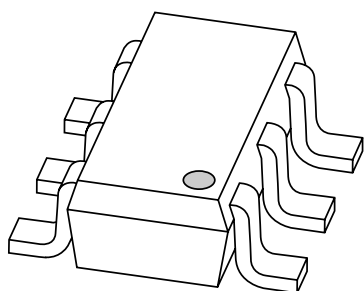


DATA SHEET



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

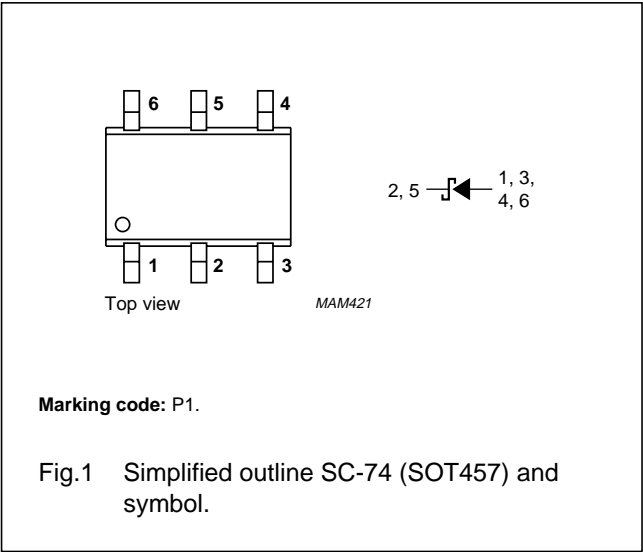
- Rectification
- Circuit protection
- Polarity protection
- Switched-mode power supplies.

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	$t_p = 100$ μ s	—	0.5	A
T_{stg}	storage temperature		−65	+150	°C
T_j	junction temperature		—	125	°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

$T_{\text{amb}} = 25\text{ }^{\circ}\text{C}$ 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	μA
		$V_R = 25\text{ V}$; 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
$R_{\text{th j-a}}$	thermal resistance from junction to ambient	note 1	250	K/W

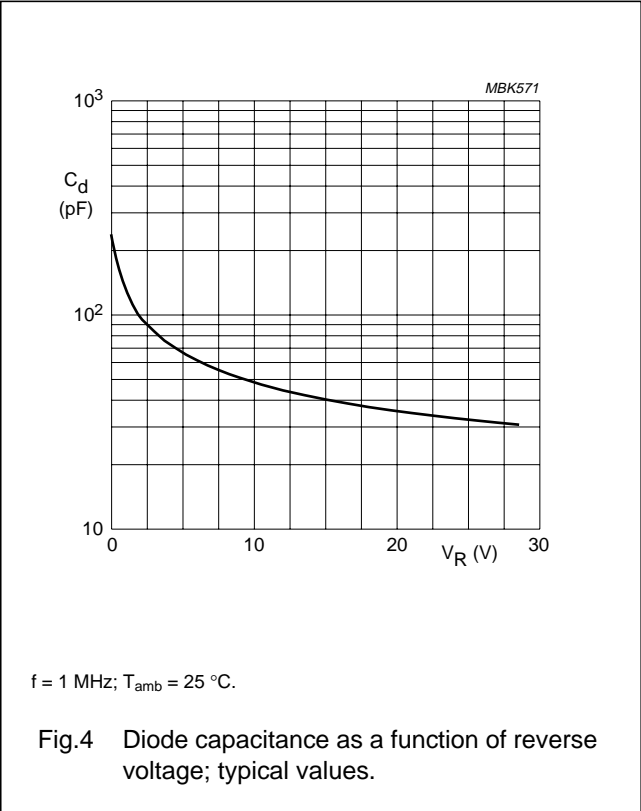
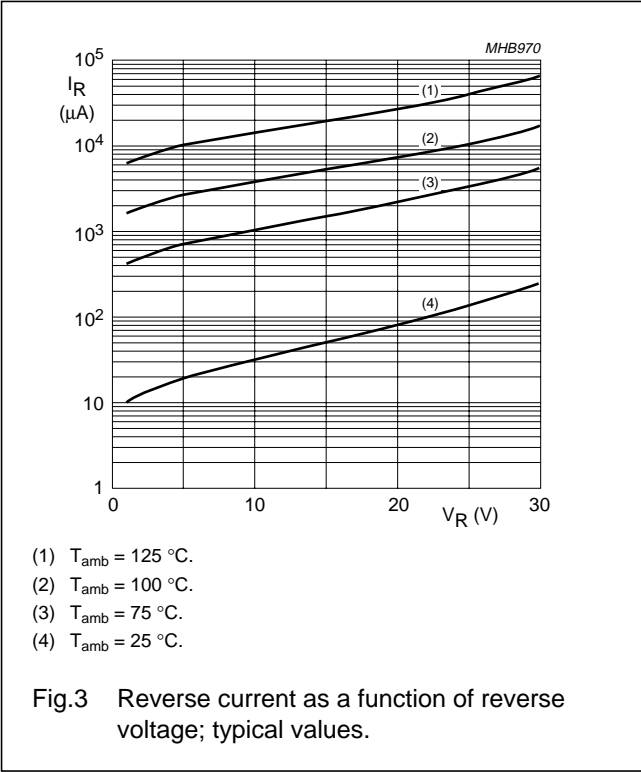
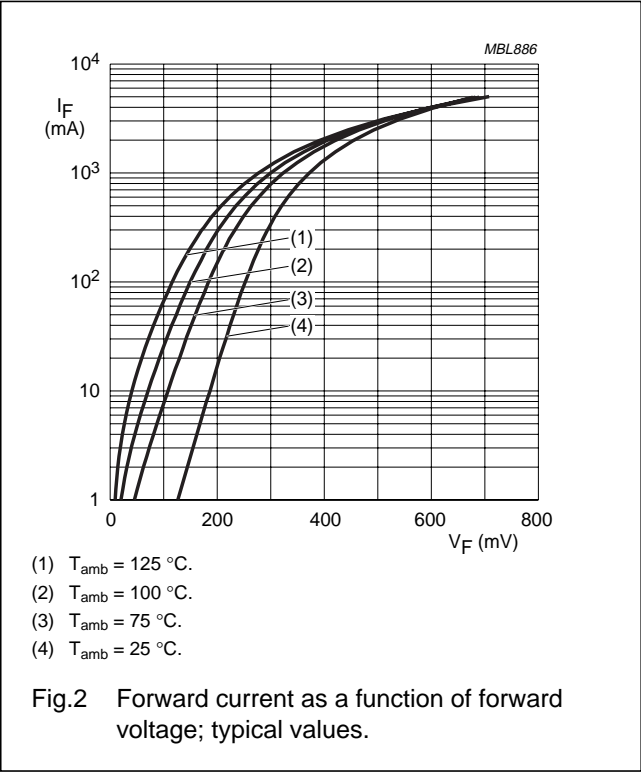
Note

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

Schottky barrier diode

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GRAPHICAL DATA



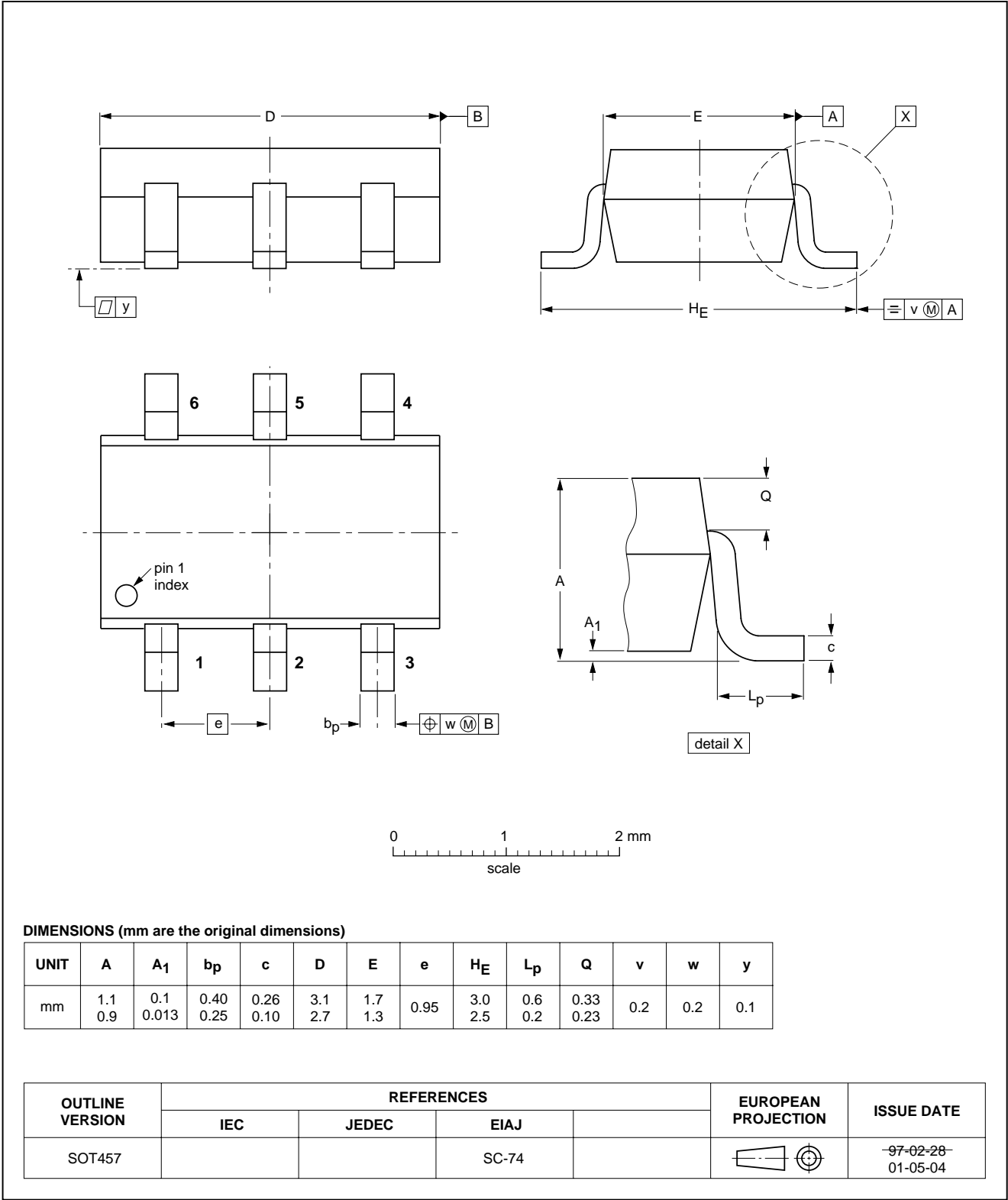
Schottky barrier diode

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PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT457



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.
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DEFINITIONS

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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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