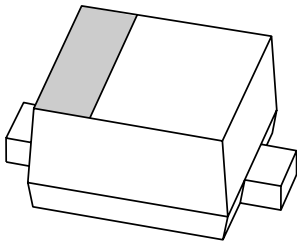


# DATA SHEET



## **1PS79SB31** Schottky barrier diode

Product data sheet

2002 Jan 11

# Schottky barrier diode

1PS79SB31

## FEATURES

- Very low forward voltage
- Guard ring protected
- Ultra small SMD package.

## APPLICATIONS

- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Low current rectification
- Low power consumption applications (e.g. hand-held devices).

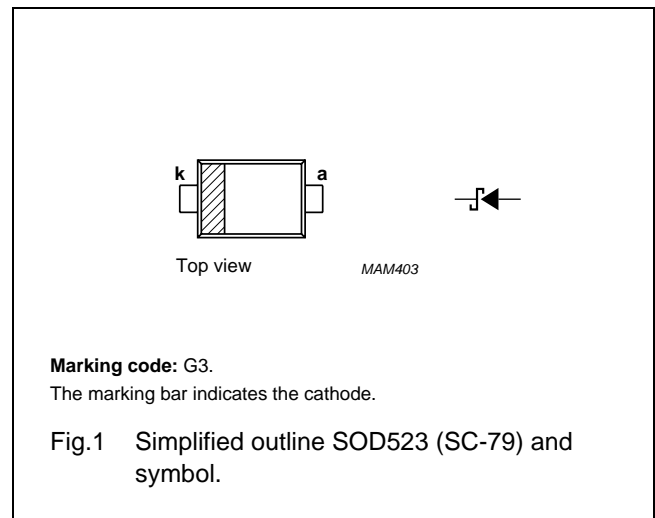
## DESCRIPTION

Planar Schottky barrier diode in a SOD523 (SC-79) ultra small SMD plastic package.

## LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_R$	continuous reverse voltage		–	30	V
$I_F$	continuous forward current		–	200	mA
$I_{FRM}$	repetitive peak forward current	$t_p \leq 1 \text{ s}; \delta \leq 0.5$	–	300	mA
$I_{FSM}$	non-repetitive peak forward current	$t = 8.3 \text{ ms}$ half sine wave; JEDEC method	–	1 000	mA
$T_{stg}$	storage temperature		–65	+150	°C
$T_j$	junction temperature		–	125	°C
$T_{amb}$	operating ambient temperature		–65	+125	°C



## Schottky barrier diode

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_F$	forward voltage	see Fig.2;			
		$I_F = 0.1\text{ mA}$	130	190	mV
		$I_F = 1\text{ mA}$	190	250	mV
		$I_F = 10\text{ mA}$	255	300	mV
		$I_F = 100\text{ mA}$	355	410	mV
		$I_F = 200\text{ mA}$	420	500	mV
$I_R$	continuous reverse current	$V_R = 10\text{ V}$ ; note 1; see Fig.3	2.5	30	$\mu\text{A}$
$C_d$	diode capacitance	$V_R = 1\text{ V}$ ; $f = 1\text{ MHz}$ ; see Fig.4	20	25	pF

**Note**

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

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	450	K/W

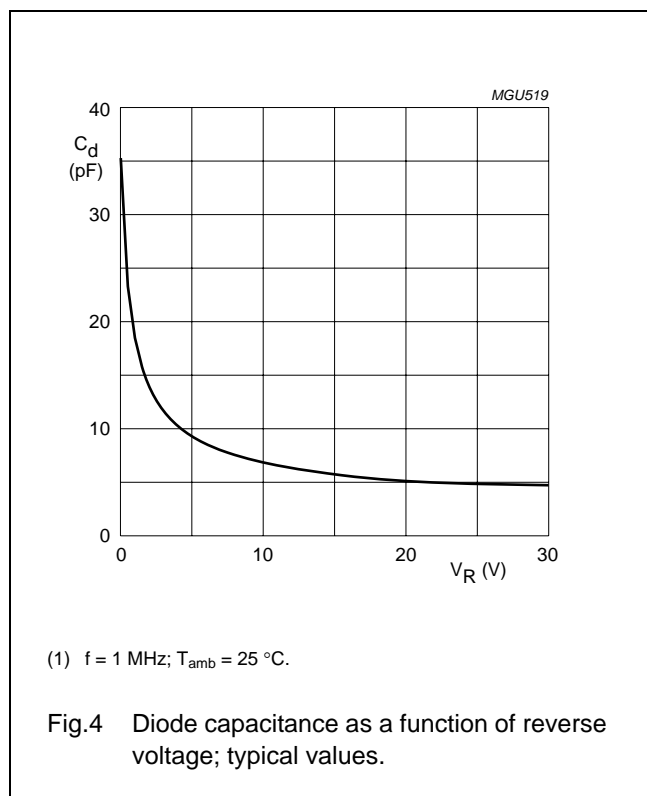
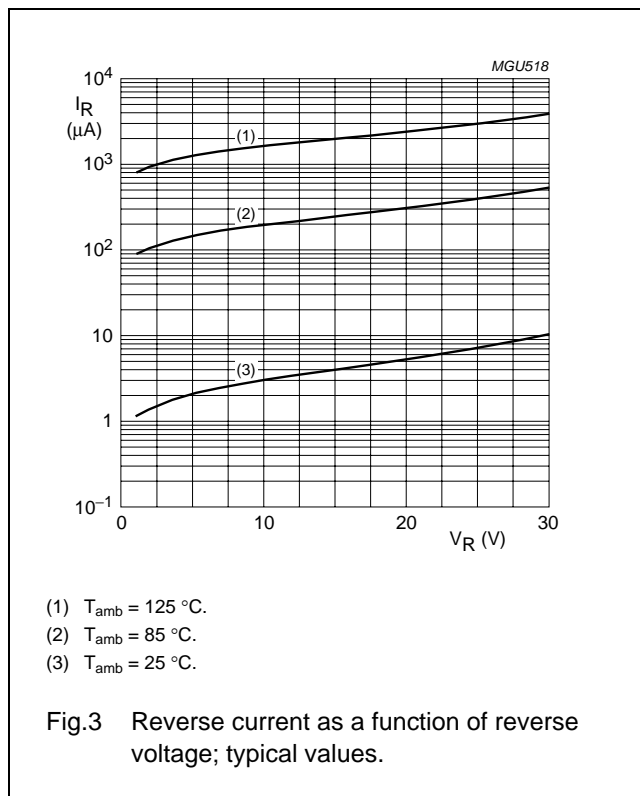
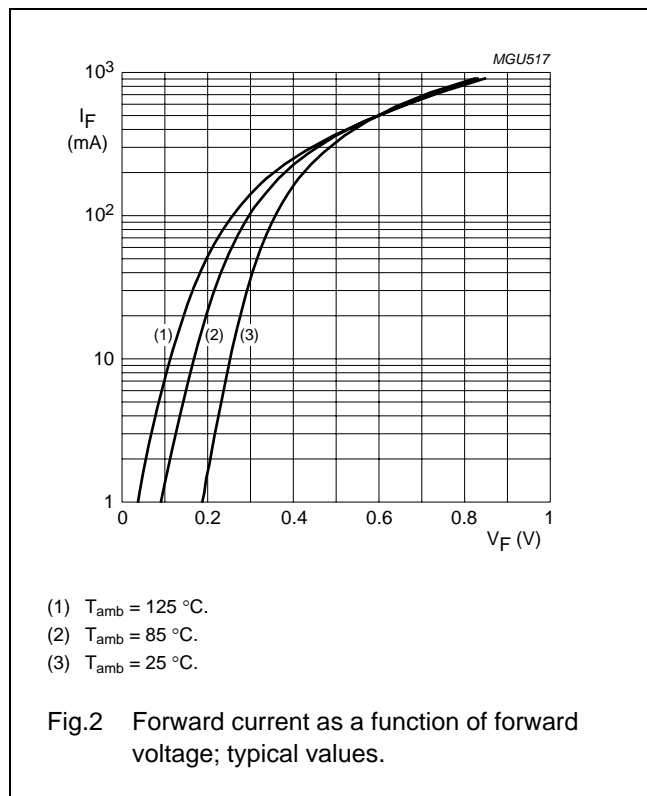
**Note**

1. Refer to SC-79 (SOD523) standard mounting conditions.

Schottky barrier diode

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GRAPHICAL DATA



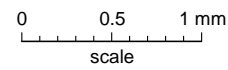
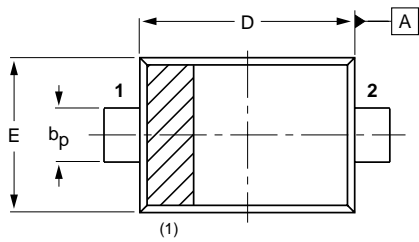
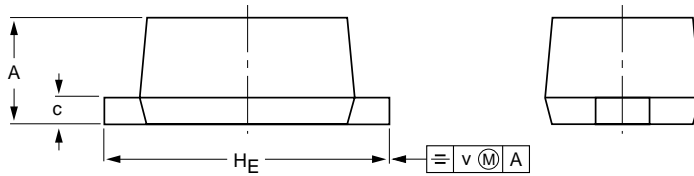
Schottky barrier diode

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PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD523




DIMENSIONS (mm are the original dimensions)

UNIT	A	b <sub>p</sub>	c	D	E	H <sub>E</sub>	v
mm	0.65	0.34	0.17	1.25	0.85	1.65	0.1
	0.58	0.26	0.11	1.15	0.75	1.55	

Note

1. The marking bar indicates the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOD523			SC-79			98-11-25 02-12-13

## Schottky barrier diode

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## DATA SHEET STATUS

DOCUMENT STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	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

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## **Customer notification**

This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

## **Contact information**

For additional information please visit: <http://www.nxp.com>

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