

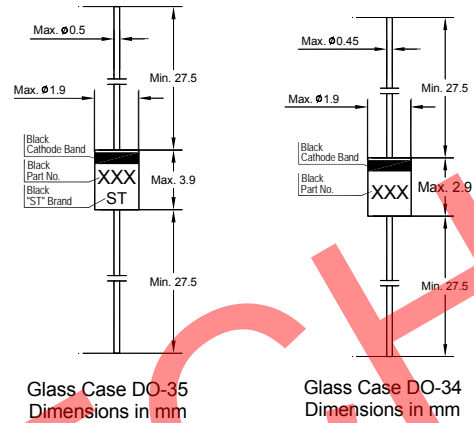
1N4148

Silicon Epitaxial Planar Switching Diode

Applications

- High-speed switching

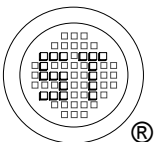
This diode is also available in MiniMELF case with the type designation LL4148



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}	at $t = 1$ s	0.5
		at $t = 1$ ms	1
		at $t = 1$ μ s	4
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.



SEMTECH ELECTRONICS LTD.
Subsidiary of Sino-Tech International (BVI) Limited

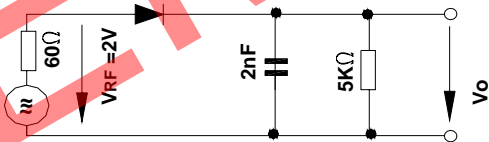


1N4148

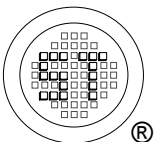
Characteristics at $T_a = 25^\circ\text{C}$

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 ns, $f_p = 5 \text{ to } 100 \text{ KHz}$	V_{fr}	-	2.5	V
Reverse Recovery Time at $I_F = 10 \text{ mA}$ to $I_R = 1 \text{ mA}$, $I_{\text{rr}} = 0.1 \times I_R$, $V_R = 6 \text{ V}$, $R_L = 100 \Omega$	t_{rr}	-	4	ns
Thermal Resistance Junction to Ambient Air	R_{thA}	-	0.35 ¹⁾	K/mW
Rectification Efficiency at $f = 100 \text{ MHz}$, $V_{\text{RF}} = 2 \text{ V}$	η_v	0.45	-	-

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

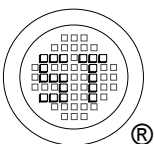
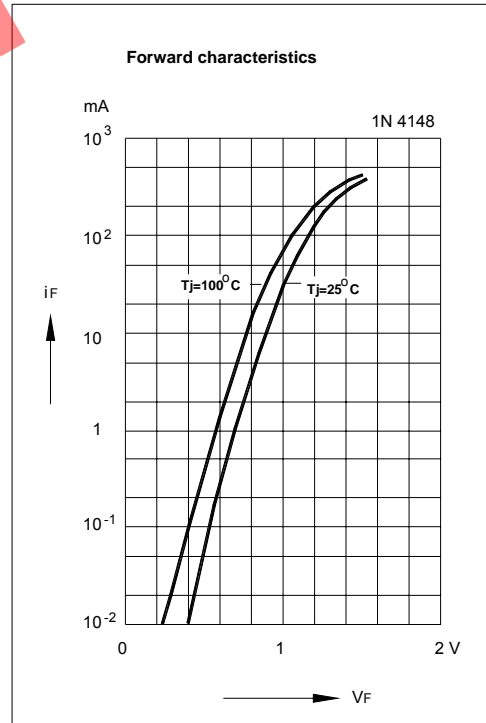
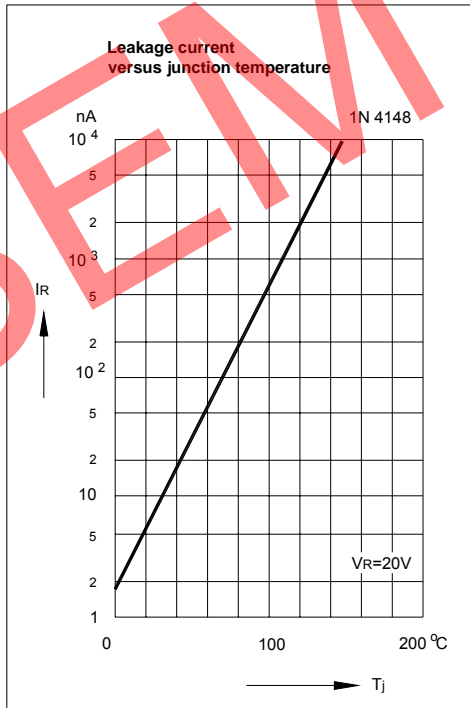
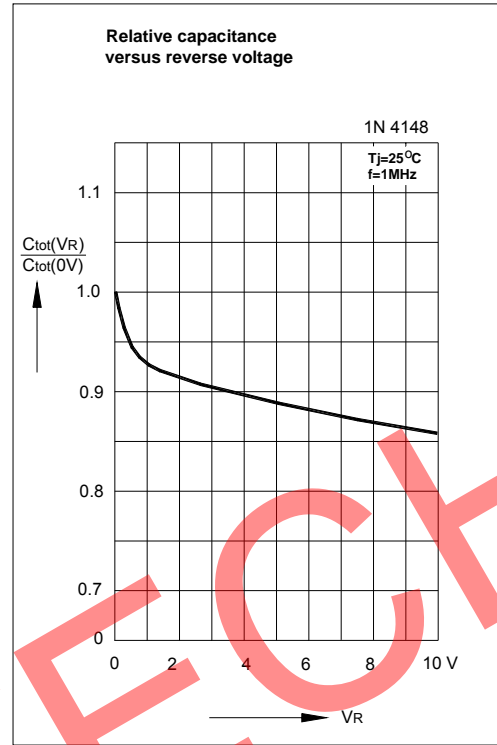
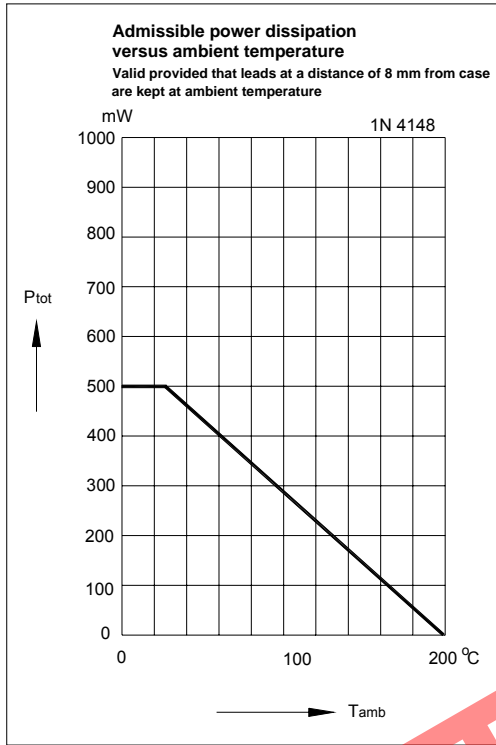


Rectification Efficiency Measurement Circuit



SEMTECH ELECTRONICS LTD.
Subsidiary of Sino-Tech International (BVI) Limited





SEMTECH ELECTRONICS LTD.
 Subsidiary of Sino-Tech International (BVI) Limited

