

## 1N4148

## Silicon Epitaxial Planar Switching Diode

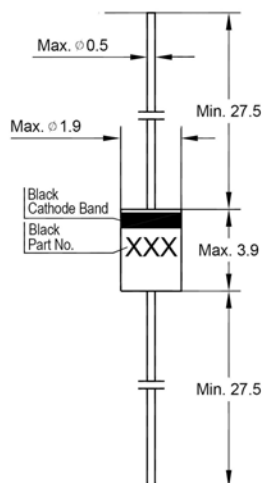
## FEATURES

High-speed switching

This diode is also available in MiniMELF case

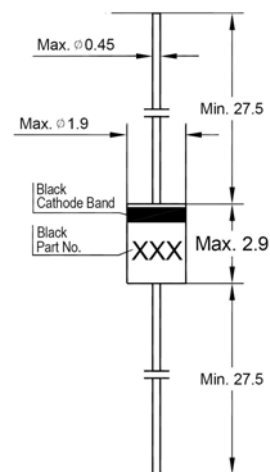
With the type designation LL4148

## 1N4148



Glass Case DO-35

Dimensions in mm



Glass Case DO-34

Dimensions in mm

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

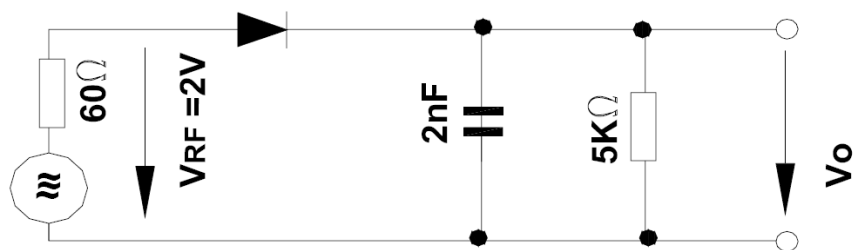
PARAMETER	SYMBOL	VALUE	UNIT
Peak Reverse Voltage	$V_{RM}$	100	V
Reverse Voltage	$V_R$	75	V
Average Rectified Forward Current	$I_{F(AV)}$	200	mA
Non-repetitive Peak Forward Surge Current	$I_{FSM}$	at $t = 1$ s	0.5
		at $t = 1$ ms	1
		at $t = 1$ $\mu\text{s}$	4
Power Dissipation	$P_{tot}$	500 <sup>1)</sup>	mW
Junction Temperature	$T_j$	200	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 65 to + 200	$^\circ\text{C}$

Note : <sup>1)</sup> Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.

Characteristics at Ta = 25°C

PARAMETER	SYMBOL	MIN.	MAX.	UNIT
Forward Voltage at $I_F = 10\text{ mA}$	$V_F$	-	1	V
Leakage Current				
at $V_R = 20\text{ V}$	$I_R$	-	25	nA
at $V_R = 75\text{ V}$	$I_R$	-	5	$\mu\text{A}$
at $V_R = 20\text{ V}, T_j = 150^\circ\text{C}$	$I_R$	-	50	$\mu\text{A}$
Reverse Breakdown Voltage				
at $I_R = 100\ \mu\text{A}$	$V_{(BR)R}$	100	-	V
at $I_R = 5\ \mu\text{A}$	$V_{(BR)R}$	75	-	V
Capacitance				
at $V_R = 0, f = 1\text{ MHz}$	$C_{tot}$	-	4	pF
Voltage Rise when Switching ON				
tested with 50 mA Forward Pulses	$V_{fr}$	-	2.5	V
$t_p = 0.1\text{ s}$ , Rise Time < 30 ns, $f_p = 5\text{ to }100\text{ KHz}$				
Reverse Recovery Time				
at $I_F = 10\text{ mA}$ to $I_R = 1\text{ mA}$ , $V_R = 6\text{ V}$ , $R_L = 100\ \Omega$	$t_{rr}$	-	4	ns
Thermal Resistance Junction to Ambient Air	$R_{thA}$	-	0.35 <sup>1)</sup>	K/mW
Rectification Efficiency at $f = 100\text{ MHz}$ , $V_{RF} = 2\text{ V}$	$\eta_V$	0.45	-	-

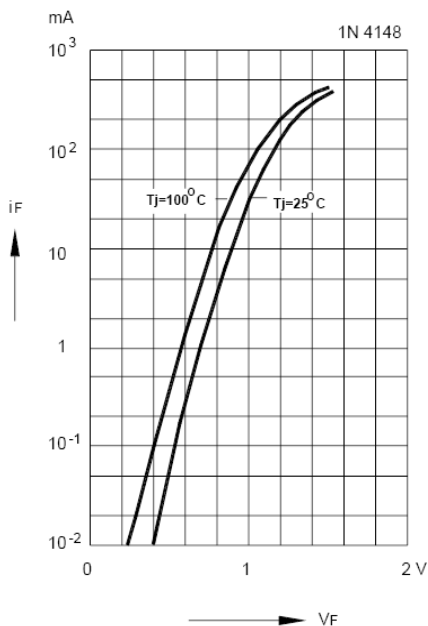
<sup>1)</sup> Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.



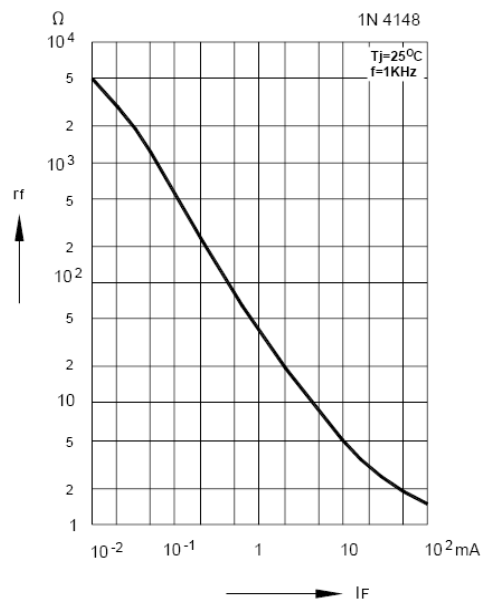
Rectification Efficiency Measurement Circuit

RATINGS AND CHARACTERISTIC CURVES 1N4148

Forward characteristics

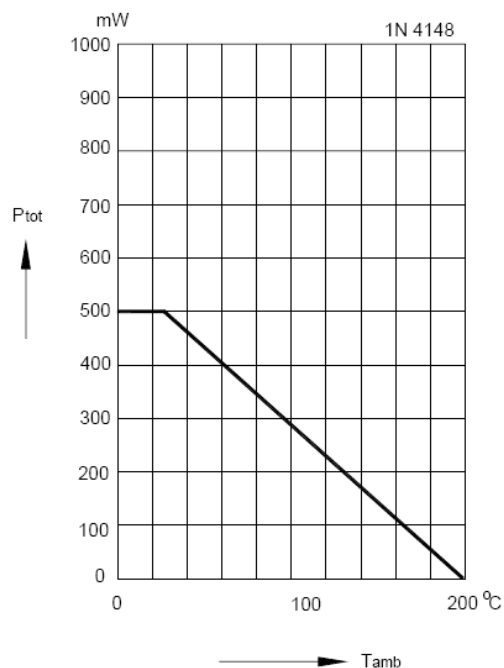


Dynamic forward resistance versus forward current

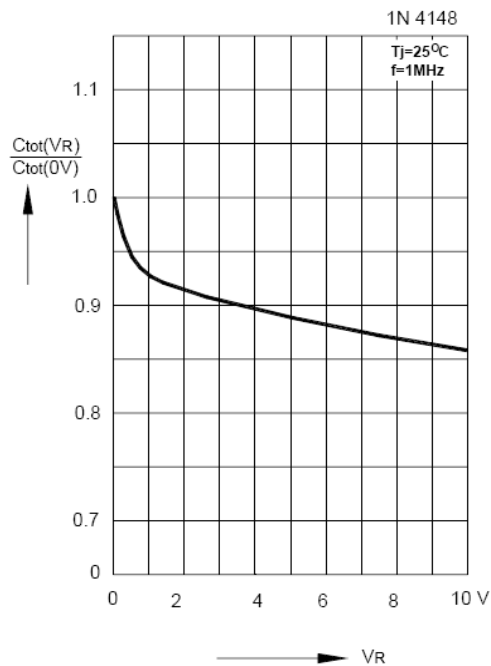


Admissible power dissipation versus ambient temperature

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

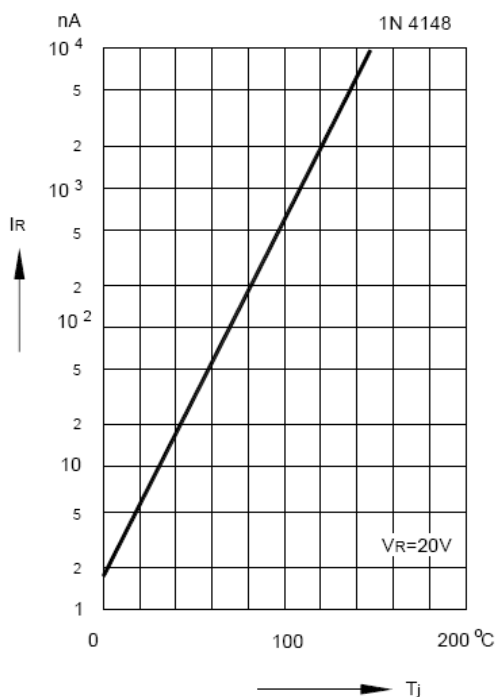


Relative capacitance versus reverse voltage



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

