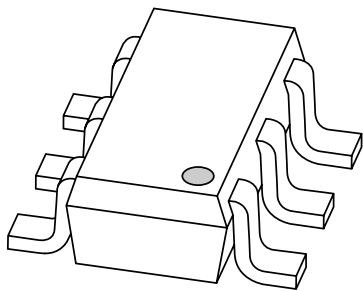


# DATA SHEET



**1PS74SB23**

**Schottky barrier diode**

Product specification  
Supersedes data of 2001 Aug 27

2003 Aug 04

# Schottky barrier diode

# 1PS74SB23

### FEATURES

- Ultra fast switching speed
- Low forward voltage
- Fast recovery time
- Guard ring protected
- Small plastic SMD package
- Capability of absorbing very high surge current.

### APPLICATIONS

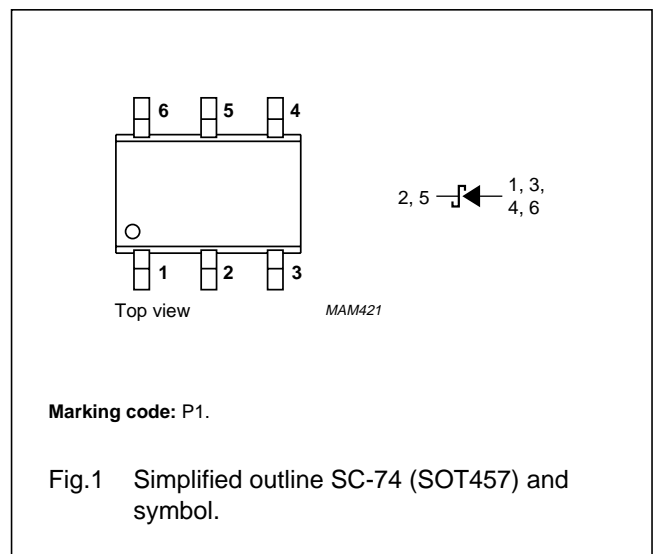
- Rectification
- Circuit protection
- Polarity protection
- Switched-mode power supplies.

### DESCRIPTION

Planar Schottky barrier diode encapsulated in an SC-74 (SOT457) small plastic SMD package.

### PINNING

PIN	DESCRIPTION
1	anode
2	cathode
3	anode
4	anode
5	cathode
6	anode



### LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_R$	continuous reverse voltage		–	25	V
$I_F$	continuous forward current		–	1	A
$I_{FSM}$	non-repetitive peak forward current	$t_p = 8.3$ ms; half sinewave; JEDEC method; note 1	–	25	A
$I_{RSM}$	non-repetitive peak reverse current	$t_p = 100$ $\mu$ s	–	0.5	A
$T_{stg}$	storage temperature		–65	+150	$^{\circ}$ C
$T_j$	junction temperature		–	125	$^{\circ}$ C

### Note

1. Pins 1, 3, 4 and 6 are connected in parallel; pins 2 and 5 are connected in parallel.

## Schottky barrier diode

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

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
$V_F$	forward voltage	$I_F = 100\text{ mA}$	260	300	mV
		$I_F = 1\text{ A}$	400	450	mV
$I_R$	reverse current	$V_R = 20\text{ V}$ ; note 1; see Fig.3	80	500	$\mu\text{A}$
		$V_R = 25\text{ V}$ ; note 1; see Fig.3	–	1	mA
$C_d$	diode capacitance	$f = 1\text{ MHz}$ ; $V_R = 4\text{ V}$ ; see Fig.4	100	–	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	250	K/W

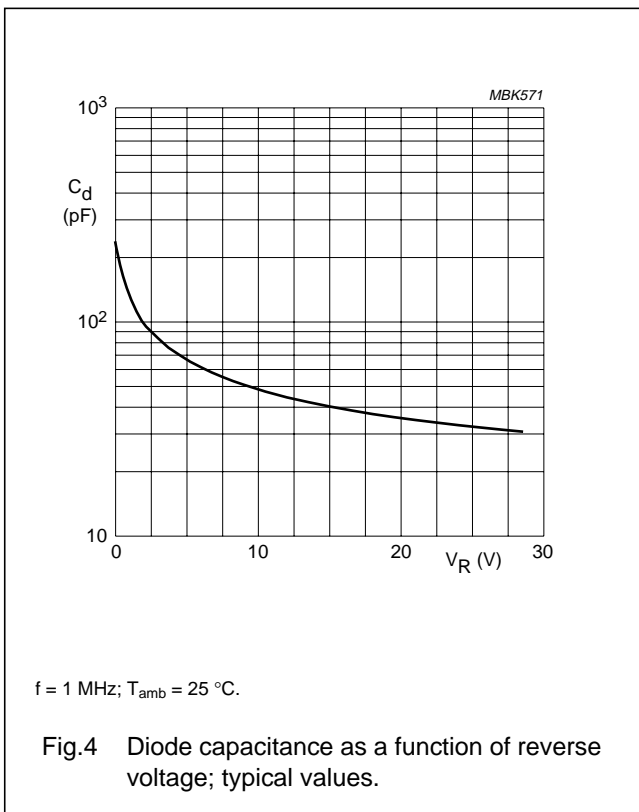
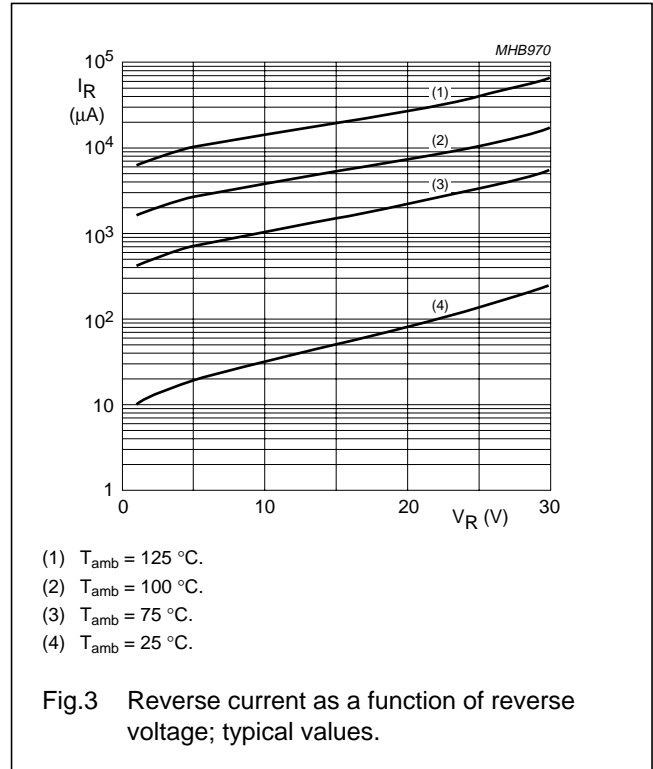
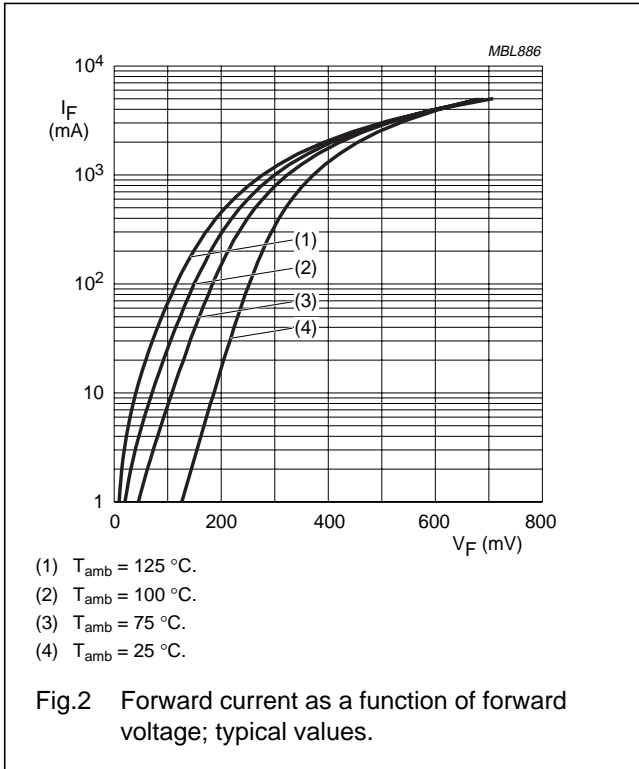
**Note**

1. Refer to SC-74 (SOT457) standard mounting conditions.

Schottky barrier diode

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GRAPHICAL DATA



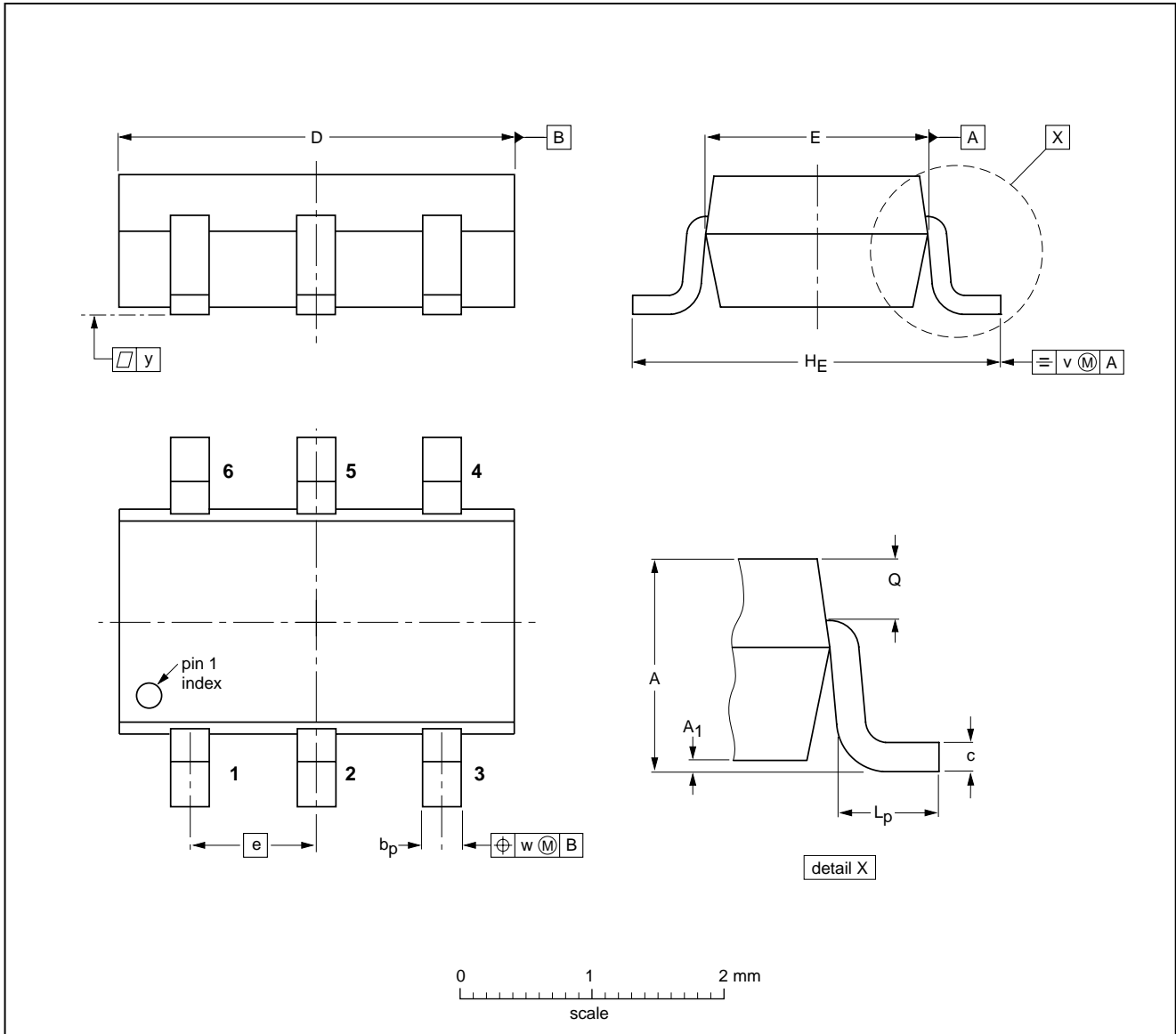
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PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT457



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub>	b <sub>p</sub>	c	D	E	e	H <sub>E</sub>	L <sub>p</sub>	Q	v	w	y
mm	1.1 0.9	0.1 0.013	0.40 0.25	0.26 0.10	3.1 2.7	1.7 1.3	0.95	3.0 2.5	0.6 0.2	0.33 0.23	0.2	0.2	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT457			SC-74			97-02-28 01-05-04

## 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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Printed in The Netherlands

613514/03/pp7

Date of release: 2003 Aug 04

Document order number: 9397 750 11055

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