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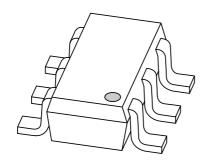
If you have any questions related to the data sheet, please contact our nearest sales office via e-mail or telephone (details via **salesaddresses@nexperia.com**). Thank you for your cooperation and understanding,

Kind regards,

Team Nexperia

DISCRETE SEMICONDUCTORS

DATA SHEET



1PS74SB23Schottky 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

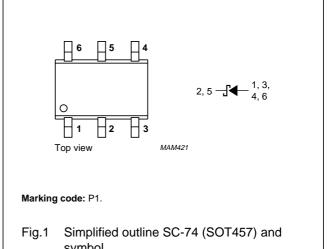
- Rectification
- · Circuit protection
- · Polarity protection
- Switched-mode power supplies.

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



symbol.

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	А
I _{FSM}	non-repetitive peak forward current	t _p = 8.3 ms; half sinewave; JEDEC method; note 1	_	25	Α
I _{RSM}	non-repetitive peak reverse current	t _p = 100 μs	_	0.5	Α
T _{stg}	storage temperature		-65	+150	°C
Tj	junction temperature		_	125	°C

Note

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

2003 Aug 04 2 Philips Semiconductors Product specification

Schottky barrier diode

1PS74SB23

ELECTRICAL CHARACTERISTICS

 T_{amb} = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
V _F	forward voltage	I _F = 100 mA	260	300	mV
		I _F = 1 A	400	450	mV
I _R	reverse current	V _R = 20 V; note 1; see Fig.3	80	500	μΑ
		V _R = 25 V; note 1; see Fig.3	-	1	mA
C _d	diode capacitance	f = 1 MHz; V _R = 4 V; see Fig.4	100	_	pF

Note

1. Pulse test: t_p = 300 μ s; δ = 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

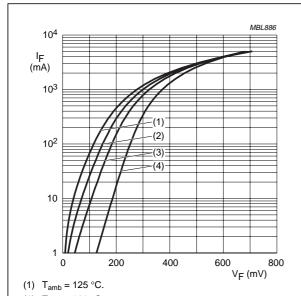
1. Refer to SC-74 (SOT457) standard mounting conditions.

2003 Aug 04 3

Schottky barrier diode

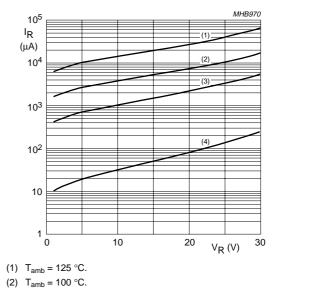
1PS74SB23

GRAPHICAL DATA



- (2) $T_{amb} = 100 \, ^{\circ}C$.
- (3) $T_{amb} = 75 \, ^{\circ}C$.
- (4) $T_{amb} = 25 \, ^{\circ}C$.

Fig.2 Forward current as a function of forward voltage; typical values.



- (3) $T_{amb} = 75 \, ^{\circ}C$.
- (4) $T_{amb} = 25 \, ^{\circ}C$.

Fig.3 Reverse current as a function of reverse voltage; typical values.

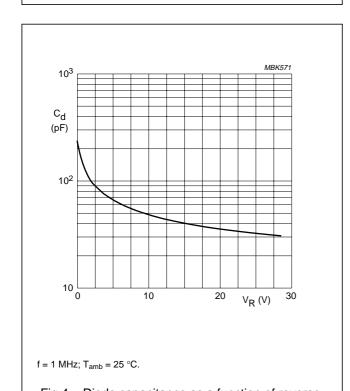


Fig.4 Diode capacitance as a function of reverse voltage; typical values.

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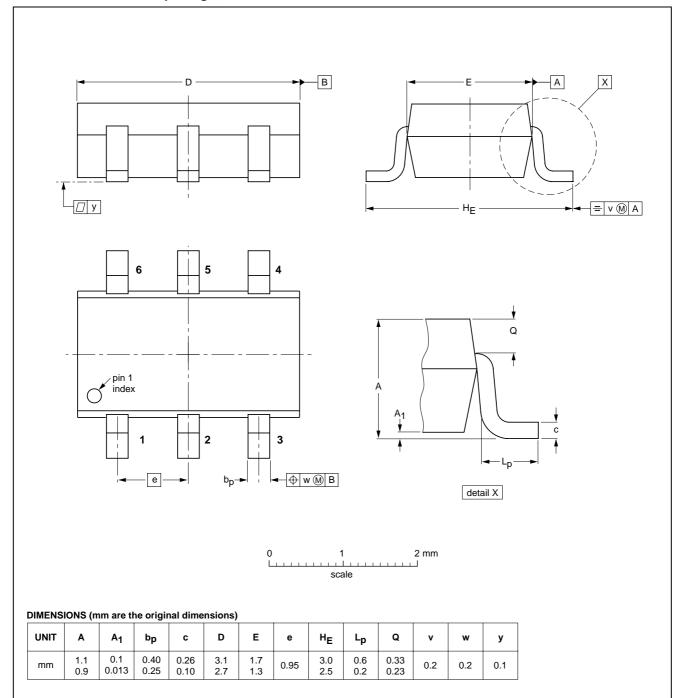
Schottky barrier diode

1PS74SB23

PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT457



EC JE	DEC	EIA I		PROJECTION	ISSUE DATE
	220	EIAJ		PROJECTION	
		SC-74			97-02-28 01-05-04
			SC-74	SC-74	SC-74

2003 Aug 04 5

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Schottky barrier diode

1PS74SB23

DATA SHEET STATUS

LEVEL	DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS(2)(3)	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.
II	Preliminary data	Qualification	This data sheet contains data from the preliminary specification. Supplementary data will be published at a later date. Philips Semiconductors reserves the right to change the specification without notice, in order to improve the design and supply the best possible product.
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Notes

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- 3. For data sheets describing multiple type numbers, the highest-level product status determines the data sheet status.

DEFINITIONS

Short-form specification — The data in a short-form specification is extracted from a full data sheet with the same type number and title. For detailed information see the relevant data sheet or data handbook.

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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2003 Aug 04 6

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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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