

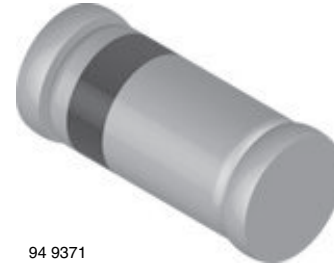
Small Signal Fast Switching Diodes

Features

- Silicon epitaxial planar diodes
- Electrical data identical with the devices 1N4148 and 1N4448 respectively
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



RoHS
COMPLIANT
HALOGEN
FREE



94 9371

Applications

- Extreme fast switches

Mechanical Data

Case: MiniMELF SOD-80

Weight: approx. 31 mg

Cathode band color: black

Packaging codes/options:

18/10K per 13" reel (8 mm tape), 10K/box

08/2.5K per 7" reel (8 mm tape), 12.5K/box

Parts Table

Part	Type differentiation	Ordering code	Marking code	Remarks
LL4148-M	$V_{RRM} = 100 \text{ V}$, $V_F = \text{max. } 1000 \text{ mV at } I_F = 50 \text{ mA}$	LL4148-M-08 or LL4148-M-18	-	Tape and reel

Absolute Maximum Ratings

$T_{amb} = 25 \text{ }^\circ\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Repetitive peak reverse voltage		V_{RRM}	100	V
Reverse voltage		V_R	75	V
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	mA
Average forward current	$V_R = 0$	I_{FAV}	150	mA
Power dissipation		P_{tot}	500 ¹⁾	mW

Note

¹⁾ Valid provided that electrodes are kept at ambient temperature

Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	300 ¹⁾	K/W
Junction temperature		T_j	175	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 175	$^{\circ}\text{C}$

Note

¹⁾ Valid provided that electrodes are kept at ambient temperature

Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F = 50\text{ mA}$	V_F		860	1000	mV
Reverse current	$V_R = 20\text{ V}$	I_R			25	nA
	$V_R = 20\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$	I_R			50	μA
	$V_R = 75\text{ V}$	I_R			5	μA
Breakdown voltage	$I_R = 100\text{ }\mu\text{A}, t_p/T = 0.01,$ $t_p = 0.3\text{ ms}$	$V_{(BR)}$	100			V
Diode capacitance	$V_R = 0, f = 1\text{ MHz},$ $V_{HF} = 50\text{ mV}$	C_D			4	pF
Reverse recovery time	$I_F = I_R = 10\text{ mA},$ $i_R = 1\text{ mA}$	t_{rr}			8	ns
	$I_F = 10\text{ mA}, V_R = 6\text{ V},$ $i_R = 0.1 \times I_R, R_L = 100\text{ }\Omega$	t_{rr}			4	ns

Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

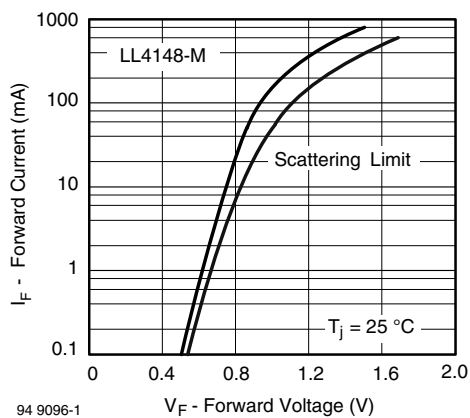


Figure 1. Forward Current vs. Forward Voltage

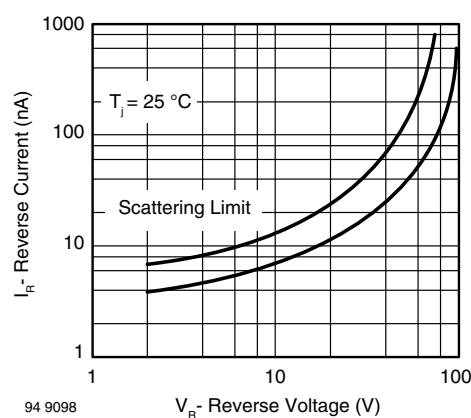
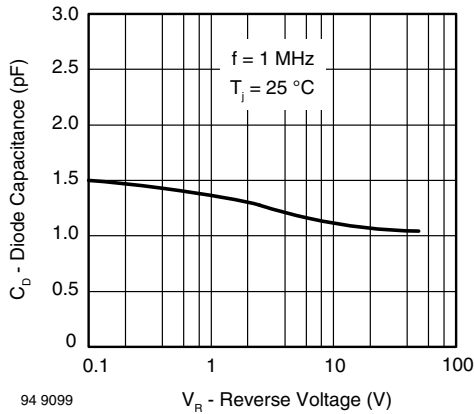


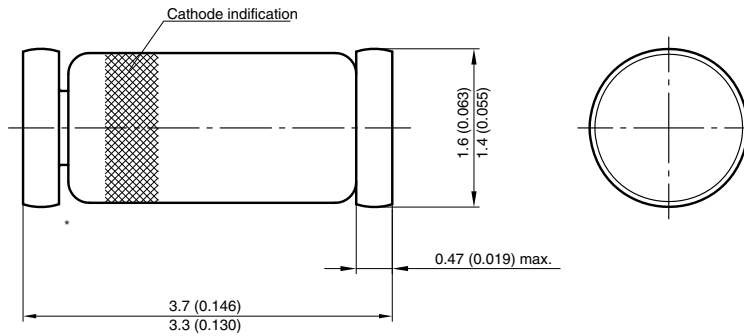
Figure 2. Reverse Current vs. Reverse Voltage



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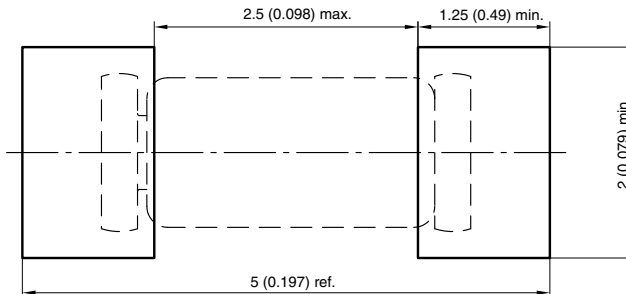
Figure 3. Diode Capacitance vs. Reverse Voltage

Package Dimensions in millimeters (inches): MiniMELF SOD-80



* The gap between plug and glass can be either on cathode or anode side

Foot print recommendation:



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