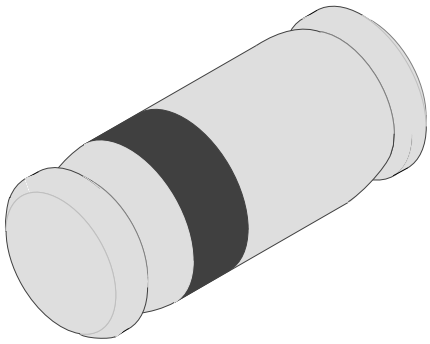
Fast Switching Diode

Features

- Silicon Epitaxial Planar Diodes
- Electrical data identical with the devices 1N4148 and 1N4448 respectively



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Applications

Extreme fast switches

Order Instruction

Type	Type Differentiation	Ordering Code	Remarks
LL4148	V_{RRM} = 100 V, V_F@I_F 50mA = 1 V	LL4148 – GS08	Tape and Reel
LL4448	V_{RRM} = 100 V, V_F@I_F 100mA = 1 V	LL4448 – GS08	Tape and Reel

Absolute Maximum Ratings

T_j = 25°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=1μs		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			P_V	500	mW
Junction temperature			T_j	175	°C
Storage temperature range			T_{stg}	–65...+175	°C

Maximum Thermal Resistance

T_j = 25°C

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	on PC board 50mmx50mmx1.6mm	R_{thJA}	500	K/W

Electrical Characteristics

T_j = 25°C

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F=5mA	LL4448	V_F	0.62		0.72	V
	I_F=50mA	LL4148	V_F		0.86	1	V
	I_F=100mA	LL4448	V_F		0.93	1	V
Reverse current	V_R=20V		I_R			25	nA
	V_R=20V, T_j=150°C		I_R			50	µA
	V_R=75V		I_R			5	µA
Breakdown voltage	I_R=100µA, t_p/T=0.01, t_p=0.3ms		$V_{(BR)}$	100			V
Diode capacitance	V_R=0, f=1MHz, V_{HF}=50mV		C_D			4	pF
Rectification efficiency	V_{HF}=2V, f=100MHz		η_r	45			%
Reverse recovery time	I_F=I_R=10mA, i_R=1mA		t_{rr}			8	ns
	I_F=10mA, V_R=6V, i_R=0.1xI_R, R_L=100Ω		t_{rr}			4	ns

Characteristics (T_j = 25°C unless otherwise specified)

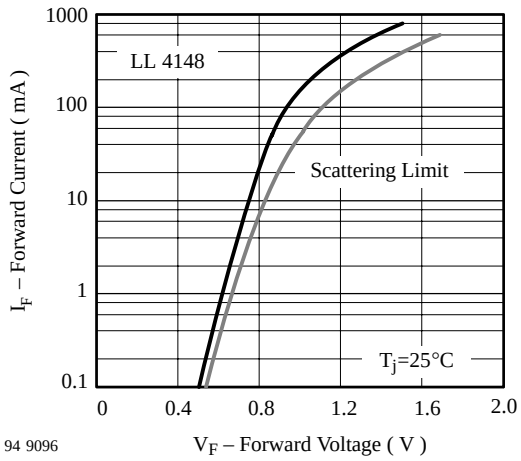


Figure 1. Forward Current vs. Forward Voltage

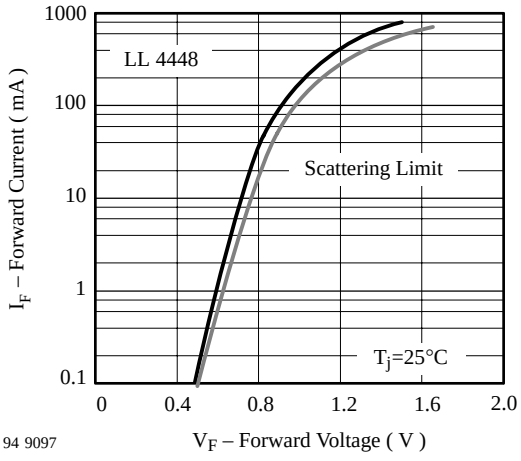


Figure 2. Forward Current vs. Forward Voltage

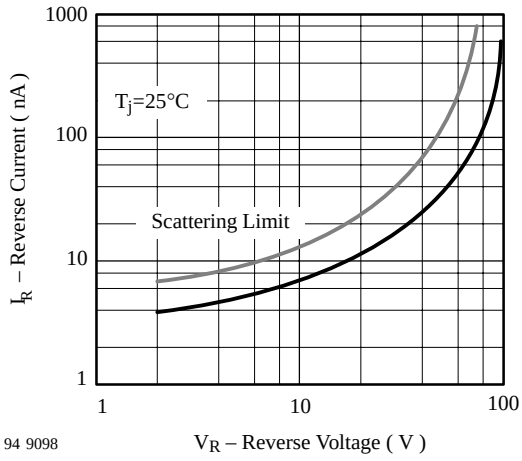


Figure 3. Reverse Current vs. Reverse Voltage

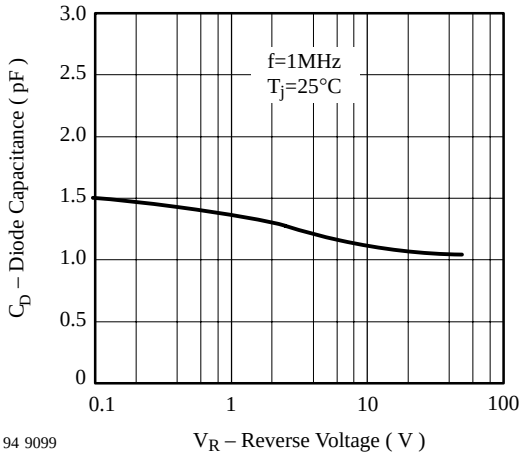
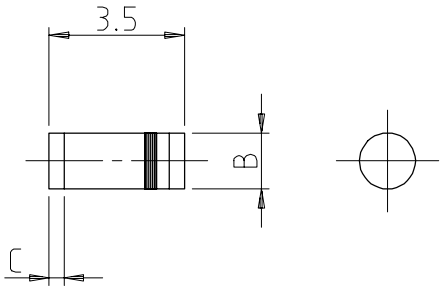


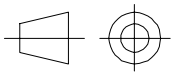
Figure 4. Diode Capacitance vs. Reverse Voltage

Dimensions in mm



MiniMELF		
Dim	Min	Max
A	3.30	3.70
B	1.30	1.60
C	0.28	0.50
All Dimensions in mm		

15833



technical drawings
according to DIN
specifications