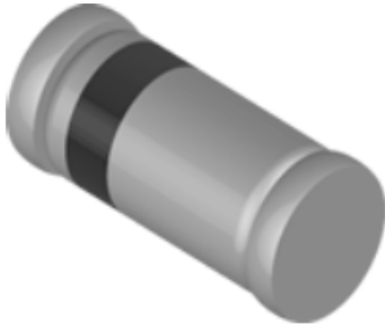


## Small Signal Fast Switching Diodes



### 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

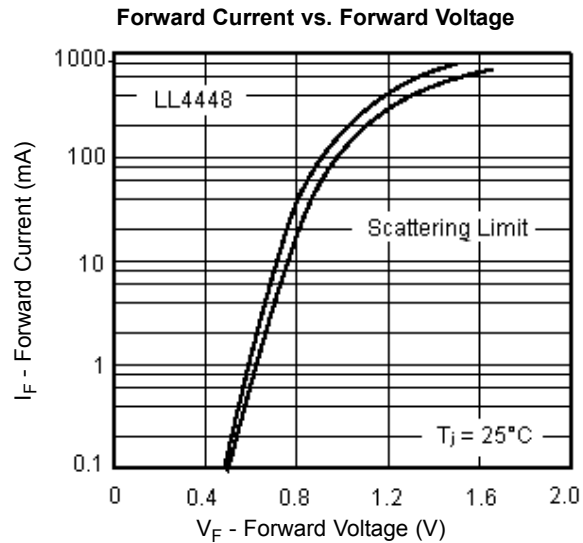
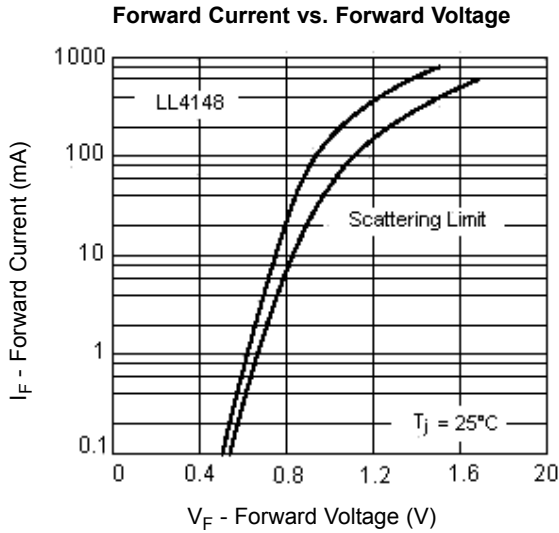
### Thermal Characteristics ( $T_{amb} = 25^\circ\text{C}$ unless otherwise specified)

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

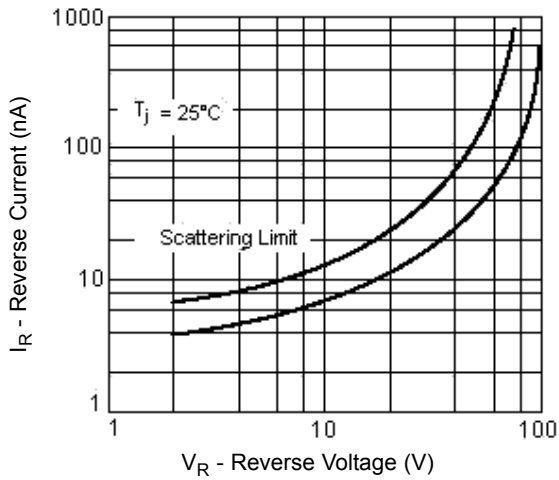
## Electrical Characteristics (T<sub>amb</sub> = 25°C, unless otherwise specified)

Parameter	Test Condition	Part	Symbol	Minimum	Typical	Maximum	Unit
Forward voltage	I <sub>F</sub> = 5mA	LL4448	V <sub>F</sub>		-	720	mV
	I <sub>F</sub> = 50mA	LL4148	V <sub>F</sub>	620	860	1000	mV
	I <sub>F</sub> = 100mA	LL4448	V <sub>F</sub>		930	1000	mV
Reverse current	V <sub>R</sub> = 20V	-	I <sub>R</sub>			25	nA
	V <sub>R</sub> = 20V, T <sub>J</sub> = 150°C	-	I <sub>R</sub>	-	-	50	μA
	V <sub>R</sub> = 75V	-	I <sub>R</sub>			5	μA
Breakdown voltage	I <sub>R</sub> = 100 μA, tp/T = 0.01, tp = 0.3ms	-	V <sub>(BR)</sub>	100	-	-	V
Diode capacitance	V <sub>R</sub> = 0, f = 1 MHz, V <sub>HF</sub> = 50mV	-	C <sub>D</sub>	-	-	4	pF
Rectification efficiency	V <sub>HF</sub> = 2 V, f = 100MHz	-	η <sub>r</sub>	45	-	-	%
Reverse recovery time	I <sub>F</sub> = I <sub>R</sub> = 10mA, I <sub>R</sub> = 1mA	-	t <sub>rr</sub>			8	ns
	I <sub>F</sub> = 10mA, V <sub>R</sub> = 6V, I <sub>R</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100Ω	-	t <sub>rr</sub>			4	ns

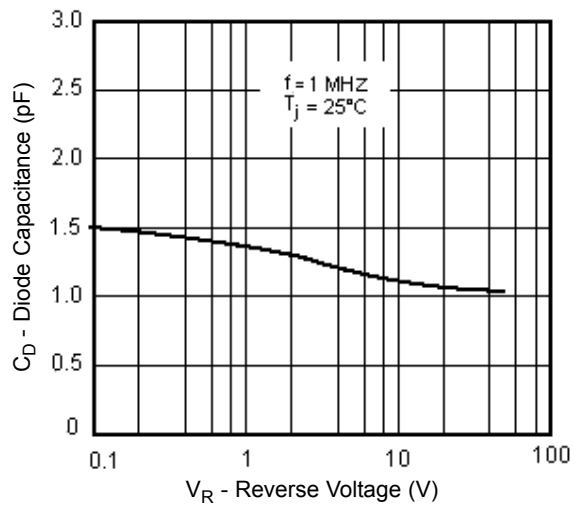
## Typical Characteristics (T<sub>amb</sub> = 25°C, unless otherwise specified)



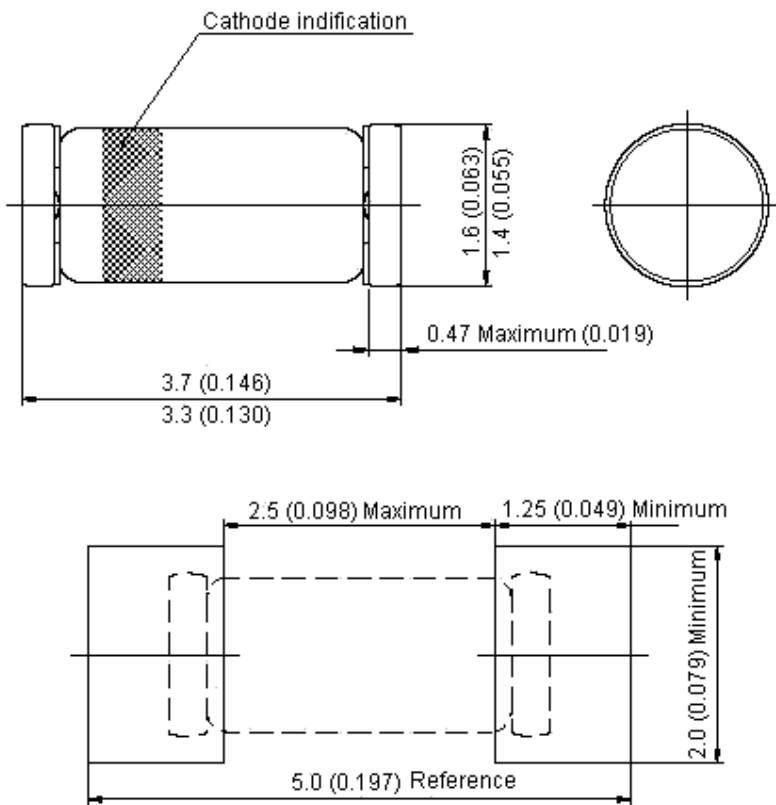
Reverse Current vs. Reverse Voltage



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:

	<b>AUSTRALIA - Farnell</b> Tel No: ++61 1300 361 005 Fax No: ++61 1300 361 225		<b>FINLAND - Farnell</b> Tel No: ++358 9 560 7780 Fax No: ++358 9 345 5411		<b>ITALY - Farnell</b> Tel No: ++39 02 93 995 200 Fax No: ++39 02 93 995 300		<b>SPAIN - Farnell</b> Tel No: 901 20 20 80 Fax No: 901 20 20 90
	<b>AUSTRIA - Farnell</b> Tel No: ++43 662 2180 680 Fax No: ++43 662 2180 670		<b>FRANCE - Farnell</b> Tel No: ++33 474 68 99 99 Fax No: ++33 474 68 99 90		<b>MALAYSIA - Farnell-Newark</b> Tel No: ++60 3 7873 8000 Fax No: ++60 3 7873 7000		<b>SWEDEN - Farnell</b> Tel No: ++46 8 730 50 00 Fax No: ++46 8 83 52 62
	<b>BELGIUM - Farnell</b> Tel No: ++32 3 475 2810 Fax No: ++32 3 227 3648		<b>GERMANY - Farnell</b> Tel No: ++49 89 61 39 39 39 Fax No: ++49 89 613 59 01		<b>NETHERLANDS - Farnell</b> Tel No: ++31 30 241 7373 Fax No: ++31 30 241 7333		<b>SWITZERLAND - Farnell</b> Tel No: ++44 204 64 64 Fax No: ++44 204 64 54
	<b>BRAZIL - Farnell-Newark</b> Tel No: ++55 11 4066 9400 Fax No: ++55 11 4066 9410		<b>HONG KONG - Farnell-Newark</b> Tel No: ++852 2268 9888 Fax No: ++852 2268 9899		<b>NEW ZEALAND - Farnell</b> Tel No: 0800 90 80 80 Fax No: 0800 90 80 81		<b>UK - Farnell</b> Tel No: ++44 8701 200 200 Fax No: ++44 8701 200 201
	<b>CHINA - Farnell-Newark</b> Tel No: ++86 10 6238 5152 Fax No: ++86 10 6238 5022		<b>HUNGARY - Farnell</b> Tel No: ++44 870 1200 208 Fax No: ++44 870 1200 209		<b>NORWAY - Farnell</b> Tel No: 800 146 70 Fax No: 800 146 76		<b>UK - CPC</b> ++44 8701 202 530 ++44 8701 202 531
	<b>CZECH REPUBLIC - Farnell</b> Tel No: ++44 870 1200 208 Fax No: ++44 870 1200 209		<b>INDIA - Farnell</b> Tel No: ++44 870 1200 208 Fax No: ++44 870 1200 209		<b>PORTUGAL - Farnell</b> Tel No: ++34 93 475 8804 Fax No: ++34 93 474 5288		<b>USA - Newark</b> Tel No: 800 463 9275
	<b>DENMARK - Farnell</b> Tel No: ++45 44 53 66 44 Fax No: ++45 44 53 66 06		<b>IRELAND - Farnell</b> Tel No: ++353 1 830 9277 Fax No: ++353 1 830 9016		<b>RUSSIA - Farnell</b> Tel No: ++44 870 1200 208 Fax No: ++44 870 1200 209	 <b>EXPORT - Farnell</b> Tel No: ++44 8701 200 208 Fax No: ++44 8701 200 209 <b>For enquiries from all other markets</b>	
	<b>ESTONIA - Farnell</b> Tel No: ++358 9 560 7780 Fax No: ++358 9 345 5411		<b>ISRAEL - Farnell</b> Tel No: ++180 937 0015 Fax No: ++180 937 0014		<b>SINGAPORE - Farnell-Newark</b> Tel No: ++65 6788 0200 Fax No: ++65 6788 0300	<a href="http://www.farnell.com">http://www.farnell.com</a> <a href="http://www.newark.com">http://www.newark.com</a> <a href="http://www.cpc.co.uk">http://www.cpc.co.uk</a>	

**Disclaimer** This data sheet and its contents (the "Information") belong to the Premier Farnell Group (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. SPC Multicomp is the registered trademark of the Group. © Premier Farnell plc 2008.