



# 1PS10SB82

## Schottky barrier diode

13 November 2019

Product data sheet

## 1. General description

An epitaxial Schottky barrier diode encapsulated in a SOD882 leadless ultra small plastic package.  
ESD sensitive device, observe handling precautions.

## 2. Features and benefits

- Low forward voltage
- Low diode capacitance
- Leadless ultra small plastic package (1.0 mm x 0.6 mm x 0.48 mm)
- Boardspace 1.17 mm<sup>2</sup> (approx. 10 % of SOT23)
- Power dissipation comparable to SOT23

## 3. Applications

- UHF mixers
- Sampling circuits
- Modulators
- Phase detectors
- Mobile devices

## 4. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V <sub>R</sub>	reverse voltage		-	-	15	V
V <sub>F</sub>	forward voltage	I <sub>F</sub> = 30 mA; t <sub>p</sub> ≤ 300 μs; δ ≤ 0.02; T <sub>amb</sub> = 25 °C	-	-	700	mV

## 5. Pinning information

Table 2. Pinning information

Pin	Symbol	Description	Simplified outline	Graphic symbol
1	K	cathode[1]	<p>Transparent top view DFN1006-2 (SOD882)</p>	<p>K  A aaa-003679</p>
2	A	anode		

[1] The marking bar indicates the cathode.

## 6. Ordering information

Table 3. Ordering information

Type number	Package		
	Name	Description	Version
1PS10SB82	DFN1006-2	plastic, leadless ultra small package; 2 terminals; 0.65 mm pitch; 1 mm x 0.6 mm x 0.48 mm body	SOD882

## 7. Marking

Table 4. Marking codes

Type number	Marking code
1PS10SB82	S5

## 8. Limiting values

Table 5. Limiting values

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

Symbol	Parameter	Conditions	Min	Max	Unit
$V_R$	reverse voltage		-	15	V
$I_F$	forward current		-	30	mA
$T_j$	junction temperature		-	150	°C
$T_{amb}$	ambient temperature		-55	150	°C
$T_{stg}$	storage temperature		-65	150	°C

## 9. Thermal characteristics

Table 6. Thermal characteristics

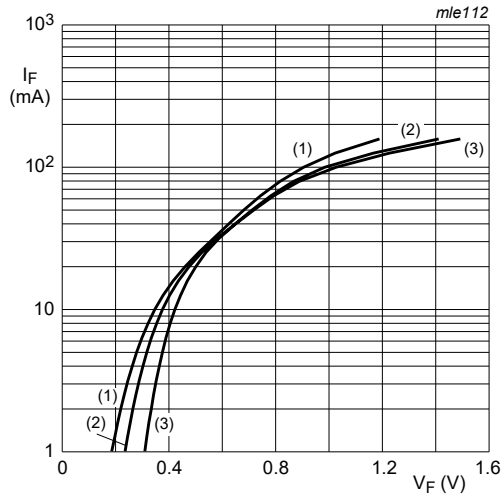
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$R_{th(j-a)}$	thermal resistance from junction to ambient	in free air [1]	-	-	500	K/W

[1] Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint.

## 10. Characteristics

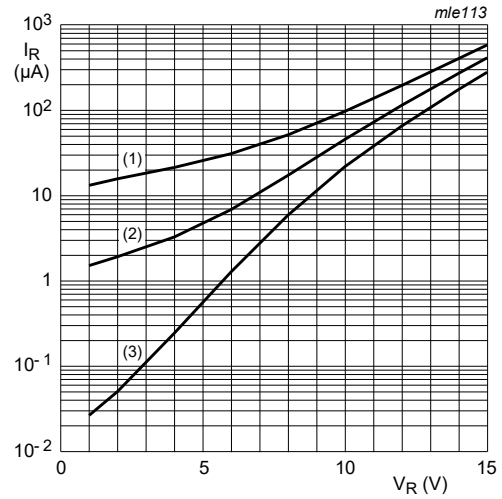
Table 7. Characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$V_F$	forward voltage	$I_F = 1 \text{ mA}$ ; $t_p \leq 300 \text{ }\mu\text{s}$ ; $\delta \leq 0.02$ ; $T_{\text{amb}} = 25 \text{ }^\circ\text{C}$	-	-	340	mV
		$I_F = 30 \text{ mA}$ ; $t_p \leq 300 \text{ }\mu\text{s}$ ; $\delta \leq 0.02$ ; $T_{\text{amb}} = 25 \text{ }^\circ\text{C}$	-	-	700	mV
$r_{\text{dif}}$	differential resistance	$f = 1 \text{ MHz}$ ; $I_F = 5 \text{ mA}$	-	12	-	$\Omega$
$I_R$	reverse current	$V_R = 1 \text{ V}$ ; $t_p = 300 \text{ }\mu\text{s}$ ; $\delta = 0.02$ ; pulsed; $T_j = 25 \text{ }^\circ\text{C}$	-	-	0.2	$\mu\text{A}$
$C_d$	diode capacitance	$V_R = 0 \text{ V}$ ; $f = 1 \text{ MHz}$ ; $T_{\text{amb}} = 25 \text{ }^\circ\text{C}$	-	1	-	pF
$I_{\text{RM}}$	peak reverse recovery current	$I_F = 5 \text{ mA}$ ; $T_{\text{amb}} = 25 \text{ }^\circ\text{C}$ ; $f = 1 \text{ MHz}$	12	-	-	A



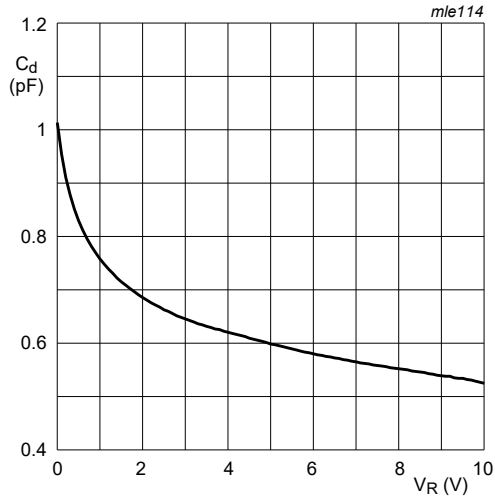
- (1)  $T_{\text{amb}} = 125 \text{ }^\circ\text{C}$
- (2)  $T_{\text{amb}} = 85 \text{ }^\circ\text{C}$
- (3)  $T_{\text{amb}} = 25 \text{ }^\circ\text{C}$

Fig. 1. Forward current as a function of forward voltage; typical values



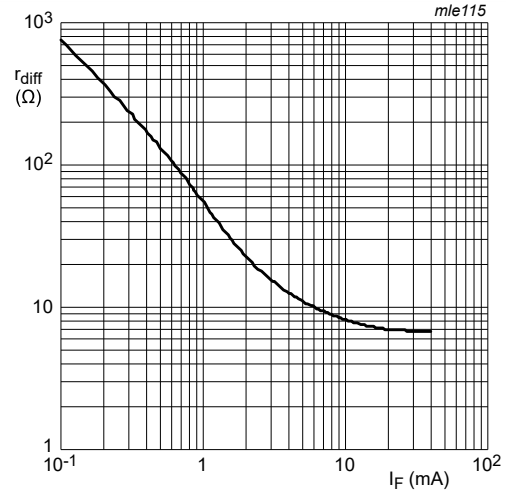
- (1)  $T_{\text{amb}} = 125 \text{ }^\circ\text{C}$
- (2)  $T_{\text{amb}} = 85 \text{ }^\circ\text{C}$
- (3)  $T_{\text{amb}} = 25 \text{ }^\circ\text{C}$

Fig. 2. Reverse current as a function of reverse voltage; typical values



$f = 1 \text{ MHz}; T_{amb} = 25 \text{ }^\circ\text{C}$

**Fig. 3. Diode capacitance as a function of reverse voltage; typical values**



$f = 1 \text{ MHz}; T_{amb} = 25 \text{ }^\circ\text{C}$

**Fig. 4. Differential diode forward resistance as a function of forward current; typical values**

## 11. Package outline

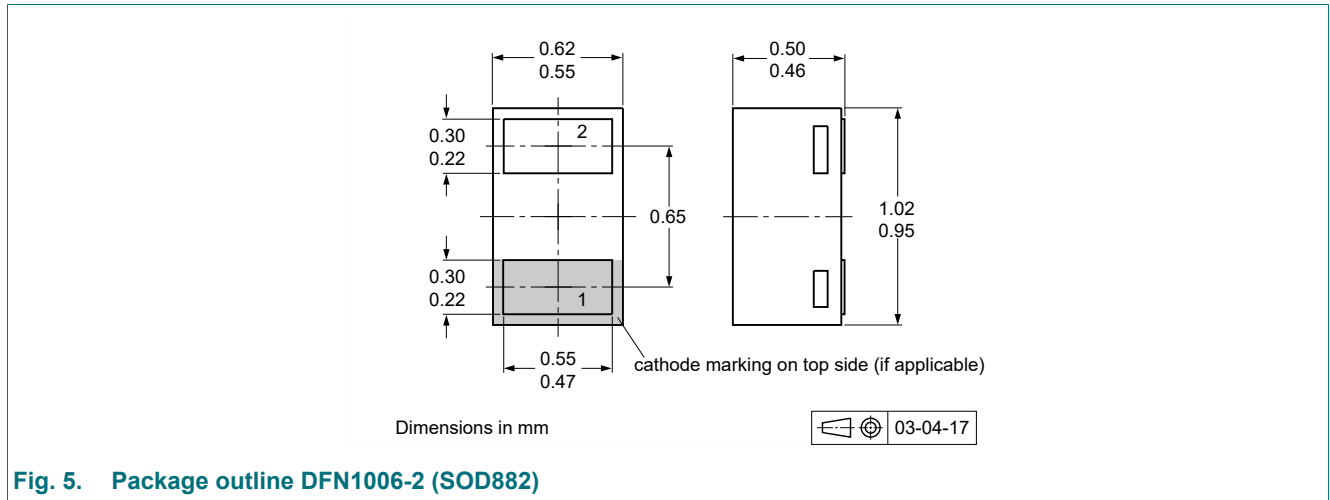


Fig. 5. Package outline DFN1006-2 (SOD882)

## 12. Soldering

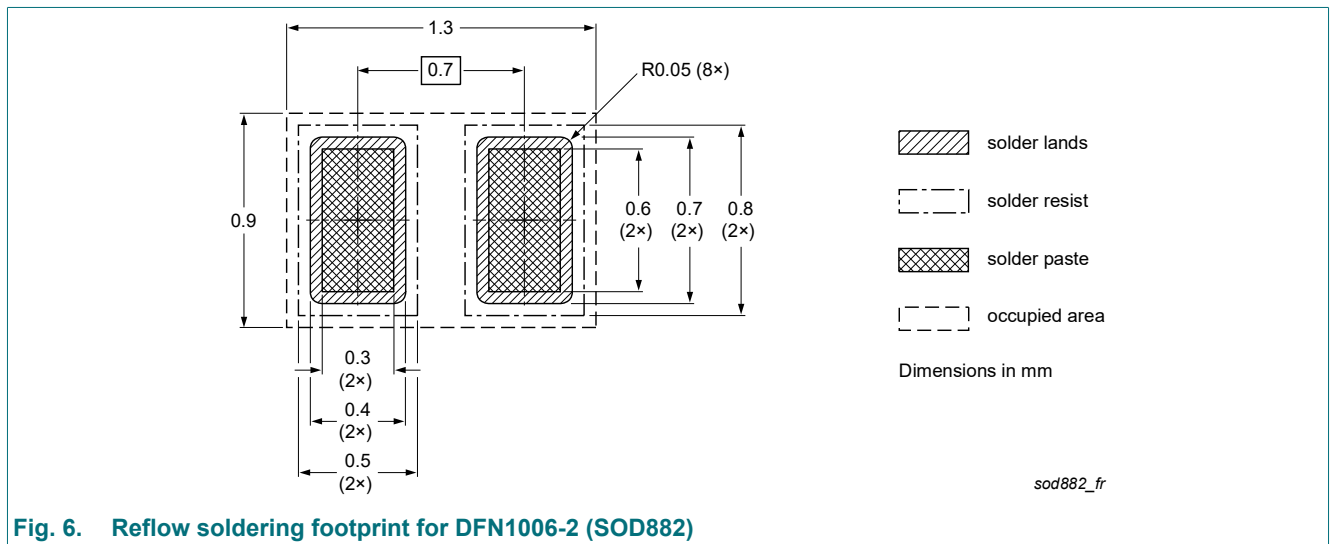


Fig. 6. Reflow soldering footprint for DFN1006-2 (SOD882)

## 13. Revision history

Table 8. Revision history

Data sheet ID	Release date	Data sheet status	Change notice	Supersedes
1PS10SB82 v.2	20191113	Product data sheet	-	1PS10SB82 v.1
Modifications:	<ul style="list-style-type: none"><li>• The format of this data sheet has been redesigned to comply with the identity guidelines of Nexperia.</li><li>• Legal texts have been adapted to the new company name where appropriate.</li></ul>			
1PS10SB82 v.1	20030820	Product data sheet	-	-

## 14. Legal information

### Data sheet status

Document status [1][2]	Product status [3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

- [1] Please consult the most recently issued document before initiating or completing a design.
- [2] The term 'short data sheet' is explained in section "Definitions".
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