

1N4148

Silicon Epitaxial Planar Switching Diode

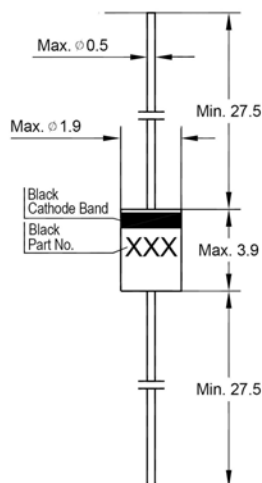
FEATURES

High-speed switching

This diode is also available in MiniMELF case

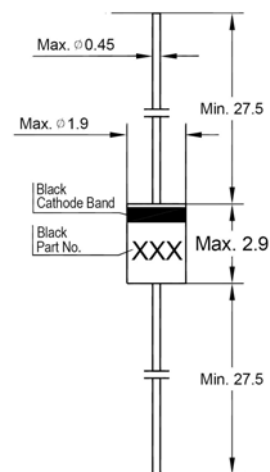
With the type designation LL4148

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°C)

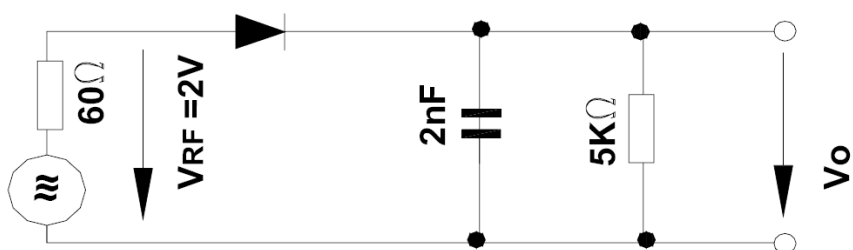
PARAMETER	SYMBOL	VALUE	UNIT
Peak Reverse Voltage	V_{RM}	100	V
Reverse Voltage	V_R	75	V
Average Rectified Forward Current	$I_{F(AV)}$	200	mA
Non-repetitive Peak Forward Surge Current	I_{FSM}	0.5	A
at t = 1 s		1	
at t = 1 ms		4	
Power Dissipation	P_{tot}	500 ¹⁾	mW
Junction Temperature	T_j	200	°C
Storage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

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

Characteristics at $T_a = 25^\circ\text{C}$

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	μA
at $V_R = 20\text{ V}$, $T_j = 150^\circ\text{C}$	I_R	-	50	μA
Reverse Breakdown Voltage				
at $I_R = 100\text{ }\mu\text{A}$	$V_{(BR)R}$	100	-	V
at $I_R = 5\text{ }\mu\text{A}$	$V_{(BR)R}$	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 $< 30\text{ ns}$, $f_p = 5\text{ to }100\text{ KHz}$				
Reverse Recovery Time				
at $I_F = 10\text{ mA}$ to $I_R = 1\text{ mA}$, $V_R = 6\text{ V}$, $R_L = 100\text{ }\Omega$	t_{rr}	-	4	ns
Thermal Resistance Junction to Ambient Air	R_{thA}	-	$0.35^{1)}$	K/mW
Rectification Efficiency at $f = 100\text{ MHz}$, $V_{\text{RF}} = 2\text{ V}$	η_v	0.45	-	-

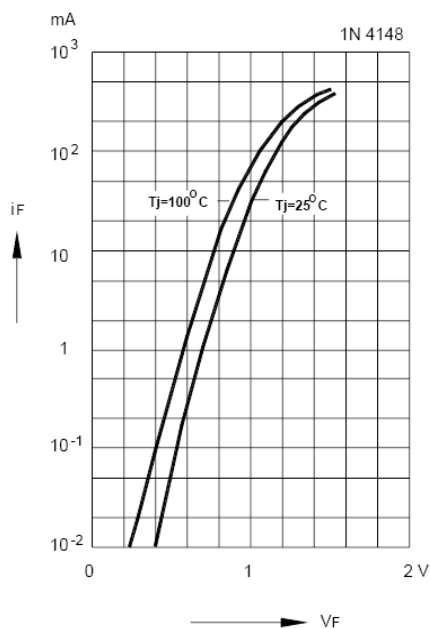
¹⁾ Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.



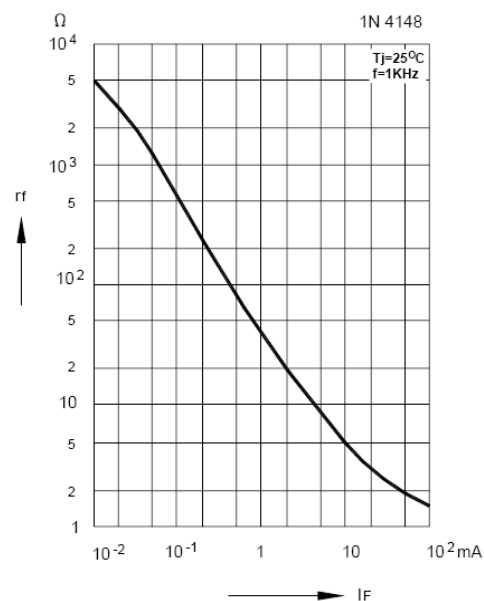
Rectification Efficiency Measurement Circuit

RATINGS AND CHARACTERISTIC CURVES 1N4148

Forward characteristics

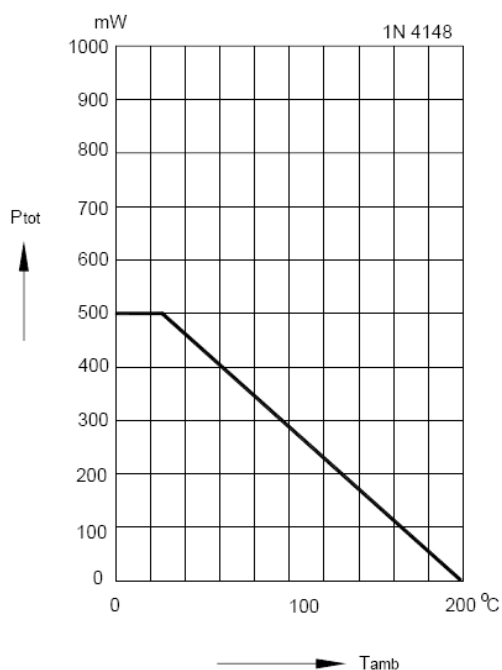


Dynamic forward resistance versus forward current

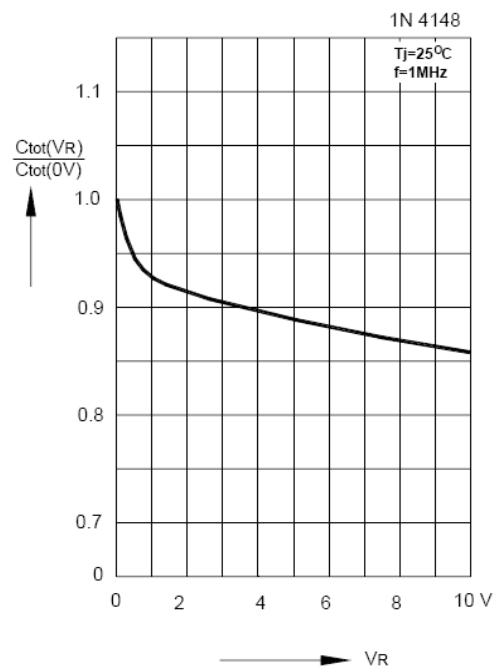


Admissible power dissipation versus ambient temperature

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

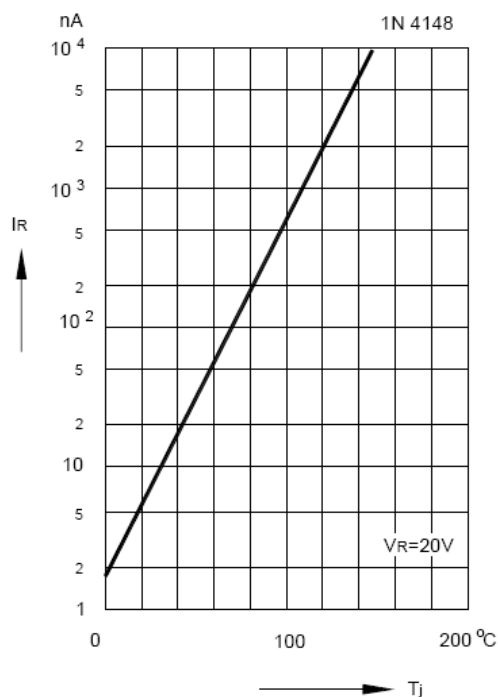


Relative capacitance versus reverse voltage



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

