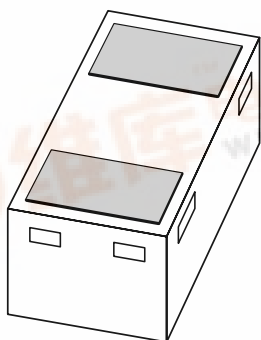


**DISCRETE SEMICONDUCTORS**

# DATA SHEET



## **1PS10SB82** Schottky barrier diode

Product specification

2003 Aug 20

## 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<sup>2</sup> (approx. 10% of SOT23)
- Power dissipation comparable to SOT23.

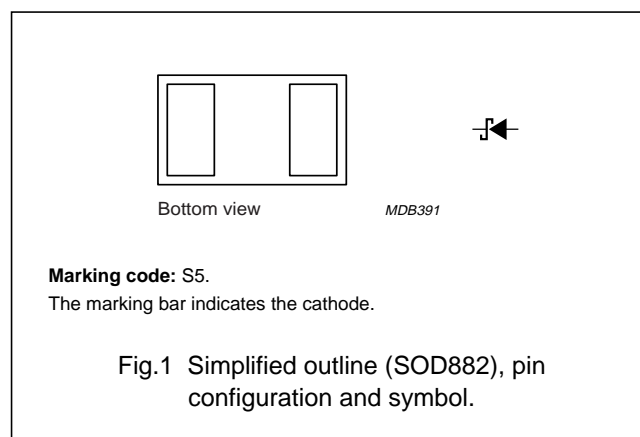
## APPLICATIONS

- 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.



## 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

## Schottky barrier diode

1PS10SB82

**ELECTRICAL CHARACTERISTICS** $T_{\text{amb}} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified.

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

**Note**

1. Pulse test:  $t_p = 300\text{ }\mu\text{s}$ ;  $\delta = 0.02$ .

**THERMAL CHARACTERISTICS**

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

**Note**

1. Refer to SOD882 standard mounting conditions (footprint), FR4 with  $60\text{ }\mu\text{m}$  copper strip line.

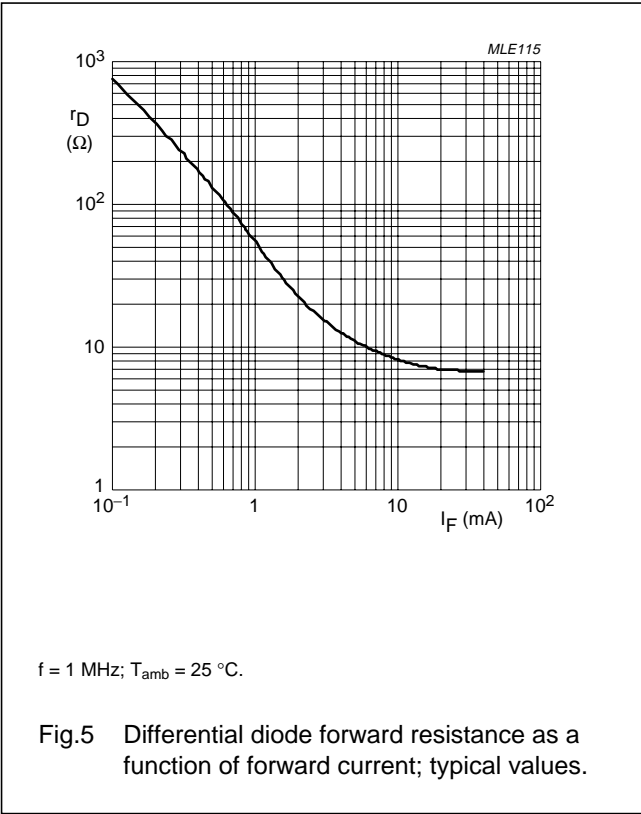
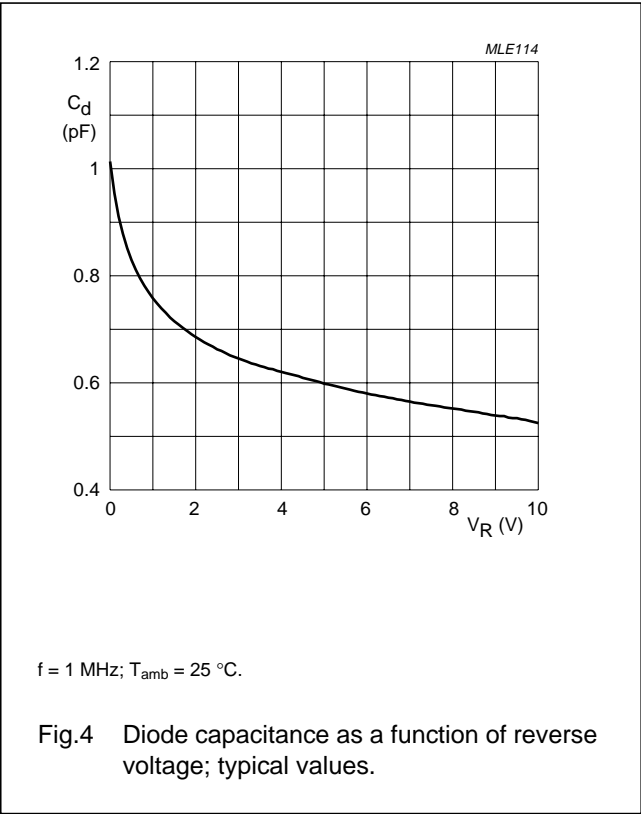
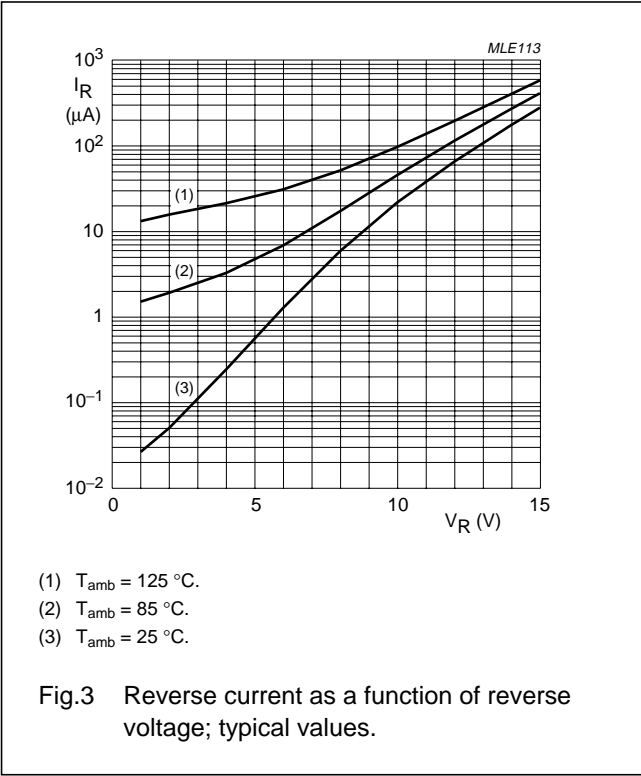
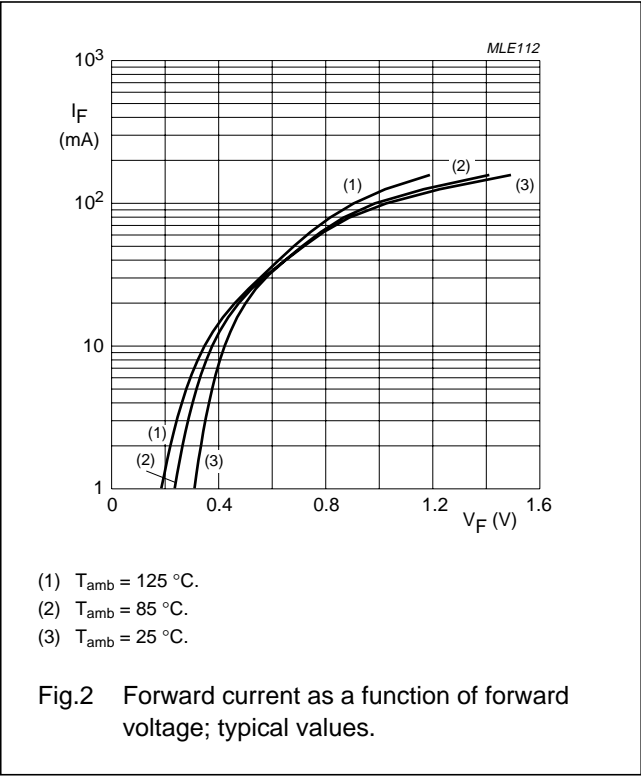
**Soldering**

Reflow soldering is the only recommended soldering method.

Schottky barrier diode

1PS10SB82

GRAPHICAL DATA



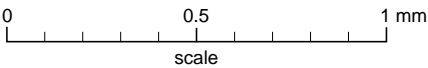
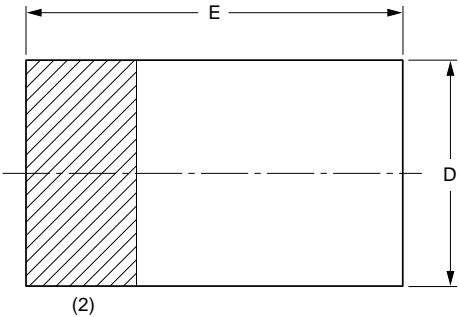
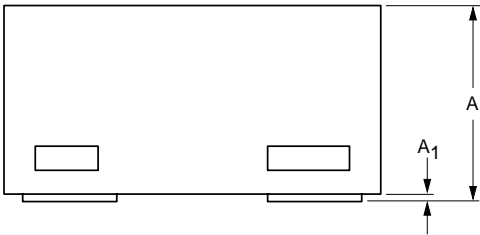
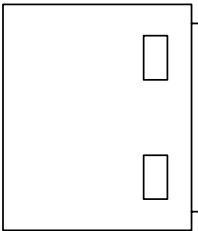
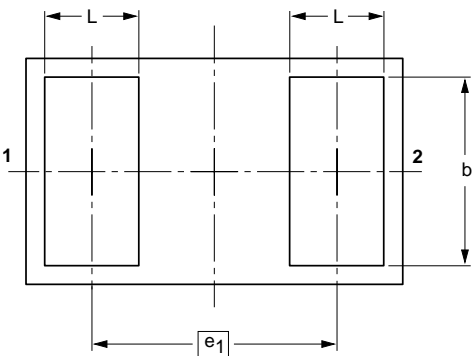
Schottky barrier diode

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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 <sup>(1)</sup>	A <sub>1</sub> max.	b	D	E	e <sub>1</sub>	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

## Schottky barrier diode

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## DATA SHEET STATUS

LEVEL	DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)(3)</sup>	DEFINITION
I	Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
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3. For data sheets describing multiple type numbers, the highest-level product status determines the data sheet status.

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**Limiting values definition** — Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.

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