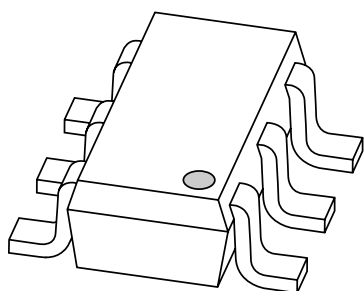


DATA SHEET



1PS74SB23 Schottky barrier diode

Product specification

1999 Apr 26

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

Top view

MAM421

Marking code: P1.

Fig.1 Simplified outline SC-74 (SOT457) and symbol.

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

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	$t_p = 8.3\text{ ms}$; half sinewave; JEDEC method; note 1	–	25	A
I_{RSM}	non-repetitive peak reverse current	$t_p = 100\text{ }\mu\text{s}$	–	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

1PS74SB23

ELECTRICAL CHARACTERISTICS

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

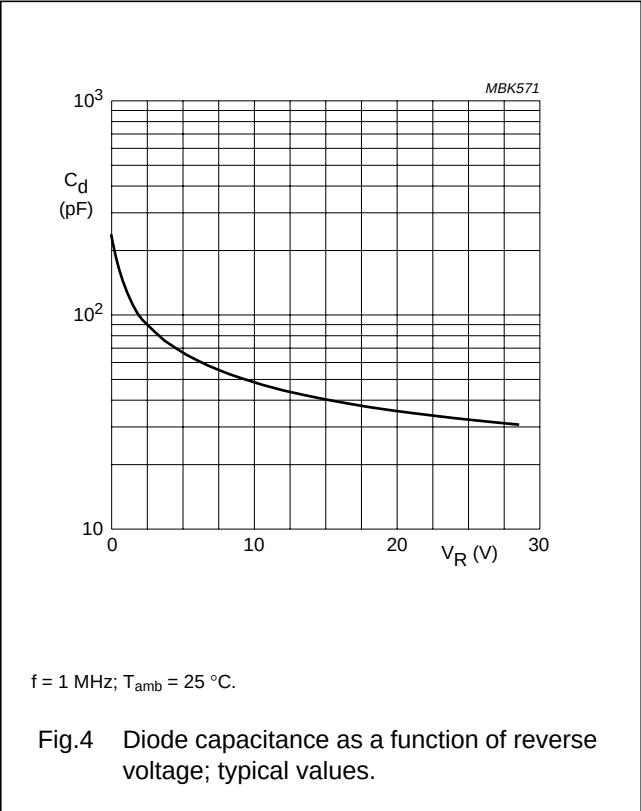
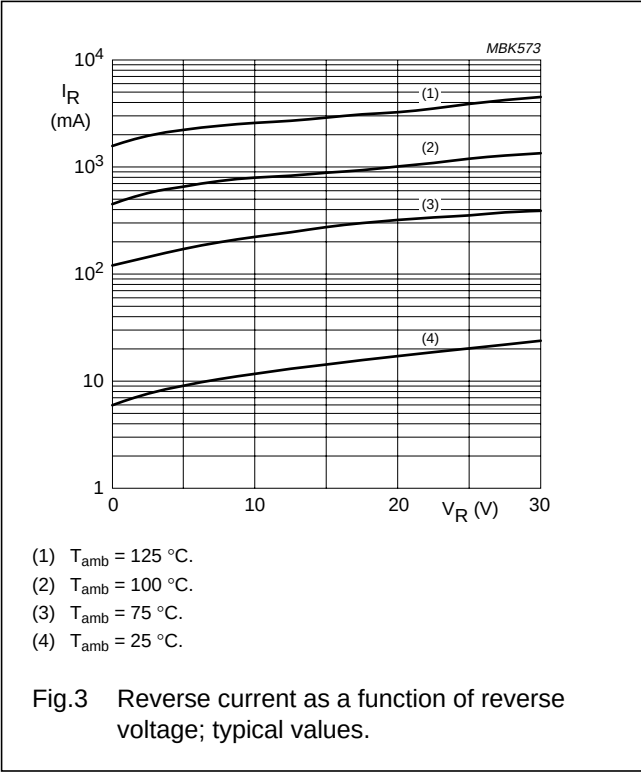
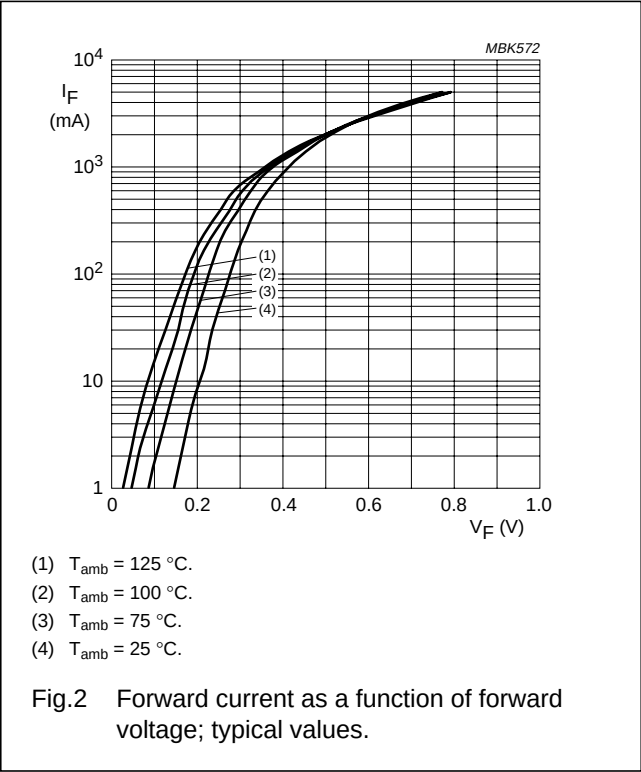
Note

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

Schottky barrier diode

1PS74SB23

GRAPHICAL DATA



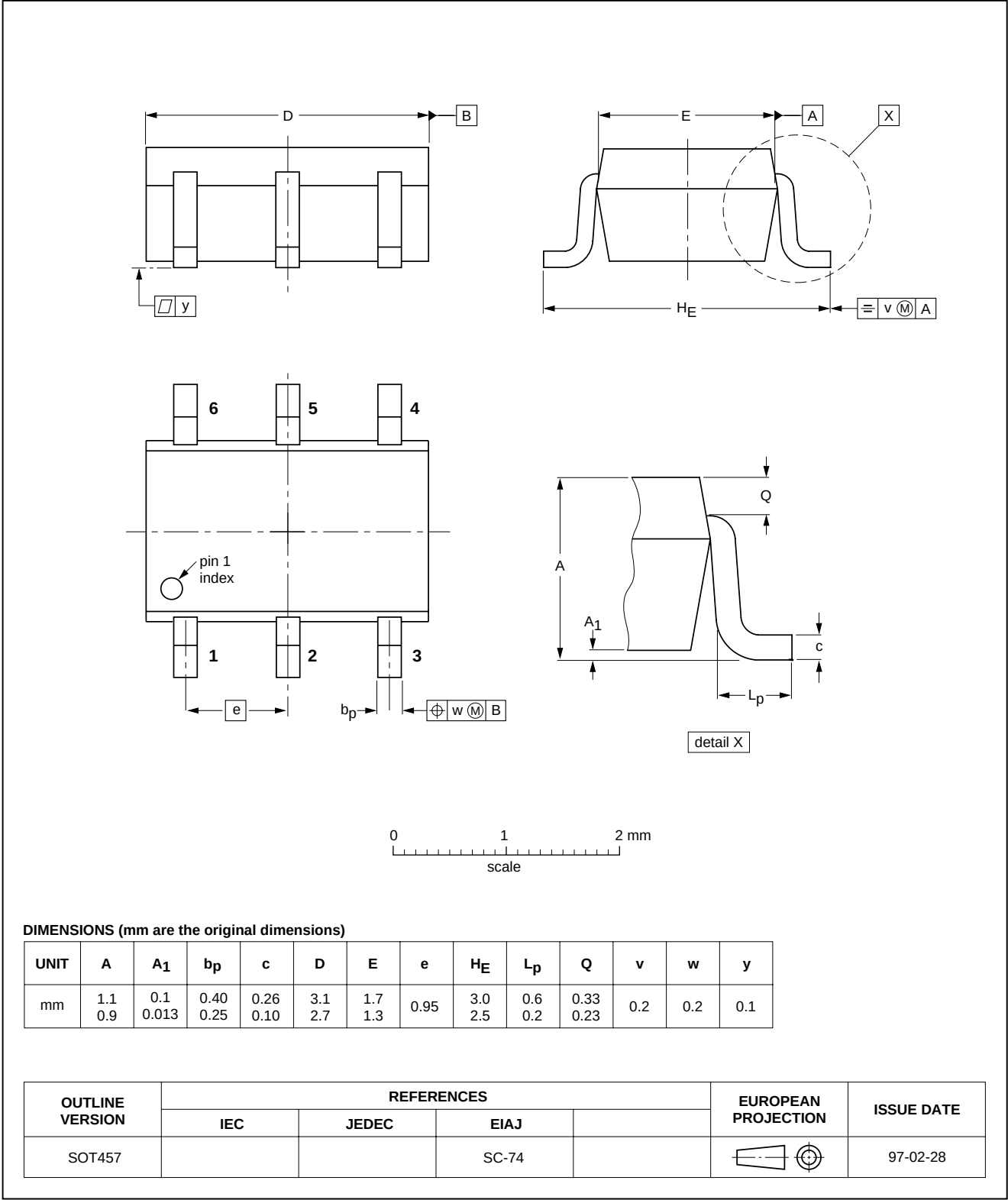
Schottky barrier diode

1PS74SB23

PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT457



Schottky barrier diode**1PS74SB23**

DEFINITIONS

Data Sheet Status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). 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.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

LIFE SUPPORT APPLICATIONS

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.

Schottky barrier diode**1PS74SB23**

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