

Small Signal Fast Switching Diodes



Features:

- Silicon epitaxial planar diodes.
- Electrical data identical with the devices 1N4148 and 1N4448 respectively.
- Lead (Pb)-free component.
- Component in acc. to RoHS 2002/95/EC and WEEE 2002/96/EC.

Applications : Extreme fast switches

Mechanical Data

Case	: MiniMELF Glass Case (SOD80).
Weight	: Approx. 31mg.
Cathode Band Color	: Black.
Packaging Codes/Options	: GS18/10k per 13inch reel (8mm tape), 10k/box GS08/2.5k per 7inch reel (8mm tape), 12.5k/box.

Parts Table

Part	Type Differentiation	Ordering Code	Remarks
LL4148	$V_{RRM} = 100V$, $V_F = \text{Maximum } 1000 \text{ mV at } I_F = 50\text{mA}$	LL4148-GS18 or LL4148-GS08	Tape and Reel
LL4448	$V_{RRM} = 100V$, $V_F = \text{Maximum } 1000 \text{ mV at } I_F = 100\text{mA}$	LL4448-GS18 or LL4448-GS08	Tape and Reel

Absolute Maximum Ratings ($T_{amb} = 25^\circ\text{C}$, unless otherwise specified)

Parameter	Test Condition	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	-	V_{RRM}	100	V
Reverse Voltage	-	V_R	75	
Peak Forward Surge Current	$t_p = 1 \mu\text{S}$	I_{FSM}	2	A
Repetitive Peak Forward Current	-	I_{FRM}	500	mA
Forward Continuous Current	-	I_F	300	
Average Forward Current	$V_R = 0$	I_{FAV}	150	
Power Dissipation	-	P_V	500	mW

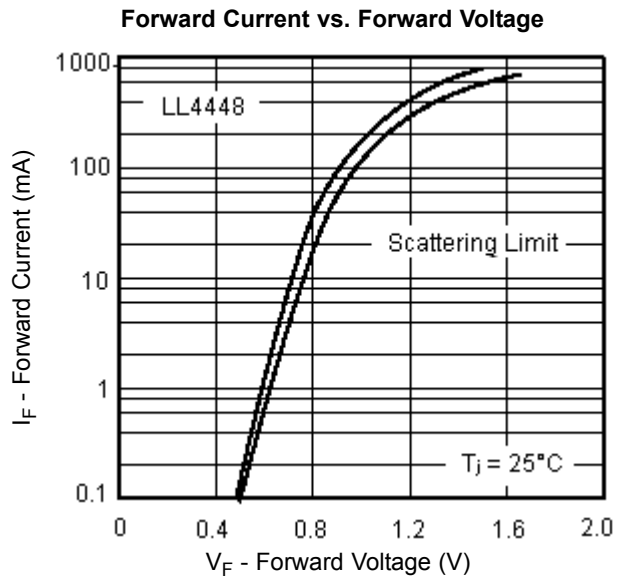
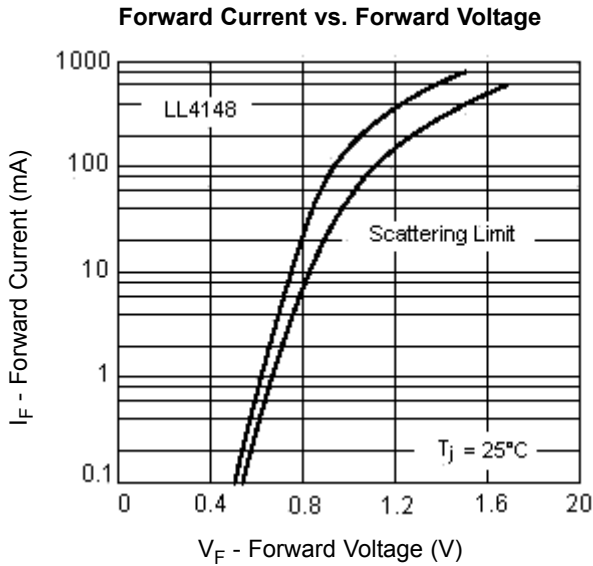
Thermal Characteristics ($T_{amb} = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Test Condition	Symbol	Value	Unit
Junction to Ambient Air	on PC Board 50mm x 50mm x 1.6mm	V_{RRM}	100	V
Junction Temperature	-	V_R	75	
Storage Temperature Range	-	I_{FSM}	2	A

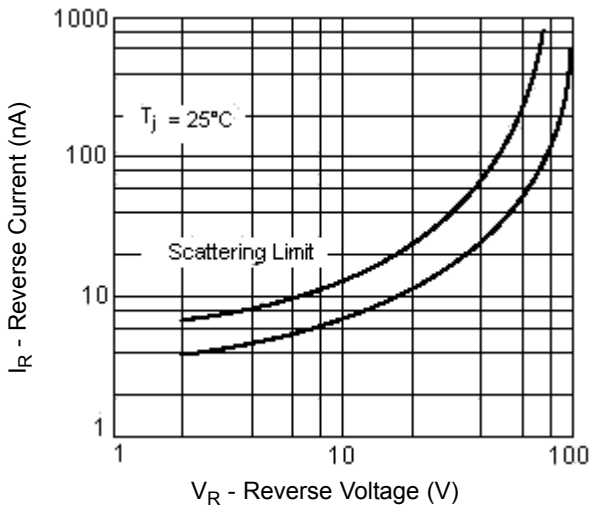
Electrical Characteristics (T_{amb} = 25°C, unless otherwise specified)

Parameter	Test Condition	Part	Symbol	Minimum	Typical	Maximum	Unit
Forward voltage	I _F = 5mA	LL4448	V _F		-	720	mV
	I _F = 50mA	LL4148	V _F	620	860	1000	mV
	I _F = 100mA	LL4448	V _F		930	1000	mV
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 = 100 μA, tp/T = 0.01, tp = 0.3ms	-	V _(BR)	100	-	-	V
Diode capacitance	V _R = 0, f = 1 MHz, V _{Hf} = 50mV	-	C _D	-	-	4	pF
Rectification efficiency	V _{Hf} = 2 V, 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 = 0.1 x I _R , R _L = 100Ω	-	t _{rr}			4	ns

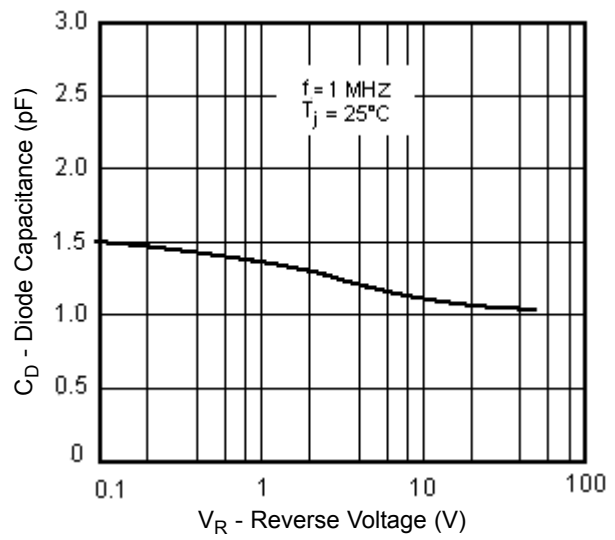
Typical Characteristics (T_{amb} = 25°C, unless otherwise specified)



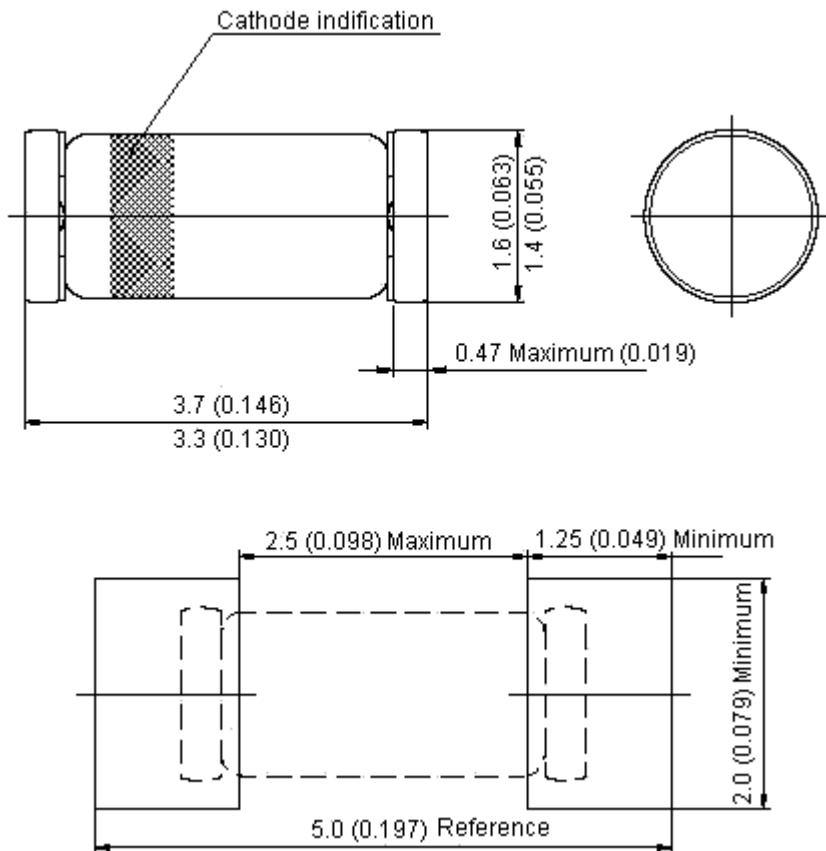
Reverse Current vs. Reverse Voltage



Diode Capacitance vs. Reverse Voltage



Package



Dimensions: Millimetres (Inches)

Part Number Table

Description	Part Number
Diode, High Speed, Mini-Melf	LL4448

Notes:

International Sales Offices:

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