

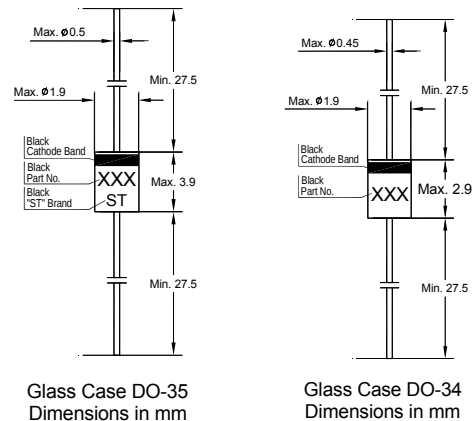
1N4148

Silicon Epitaxial Planar Switching Diode

Applications

- High-speed switching

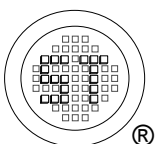
This diode is also available in MiniMELF case with the type designation LL4148



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
Power Dissipation	P_{tot}	500 ¹⁾	mW
Junction Temperature	T_j	200	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 200	$^\circ\text{C}$

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



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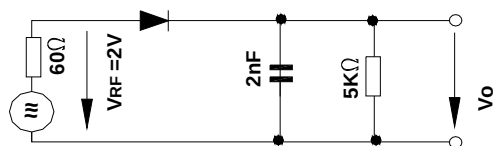


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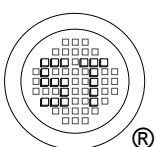
Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 100\ \mu\text{A}$ at $I_R = 5\ \mu\text{A}$	$V_{(BR)R}$ $V_{(BR)R}$	100 75	- -	V V
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 $V_R = 20\ \text{V}$, $T_j = 150^\circ\text{C}$	I_R I_R I_R	- - -	25 5 50	nA μA μA
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 $< 30\ \text{ns}$, $f_p = 5\ \text{to}\ 100\ \text{KHz}$	V_{fr}	-	2.5	V
Reverse Recovery Time at $I_F = 10\ \text{mA}$, $I_{rr} = 1\ \text{mA}$, $V_R = 6\ \text{V}$, $R_L = 100\ \Omega$	t_{rr}	-	4	ns
Thermal Resistance Junction to Ambient Air	R_{thA}	-	0.35 ¹⁾	K/mW
Rectification Efficiency at $f = 100\ \text{MHz}$, $V_{RF} = 2\ \text{V}$	η_v	0.45	-	-

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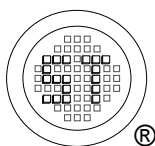
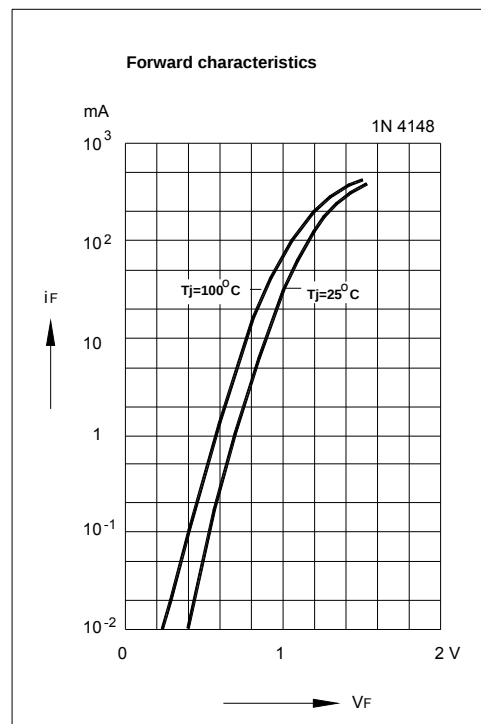
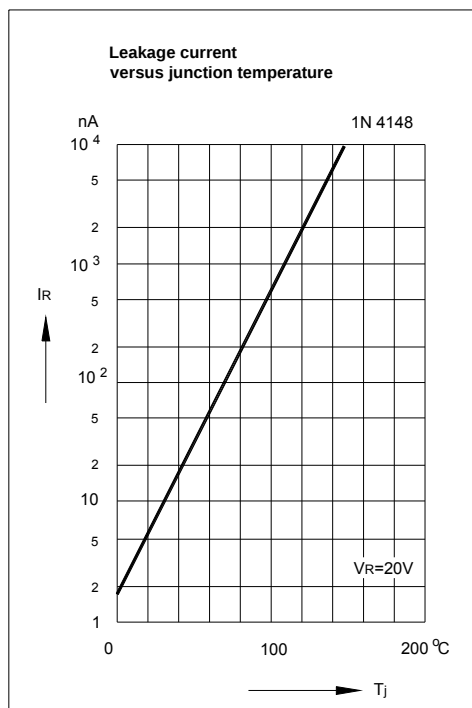
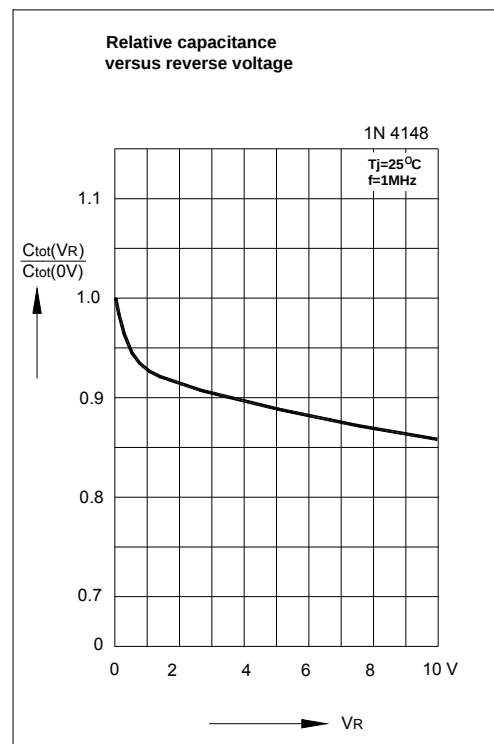
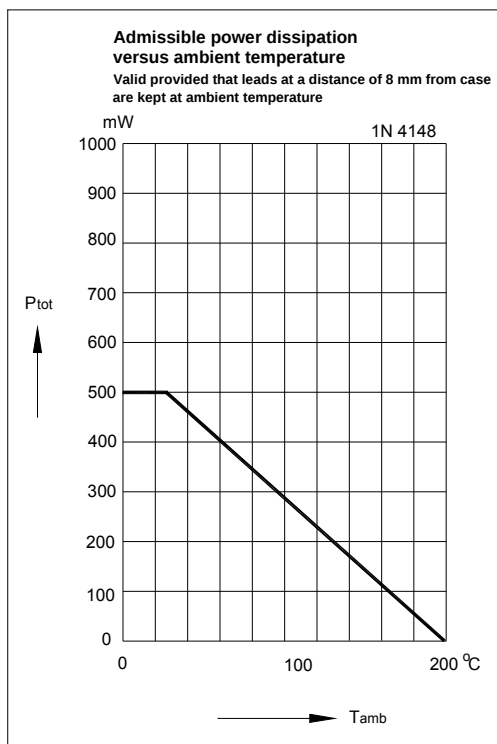
Rectification Efficiency Measurement Circuit



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