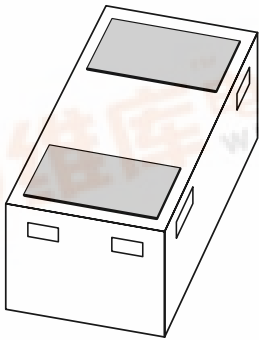


**DISCRETE SEMICONDUCTORS**

# DATA SHEET



## **1PS10SB63** Schottky barrier diode

Product specification

2003 Aug 20

## Schottky barrier diode

## 1PS10SB63

## FEATURES

- Very low diode capacitance
- Low forward voltage
- 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.

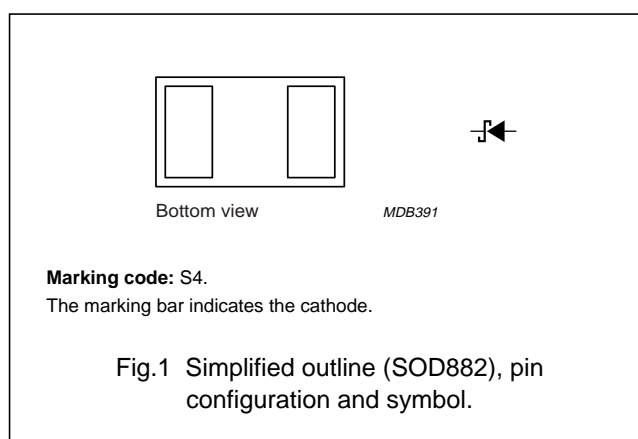
## APPLICATIONS

- Ultra high-speed switching
- High frequency detection
- Zero bias detection
- 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	CONDITIONS	MIN.	MAX.	UNIT
$V_R$	continuous reverse voltage		–	5	V
$I_F$	continuous forward current		–	20	mA
$I_{FRM}$	repetitive peak forward current	$t_p \leq 1$ ms; $\delta = 0.25$	–	400	mA
$I_{FSM}$	non-repetitive peak forward current	$t_p = 8.3$ ms half sinewave; JEDEC method	–	550	mA
$T_{stg}$	storage temperature		–65	+150	°C
$T_j$	junction temperature		–	150	°C

## Schottky barrier diode

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**ELECTRICAL CHARACTERISTICS**T<sub>amb</sub> = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
V <sub>F</sub>	forward voltage	see Fig.2			
		I <sub>F</sub> = 0.1 mA	160	200	mV
		I <sub>F</sub> = 1 mA	240	300	mV
I <sub>R</sub>	continuous reverse current	see Fig.3			
		V <sub>R</sub> = 1 V	0.4	1	μA
		V <sub>R</sub> = 5 V; note 1	–	50	μA
C <sub>d</sub>	diode capacitance	V <sub>R</sub> = 0 V; f = 1 MHz; see Fig.4	0.35	0.5	pF
L <sub>S</sub>	series inductance		0.6	–	nH

**Note**

1. Pulse test: pulse width = 300 μs; δ = 0.02.

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R <sub>th j-a</sub>	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.

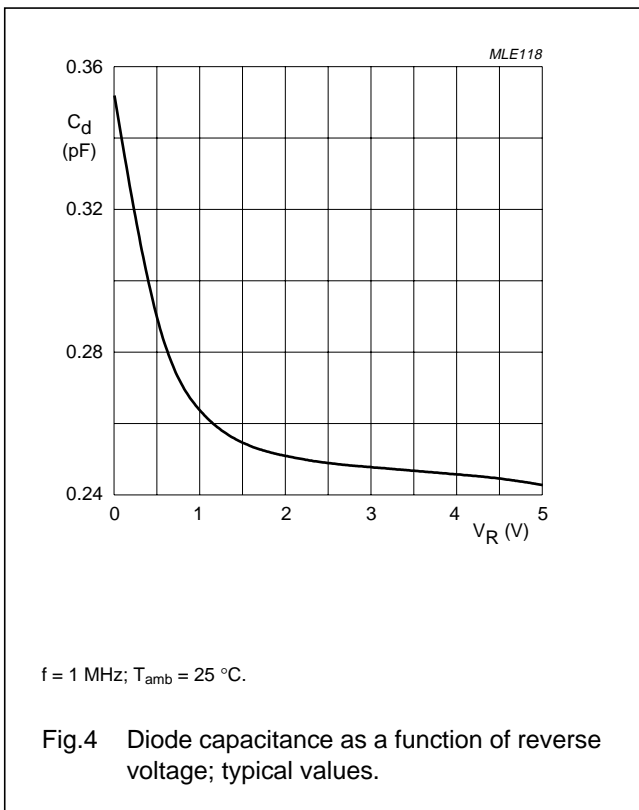
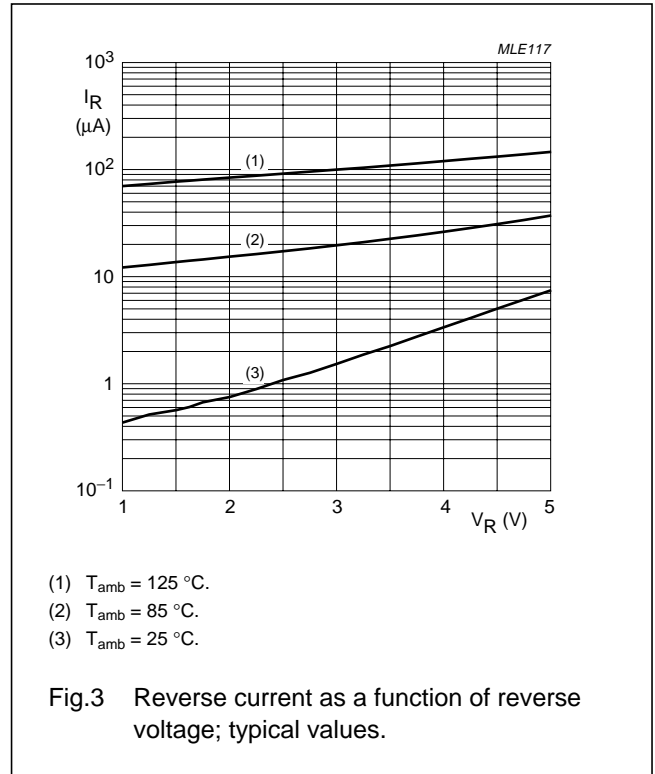
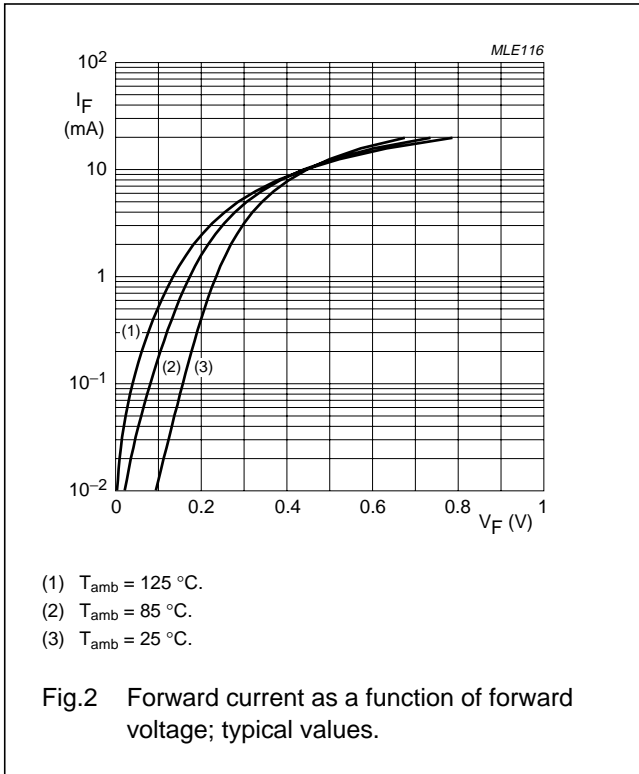
**Soldering**

Reflow soldering is the only recommended soldering method.

Schottky barrier diode

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GRAPHICAL DATA



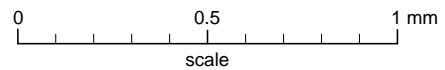
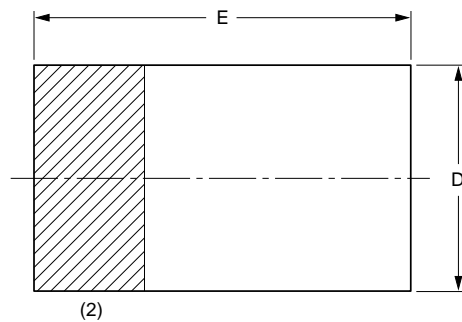
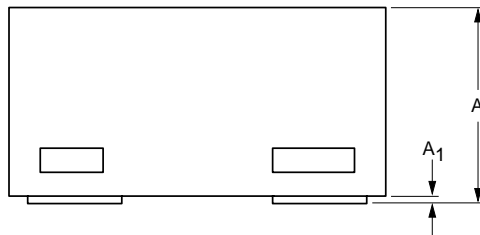
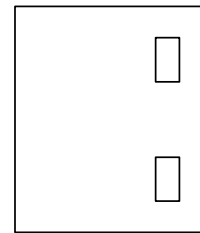
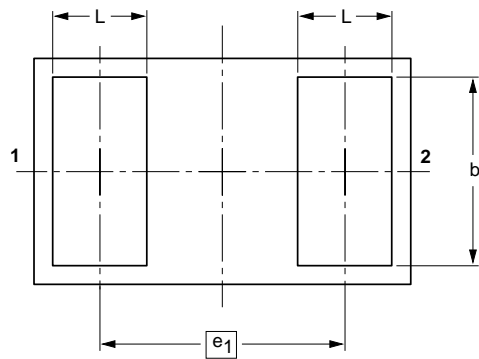
Schottky barrier diode

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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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**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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