching diode
- This diode is also available in other case styles including the MiniMELF case with the type designation LL4148, and the DO-34 case with type designation 1N4148S.

Mechanical Data

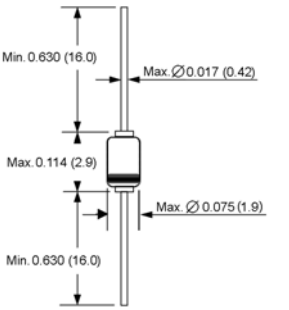
- Case: DO-34, DO-35 Glass Case
- Weight: approx. 0.13g

DO-204AH (DO-35 Glass)



Dimensions in inches and (millimeters)

DO-34 Glass



Dimensions in inches and (millimeters)

Maximum Ratings and Thermal Characteristics

(T_A=25°C unless otherwise noted.)

Parameter	Symbol	Limit	Unit
Reverse voltage	V_R	75	Volts
Peak reverse voltage	V_{RM}	100	Volts
Average rectified current half wave rectification with resistive load at T_{amb}=25°C	$I_{F(AV)}$	150[1)]	mA
Surge forward current at t<1s and T_j=25°C	I_{FSM}	500	mA
Power dissipation at T_{amb}=25°C [(1)]	P_{tot}	500	mW
Thermal resistance junction to ambient air [(1)]	$R_{\theta JA}$	350	°C/W
Junction temperature	T_j	175	°C
Storage temperature range	T_S	-65 to +175	°C

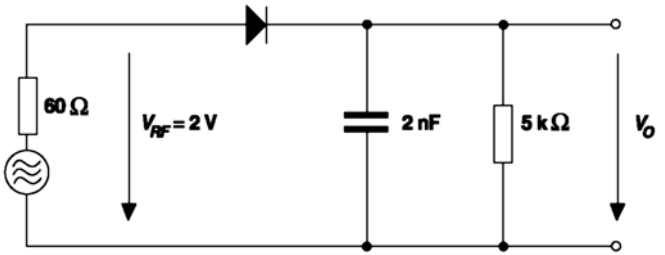
Notes: 1. Valid provided that leads at a distance of 8mm from case are kept at ambient temperature

Electrical Characteristics

(T_J=25°C unless otherwise noted.)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse breakdown voltage	$V_{(BR)R}$	I_R=100uA	100			Volts
Forward voltage	V_F	I_F=10mA	-	-	1.0	Volt
Leakage current	I_R	V_R=20V V_R=75V V_R=20V, T_J=150°C	- - -	- - -	25 5.0 50	nA uA uA
Capacitance	C_{tot}	V_F=V_R=0V	-	-	4.0	pF
Voltage rise when switching ON (tested with 50mA pulses)	V_{fr}	tp = 0.1s, Rise time < 30ns fp=5 to 100kHz	-	-	2.5	ns
Reverse recovery time	t_{rr}	I_F=10mA, I_R=1mA V_R=6V, R_L=100Ω	-	-	4.0	ns
Rectification efficiency	ηv	f=100MHz, V_{RF}=2V	0.45	-	-	-

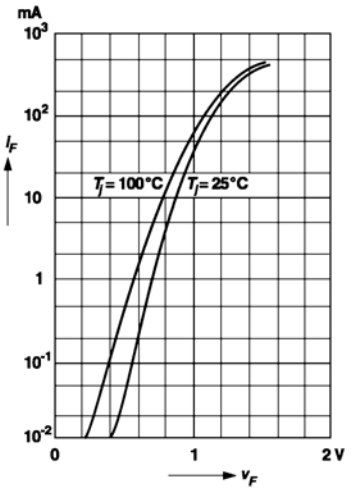
Rectification Efficiency Measurement Circuit



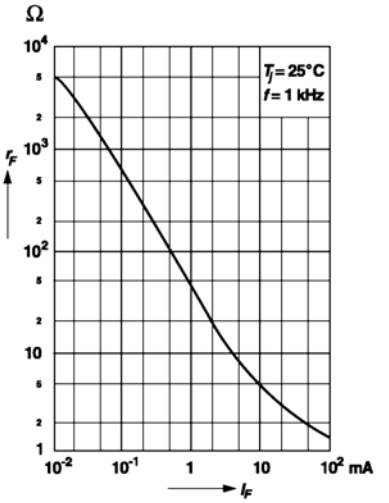
RATINGS AND CHARACTERISTIC CURVES

(T_A = 25°C unless otherwise noted)

Forward characteristics

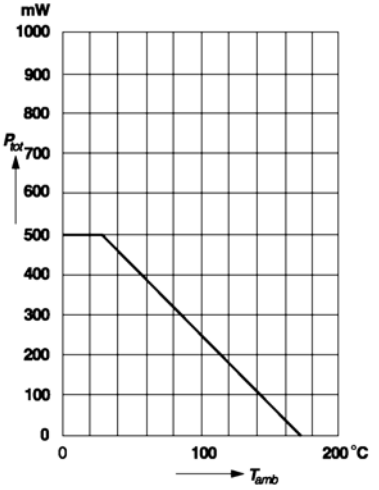


Dynamic forward resistance versus forward current

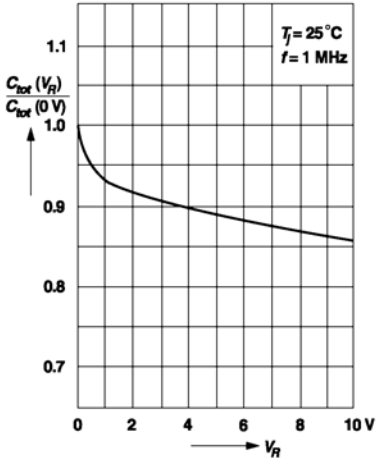


Admissible power dissipation versus ambient temperature

For conditions, see footnote in table "Absolute Maximum Ratings"



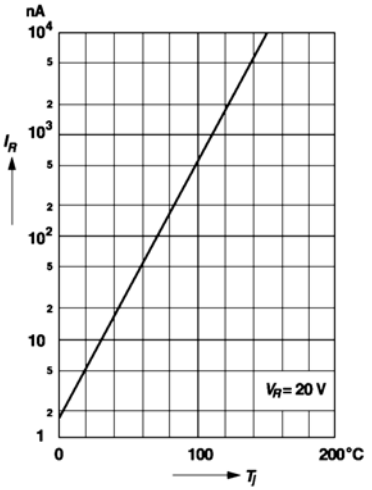
Relative capacitance versus reverse voltage



RATINGS AND CHARACTERISTIC CURVES

(T_A = 25°C unless otherwise noted)

Leakage current versus junction temperature



Admissible repetitive peak forward current versus pulse duration

For conditions, see footnote in table "Absolute Maximum Ratings"