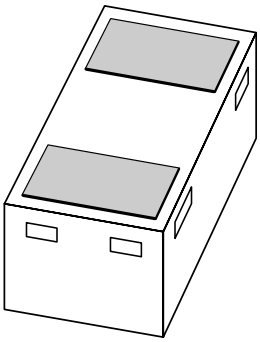
DATA SHEET



1PS10SB82
Schottky barrier diode

Product data sheet

2003 Aug 20

NXP founded by Philips

Schottky barrier diode 1PS10SB82

FEATURES

- Low forward voltage
- Low diode capacitance
- Leadless ultra small plastic package (1.0 mm × 0.6 mm × 0.5 mm)
- Boardspace 1.17 mm^2 (approx. 10% of SOT23)
- Power dissipation comparable to SOT23.

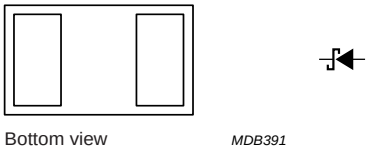
APPLICATIONS

- UHF mixers
- Sampling circuits
- Modulators
- Phase detectors
- Mobile communication, digital (still) cameras, PDA's and PCMCIA cards.

DESCRIPTION

An epitaxial Schottky barrier diode encapsulated in a SOD882 leadless ultra small plastic package.

ESD sensitive device, observe handling precautions.



Marking code: S5.
The marking bar indicates the cathode.

Fig.1 Simplified outline (SOD882), pin configuration and symbol.

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V_R	continuous reverse voltage	–	15	V
I_F	continuous forward current	–	30	mA
T_{stg}	storage temperature	−65	+150	°C
T_j	junction temperature	–	150	°C

ELECTRICAL CHARACTERISTICS

T_{amb} = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
V_F	forward voltage	see Fig.2			
		I_F = 1 mA	–	340	mV
		I_F = 30 mA	–	700	mV
r_D	differential diode forward resistance	f = 1 MHz; I_F = 5 mA; see Fig.5	12	–	Ω
I_R	continuous reverse current	V_R = 1 V; see Fig.3; note 1	–	0.2	μA
C_d	diode capacitance	V_R = 0 V; f = 1 MHz; see Fig.4	1	–	pF

Note

1. Pulse test: t_p = 300 μs; δ = 0.02.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j\text{-}a}$	thermal resistance from junction to ambient	note 1	500	K/W

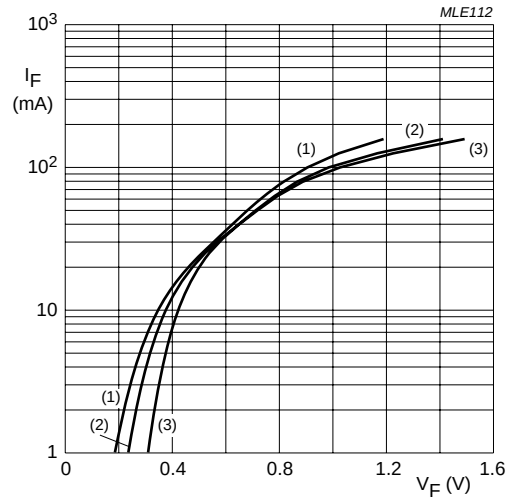
Note

1. Refer to SOD882 standard mounting conditions (footprint), FR4 with 60 μm copper strip line.

Soldering

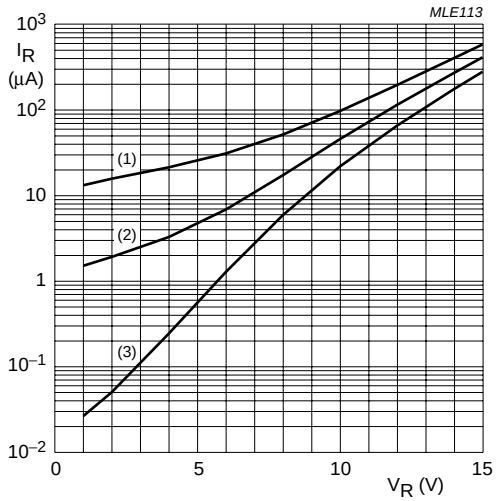
Reflow soldering is the only recommended soldering method.

GRAPHICAL DATA



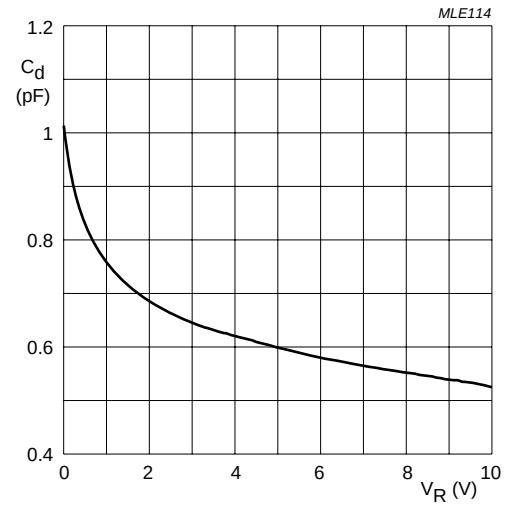
(1) T_{amb} = 125 °C.
(2) T_{amb} = 85 °C.
(3) T_{amb} = 25 °C.

Fig.2 Forward current as a function of forward voltage; typical values.



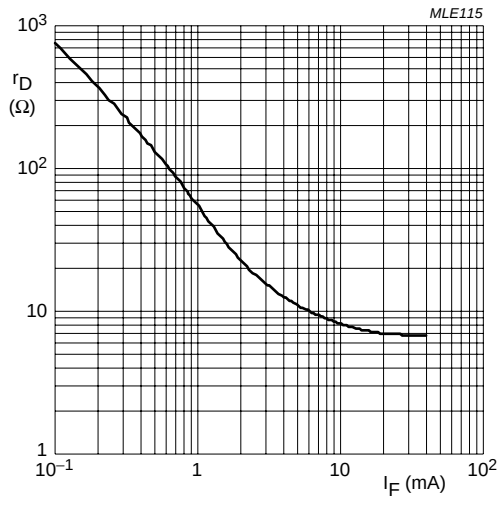
(1) T_{amb} = 125 °C.
(2) T_{amb} = 85 °C.
(3) T_{amb} = 25 °C.

Fig.3 Reverse current as a function of reverse voltage; typical values.



f = 1 MHz; T_{amb} = 25 °C.

Fig.4 Diode capacitance as a function of reverse voltage; typical values.

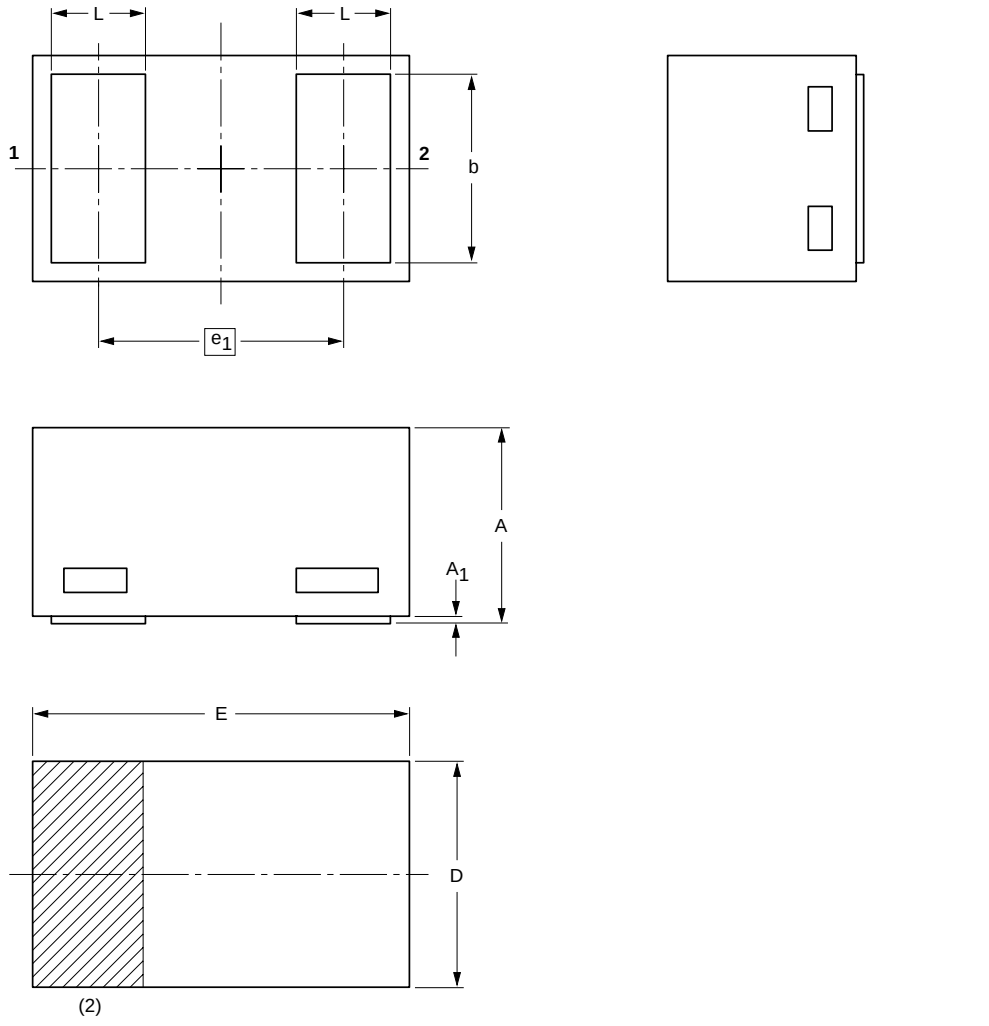


f = 1 MHz; T_{amb} = 25 °C.

Fig.5 Differential diode forward resistance as a function of forward current; typical values.

PACKAGE OUTLINE

Leadless ultra small plastic package; 2 terminals; body 1.0 x 0.6 x 0.5 mm **SOD882**



DIMENSIONS (mm are the original dimensions)

UNIT	A(1)	A1 max.	b	D	E	e1	L
mm	0.50 0.46	0.03	0.55 0.47	0.62 0.55	1.02 0.95	0.65	0.30 0.22

Notes

1. Including plating thickness
2. The marking bar indicates the cathode

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOD882						~~03-04-16~~ 03-04-17

DATA SHEET STATUS

DOCUMENT STATUS[1]	PRODUCT STATUS[2]	DEFINITION
Objective data sheet	Development	This document contains data from the objective specification for product development.
Preliminary data sheet	Qualification	This document contains data from the preliminary specification.
Product data sheet	Production	This document contains the product specification.

Notes

1. Please consult the most recently issued document before initiating or completing a design.
2. The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL http://www.nxp.com.

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NXP Semiconductors

Customer notification

This data sheet was changed to reflect the new company name NXP Semiconductors. No changes were made to the content, except for the legal definitions and disclaimers.

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