

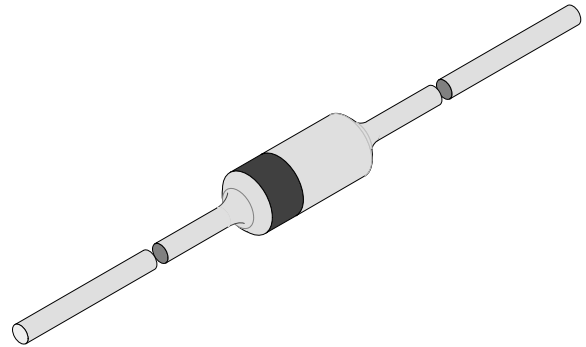
Silicon Epitaxial Planar Diodes

Features

- Electrically equivalent diodes:
1N4148 – 1N914
1N4448 – 1N914B

Applications

Extreme fast switches



94 9367

Absolute Maximum Ratings

$T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Value	Unit
Repetitive peak reverse voltage			V_{RRM}	100	V
Reverse voltage			V_R	75	V
Peak forward surge current	$t_p = 1\mu\text{s}$		I_{FSM}	2	A
Repetitive peak forward current			I_{FRM}	500	mA
Forward current			I_F	300	mA
Average forward current	$V_R = 0$		I_{FAV}	150	mA
Power dissipation	$l = 4\text{mm}, T_L = 45^\circ\text{C}$		P_V	440	mW
	$l = 4\text{mm}, T_L \leq 25^\circ\text{C}$		P_V	500	mW
Junction temperature			T_j	200	$^\circ\text{C}$
Storage temperature range			T_{stg}	-65...+200	$^\circ\text{C}$

Maximum Thermal Resistance

$T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	$l = 4\text{mm}, T_L = \text{constant}$	R_{thJA}	350	K/W

Characteristics

$T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F=5\text{mA}$	1N4448	V_F	0.62		0.72	V
	$I_F=10\text{mA}$	1N4148	V_F			1	V
	$I_F=100\text{mA}$	1N4448	V_F			1	V
Reverse current	$V_R=20\text{ V}$		I_R			25	nA
	$V_R=20\text{ V}, T_j=150^\circ\text{C}$		I_R			50	μA
	$V_R=75\text{ V}$		I_R			5	μA
Breakdown voltage	$I_R=100\mu\text{A}, t_p/T=0.01, t_p=0.3\text{ms}$		$V_{(BR)}$	100			V
Diode capacitance	$V_R=0, f=1\text{MHz}, V_{HF}=50\text{mV}$		C_D			4	pF
Rectification efficiency	$V_{HF}=2\text{V}, f=100\text{MHz}$		η_r	45			%
Reverse recovery time	$I_F=I_R=10\text{mA}, i_R=1\text{mA}$		t_{rr}			8	ns
	$I_F=10\text{mA}, V_R=6\text{V}, i_R=0.1 \times I_R, R_L=100\Omega$		t_{rr}			4	ns

Typical Characteristics ($T_j = 25^\circ\text{C}$ unless otherwise specified)

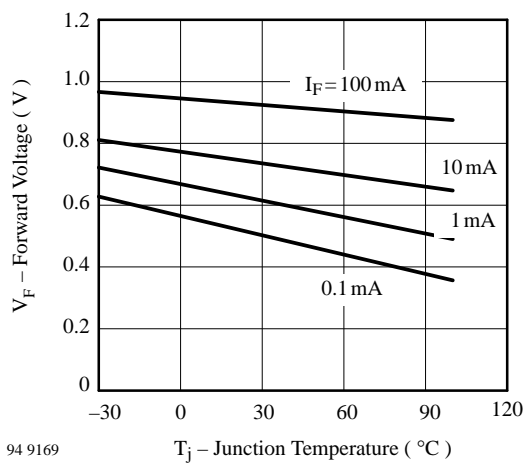


Figure 1. Forward Voltage vs. Junction Temperature

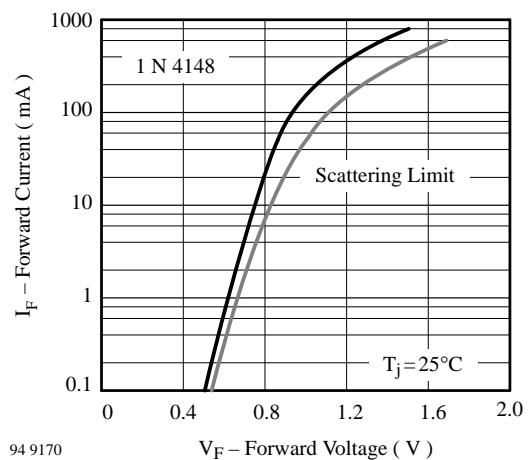


Figure 2. Forward Current vs. Forward Voltage

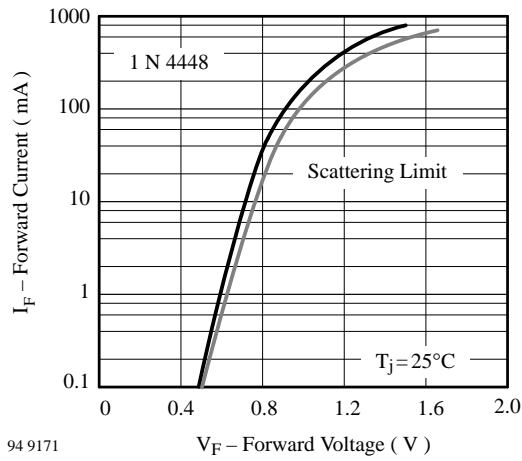


Figure 3. Forward Current vs. Forward Voltage

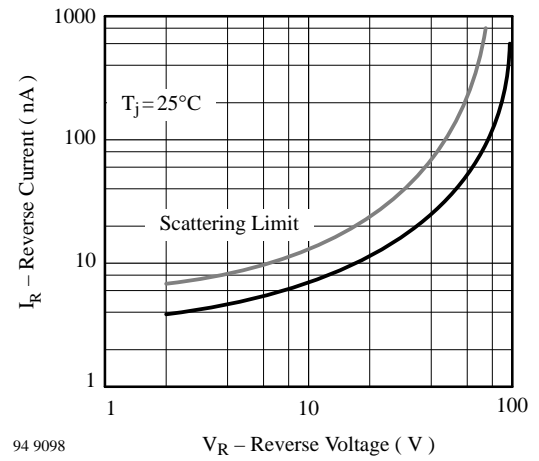


Figure 4. Reverse Current vs. Reverse Voltage

Dimensions in mm



technical drawings
according to DIN
specifications

94 9366

Standard Glass Case
54 A 2 DIN 41880
JEDEC DO 35
Weight max. 0.3 g

