

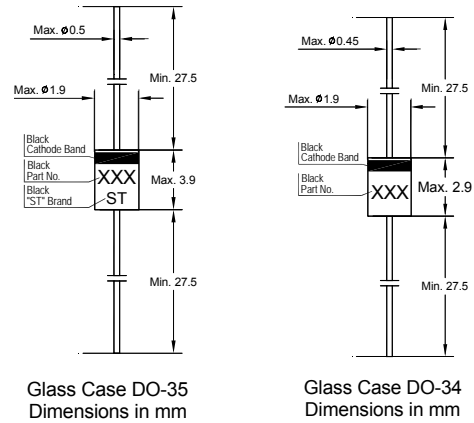
# 1N4148

## Silicon Epitaxial Planar Switching Diode

### Applications

- High-speed switching

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



### 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	$I_{FSM}$	0.5 1 4	A
		at $t = 1\text{ s}$	
		at $t = 1\text{ ms}$	
		at $t = 1\text{ }\mu\text{s}$	
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	$^\circ\text{C}$

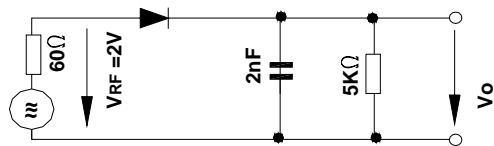
<sup>1)</sup> Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.

# 1N4148

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

Parameter	Symbol	Min.	Max.	Unit
Forward Voltage at $I_F = 10\text{ mA}$	$V_F$	-	1	V
Leakage Current at $V_R = 20\text{ V}$ at $V_R = 75\text{ V}$ at $V_R = 20\text{ V}$ , $T_j = 150\text{ }^\circ\text{C}$	$I_R$ $I_R$ $I_R$	- - -	25 5 50	nA $\mu\text{A}$ $\mu\text{A}$
Reverse Breakdown Voltage at $I_R = 100\text{ }\mu\text{A}$ at $I_R = 5\text{ }\mu\text{A}$	$V_{(BR)R}$ $V_{(BR)R}$	100 75	- -	V 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 $t_p = 0.1\text{ s}$ , Rise Time < 30 ns, $f_p = 5\text{ to }100\text{ KHz}$	$V_{fr}$	-	2.5	V
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 <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

