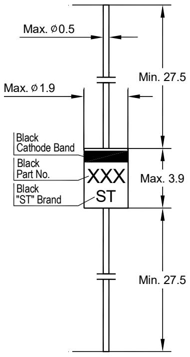
1N4148

Silicon Epitaxial Planar Switching Diode

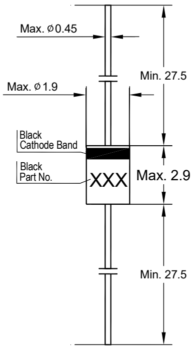
Applications

- High-speed switching

This diode is also available in MiniMELF case
with the type designation LL4148



Glass Case DO-35
Dimensions in mm



Glass Case DO-34
Dimensions in mm

Absolute Maximum Ratings (T_a = 25℃)

Parameter	Symbol	Value	Unit
Peak Reverse Voltage	V_{RM}	100	V
Reverse Voltage	V_R	75	V
Average Rectified Forward Current	$I_{F(AV)}$	200	mA
Non-repetitive Peak Forward Surge Current at t = 1 s at t = 1 ms at t = 1 µs	I_{FSM}	0.5 1 4	A
Power Dissipation	P_{tot}	500	mW
Junction Temperature	T_j	200	℃
Storage Temperature Range	T_{stg}	- 65 to + 200	℃

Thermal Characteristics

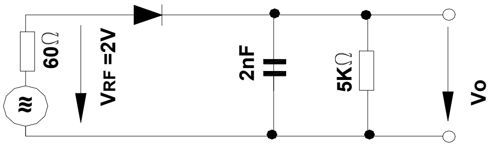
Parameter	Symbol	Max.	Unit
Thermal Resistance - Junction to Lead ¹⁾	$R_{\theta JL}$	350	℃/W

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

Characteristics at T_a = 25℃

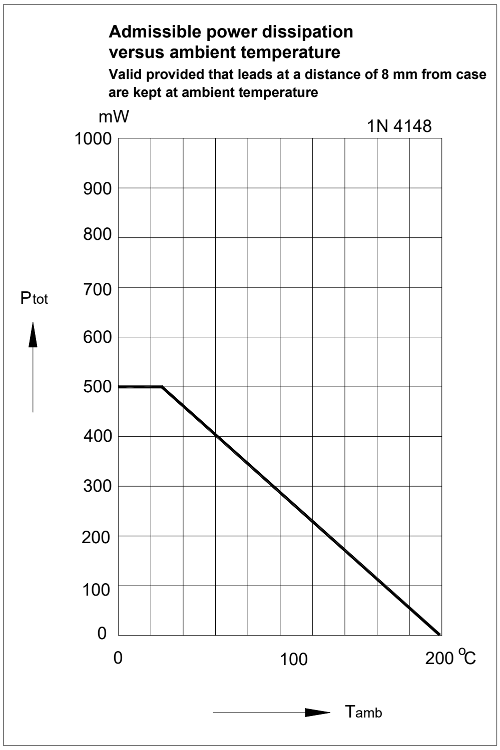
Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at I_R = 100 μA at I_R = 5 μA	 $V_{(BR)R}$ $V_{(BR)R}$	 100 75	 - -	 V V
Forward Voltage at I_F = 10 mA	V_F	-	1	V
Leakage Current at V_R = 20 V at V_R = 75 V at V_R = 20 V, T_j = 150℃	 I_R I_R I_R	 - - -	 25 5 50	 nA μA μA
Capacitance at V_R = 0, f = 1 MHz	C_{tot}	-	4	pF
Voltage Rise when Switching ON tested with 50 mA Forward Pulses tp = 0.1 s, Rise Time < 30 ns, fp = 5 to 100 KHz	V_{fr}	-	2.5	V
Reverse Recovery Time at I_F = 10 mA, I_{rr} = 1 mA, V_R = 6 V, R_L = 100 Ω	t_{rr}	-	4	ns
Rectification Efficiency 1) at f = 100 MHz, V_{RF} = 2 V	η_V	0.45	-	-

1)



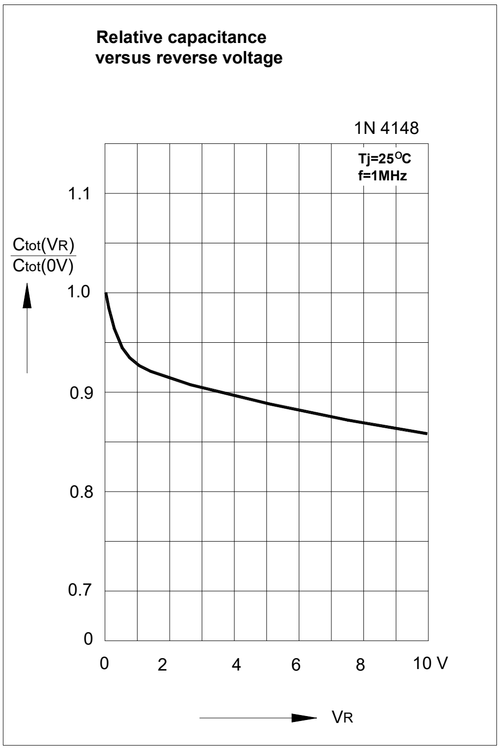
Rectification Efficiency Measurement Circuit

Electrical Characteristics Curves

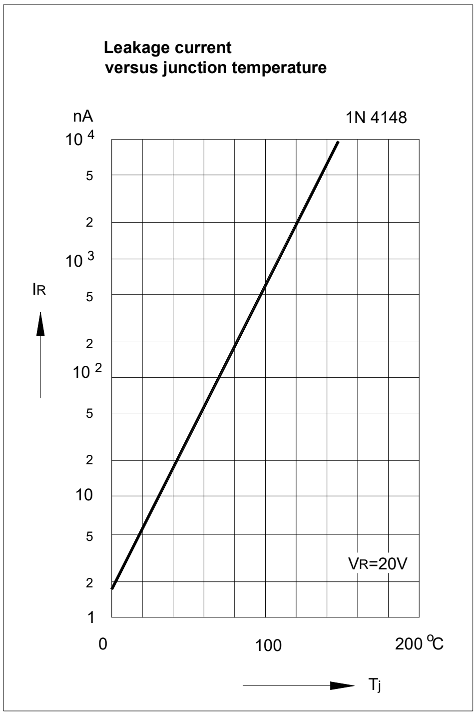


Admissible power dissipation versus ambient temperature

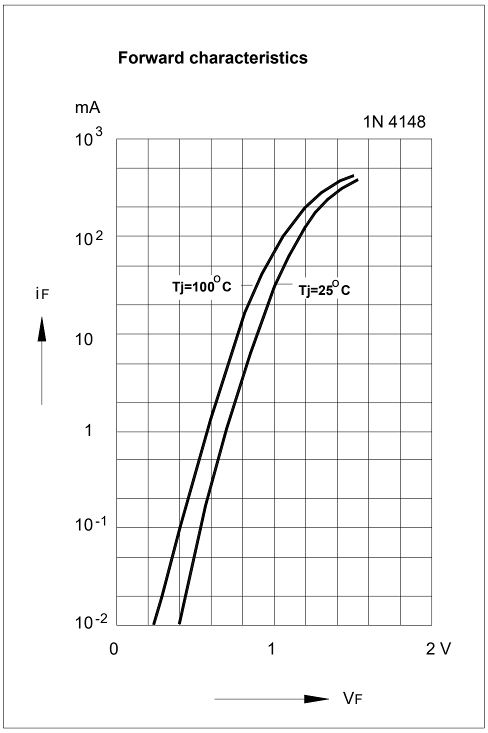
Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature



Relative capacitance versus reverse voltage



Leakage current versus junction temperature



Forward characteristics