

# Kingtronics®

# 1N4148

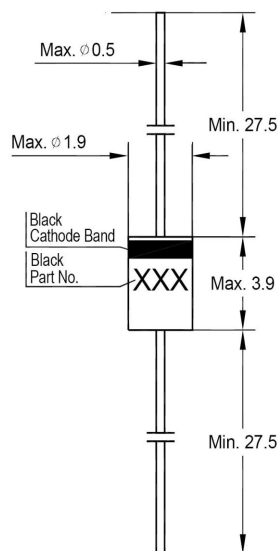
## Silicon Epitaxial Planar Switching Diode

### FEATURES

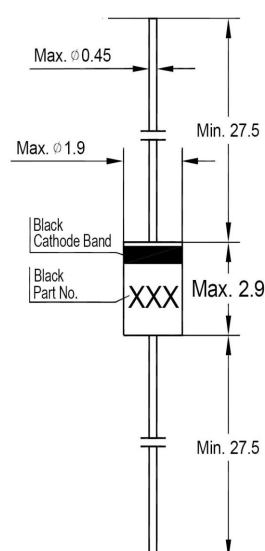
High-speed switching

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 (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	$I_{FSM}$	at t = 1 s	0.5
		at t = 1 ms	1
		at t = 1 $\mu$ s	4
Power Dissipation	$P_{tot}$	500 <sup>1)</sup>	mW
Junction Temperature	$T_j$	200	°C
Storage Temperature Range	$T_{stg}$	- 65 to + 200	°C

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

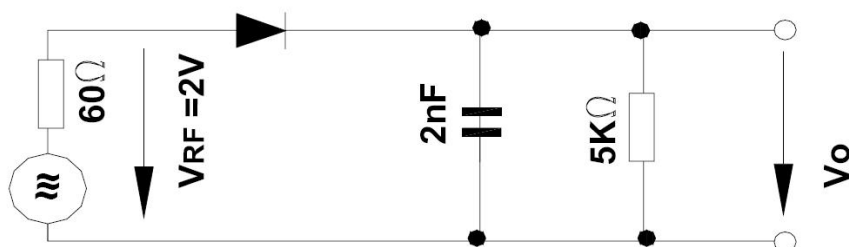
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**Kingtronics**®**1N4148**Silicon Epitaxial Planar  
Switching Diode**Characteristics at Ta = 25°C**

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	$\mu\text{A}$
at $V_R = 20\text{ V}$ , $T_j = 150^\circ\text{C}$	$I_R$	-	50	$\mu\text{A}$
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 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 <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.

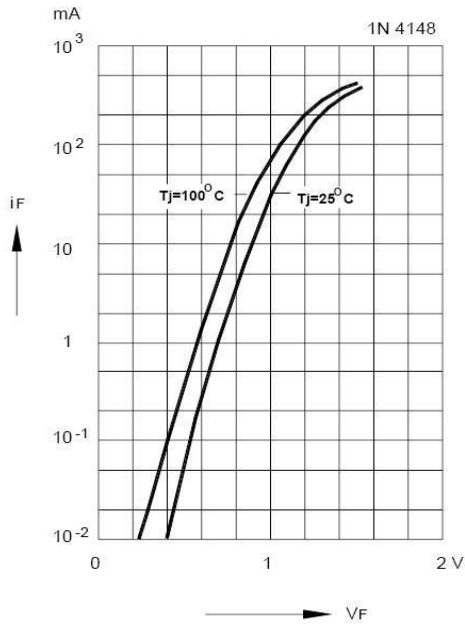
**Rectification Efficiency Measurement Circuit****Kingtronics**® International Company

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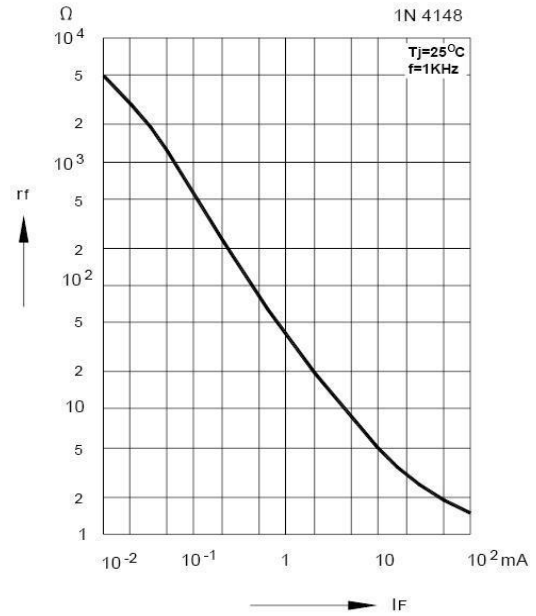
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Switching Diode

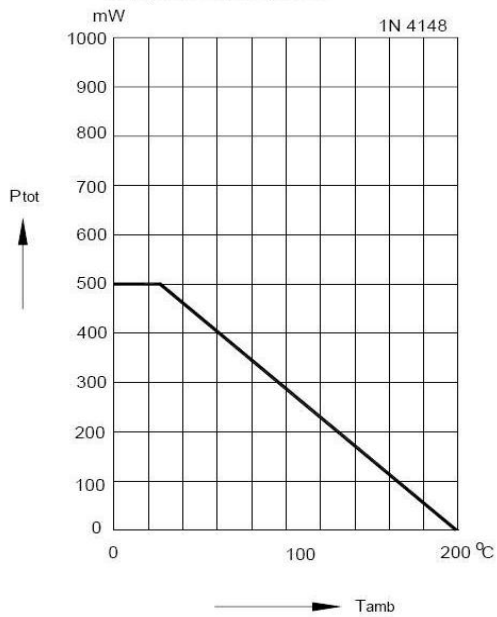
Forward characteristics



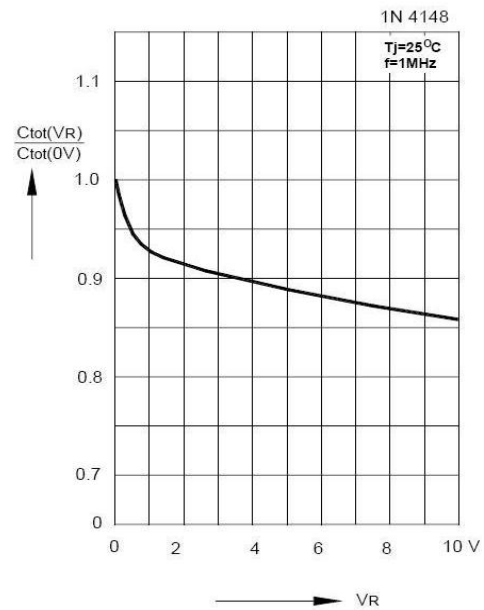
Dynamic forward resistance versus forward current



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



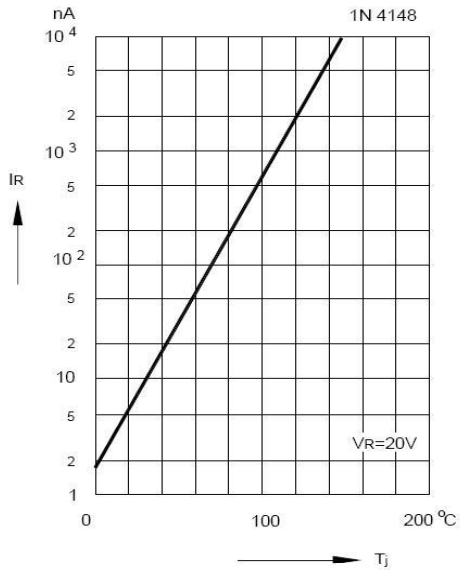
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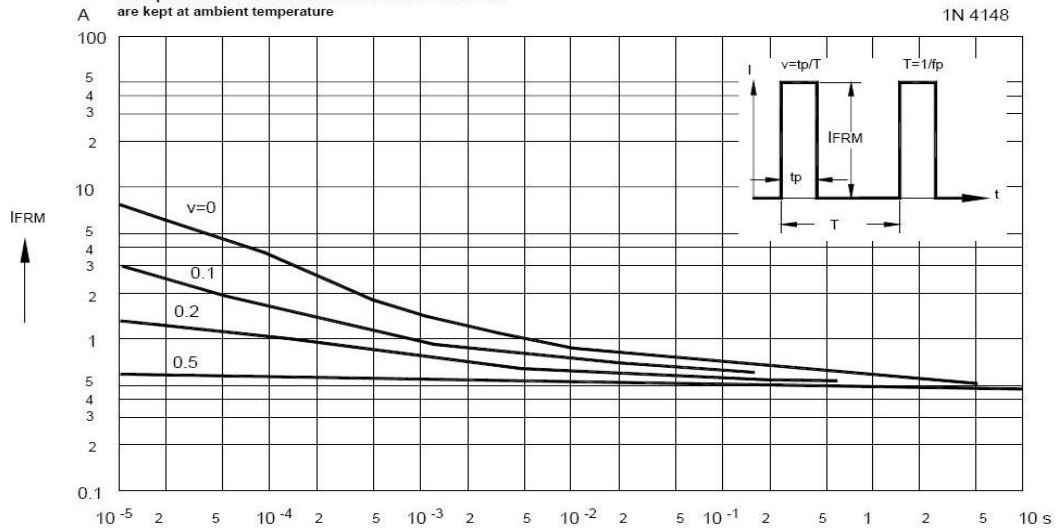
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Silicon Epitaxial Planar  
Switching Diode

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



Note: Specifications are subject to change without notice.

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