1N4148

Silicon Epitaxial Planar Switching Diode

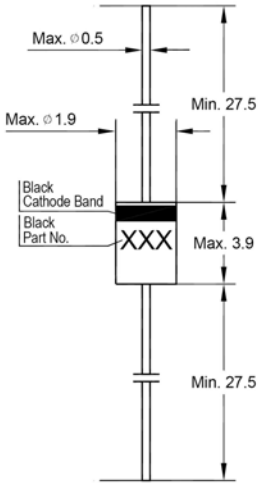
FEATURES

High-speed switching

This diode is also available in MiniMELF case

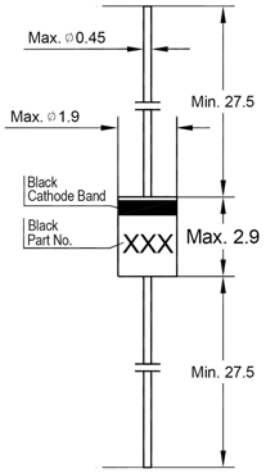
With the type designation LL4148

1N4148



Glass Case DO-35

Dimensions in mm



Glass Case DO-34

Dimensions in mm

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Absolute Maximum Ratings (Ta = 25℃)

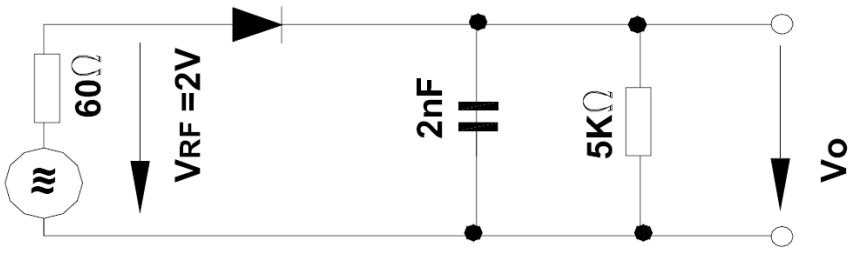
PARAMETER		*SYMBOL*	*VALUE*	*UNIT*
Peak Reverse Voltage		V_{RM}	100	V
Reverse Voltage		V_R	75	V
Average Rectified Forward Current		$I_{F(AV)}$	200	mA
Non-repetitive Peak Forward Surge Current	at t = 1 s	I_{FSM}	0.5	A
	at t = 1 ms		1	
	at t = 1 µs		4	
Power Dissipation		P_{tot}	500 [1)]	mW
Junction Temperature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

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

Characteristics at Ta = 25℃

PARAMETER	*SYMBOL*	MIN.	MAX.	*UNIT*
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
Reverse Breakdown Voltage at I_R = 100 μA at I_R = 5 μA	 $V_{(BR)R}$ $V_{(BR)R}$	 100 75	 - -	 V V
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 to I_R = 1 mA, V_R = 6 V, R_L = 100 Ω	t_{rr}	-	4	ns
Thermal Resistance Junction to Ambient Air	R_{thA}	-	0.35 [1)]	K/mW
Rectification Efficiency at f = 100 MHz, V_{RF} = 2 V	η_V	0.45	-	-

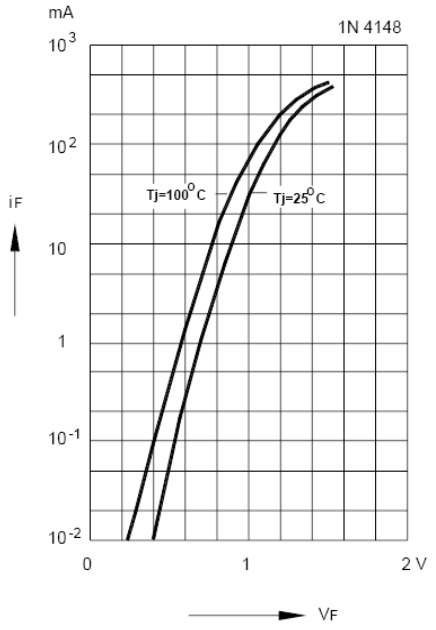
[1)] Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.



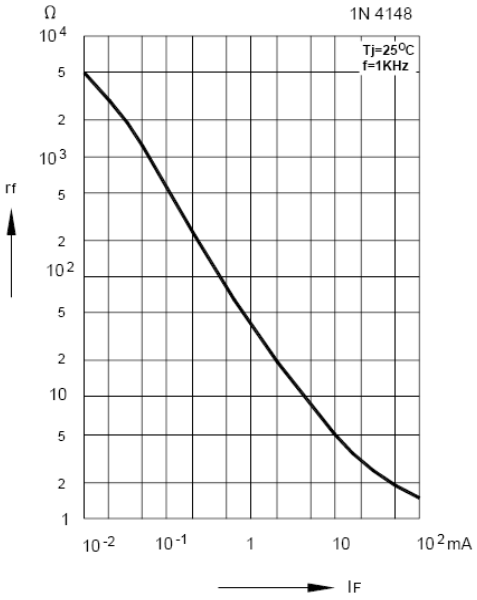
Rectification Efficiency Measurement Circuit

RATINGS AND CHARACTERISTIC CURVES 1N4148

Forward characteristics

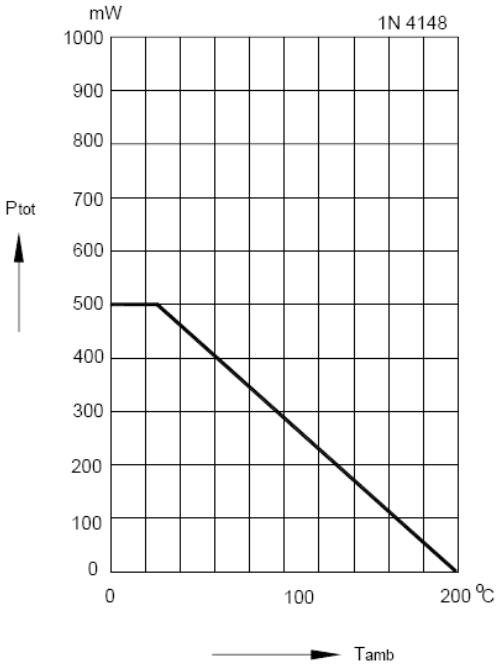


Dynamic forward resistance versus forward current

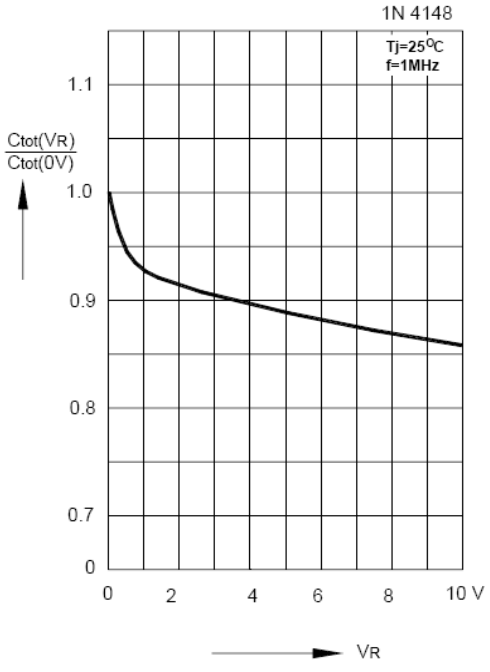


Admissible power dissipation versus ambient temperature

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



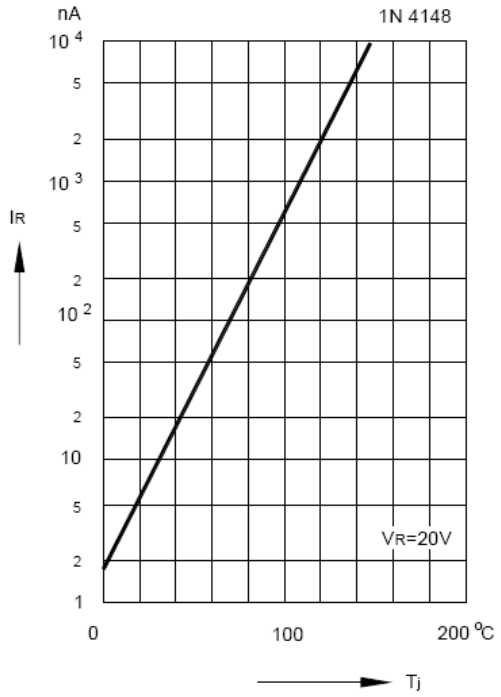
Relative capacitance versus reverse voltage



RATINGS AND CHARACTERISTIC CURVES 1N4148

Leakage current

versus junction temperature



Admissible repetitive peak forward current versus pulse duration

Valid provided that leads at a distance of 8 mm from case

are kept at ambient temperature