

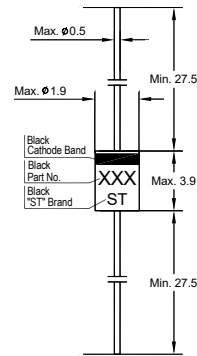
# 1N4148

## Silicon Epitaxial Planar Switching Diode

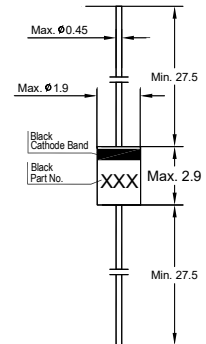
### Applications

- High-speed switching

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



Glass Case DO-35  
Dimensions in mm



Glass Case DO-34  
Dimensions in mm

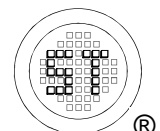
### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

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 $t = 1$ $\mu$ s	4
Power Dissipation	$P_{tot}$	500	mW
Operating Junction Temperature Range	$T_j$	- 65 to + 200	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 65 to + 200	$^\circ\text{C}$

### Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance - Junction to Lead <sup>1)</sup>	$R_{\theta JL}$	350	$^\circ\text{C/W}$

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

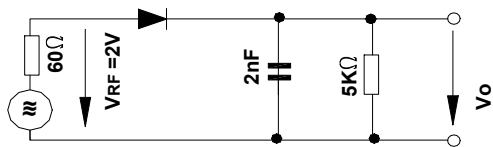


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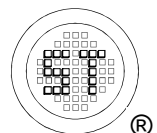
## Characteristics at $T_a = 25^\circ\text{C}$

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 $\mu\text{A}$ $\mu\text{A}$
Capacitance at $V_R = 0, f = 1 \text{ MHz}$	$C_{\text{tot}}$	-	4	pF
Voltage Rise when Switching ON tested with 50 mA Forward Pulses $t_p = 0.1 \text{ s}$ , Rise Time < 30 ns, $f_p = 5 \text{ to } 100 \text{ KHz}$	$V_{\text{fr}}$	-	2.5	V
Reverse Recovery Time at $I_F = 10 \text{ mA}$ , $I_{\text{rr}} = 1 \text{ mA}$ , $V_R = 6 \text{ V}$ , $R_L = 100 \Omega$	$t_{\text{rr}}$	-	4	ns
Rectification Efficiency <sup>1)</sup> at $f = 100 \text{ MHz}$ , $V_{\text{RF}} = 2 \text{ V}$	$\eta_V$	0.45	-	-

1)



Rectification Efficiency Measurement Circuit



## Electrical Characteristics Curve

Fig 1. Power Derating Curve

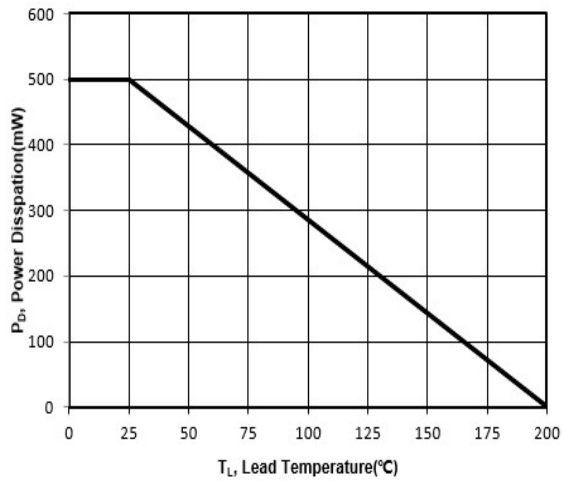


Fig 2. Forward Characteristic Curve

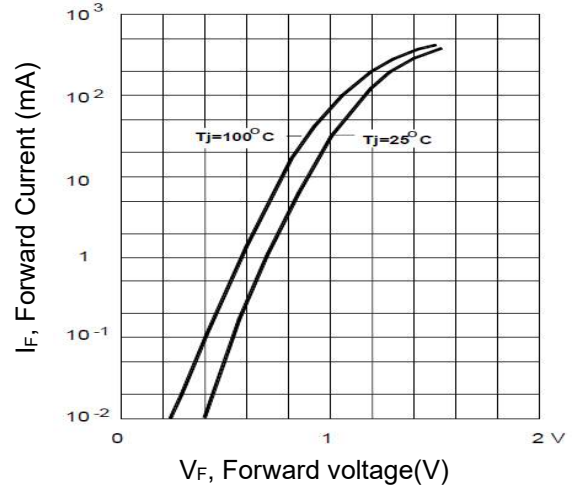


Fig 3. Reverse Characteristic Curve

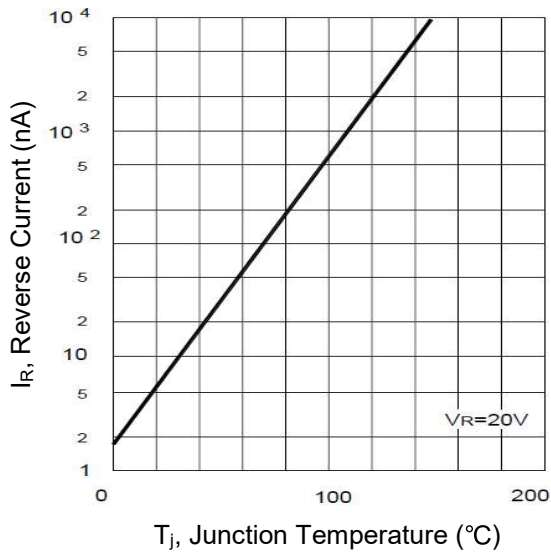


Fig 4. Junction Capacitance

