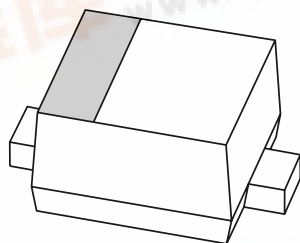


DISCRETE SEMICONDUCTORS

DATA SHEET



1PS79SB40 Schottky barrier diode

Product specification
Supersedes data of 1999 Mar 08

1999 Apr 26

Schottky barrier diode

1PS79SB40

FEATURES

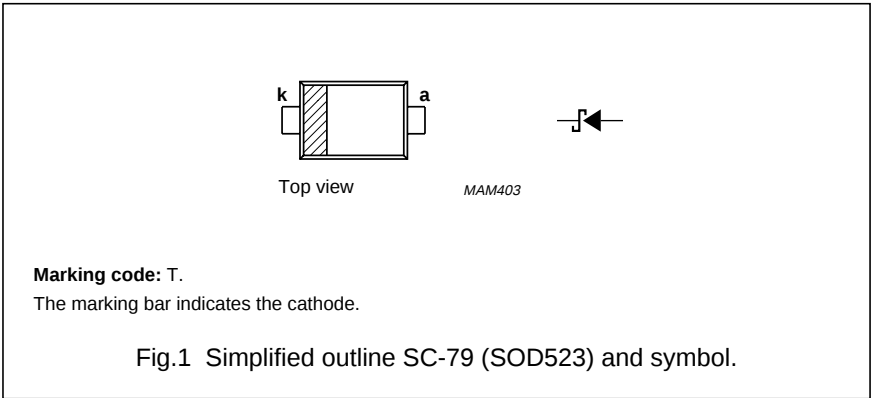
- Low forward voltage
- Guard ring protected
- Ultra small SMD package
- Low diode capacitance.

APPLICATIONS

- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Blocking diodes.

DESCRIPTION

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



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _R	continuous reverse voltage		–	40	V
I _F	continuous forward current		–	120	mA
I _{FRM}	repetitive peak forward current	t _p ≤ 1 s; δ ≤ 0.5	–	120	mA
I _{FSM}	non-repetitive peak forward current	t _p < 10 ms	–	200	mA
T _{stg}	storage temperature		–65	+150	°C
T _j	junction temperature		–	150	°C
T _{amb}	operating ambient temperature		–65	+150	°C

Schottky barrier diode

1PS79SB40

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

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
V_F	continuous forward voltage	see Fig.2		
		$I_F = 1\text{ mA}$	380	mV
		$I_F = 10\text{ mA}$	500	mV
		$I_F = 40\text{ mA}$	1	V
I_R	continuous reverse current	$V_R = 30\text{ V}$; note 1; see Fig.3	1	μA
		$V_R = 40\text{ V}$; note 1; see Fig.3	10	μA
C_d	diode capacitance	$V_R = 0$; $f = 1\text{ MHz}$; see Fig.5	5	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	450	K/W

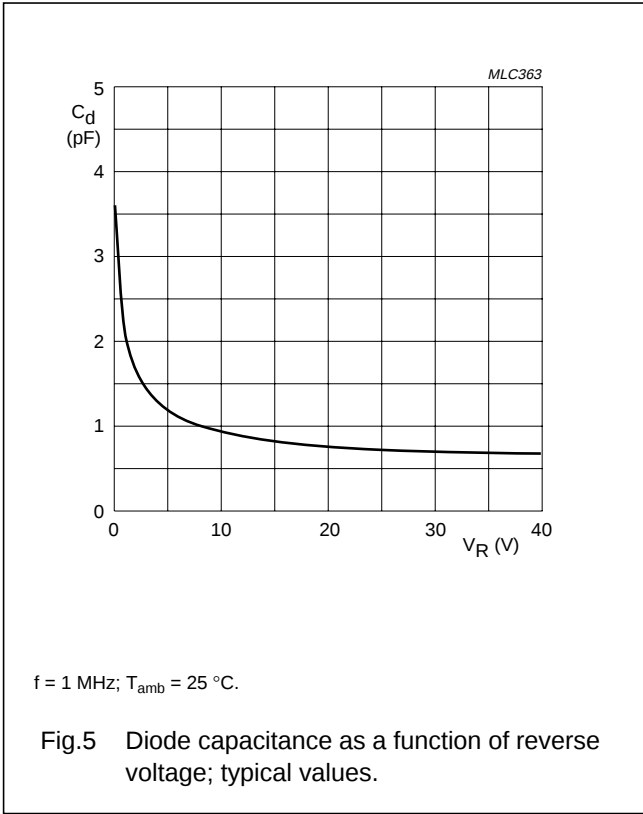
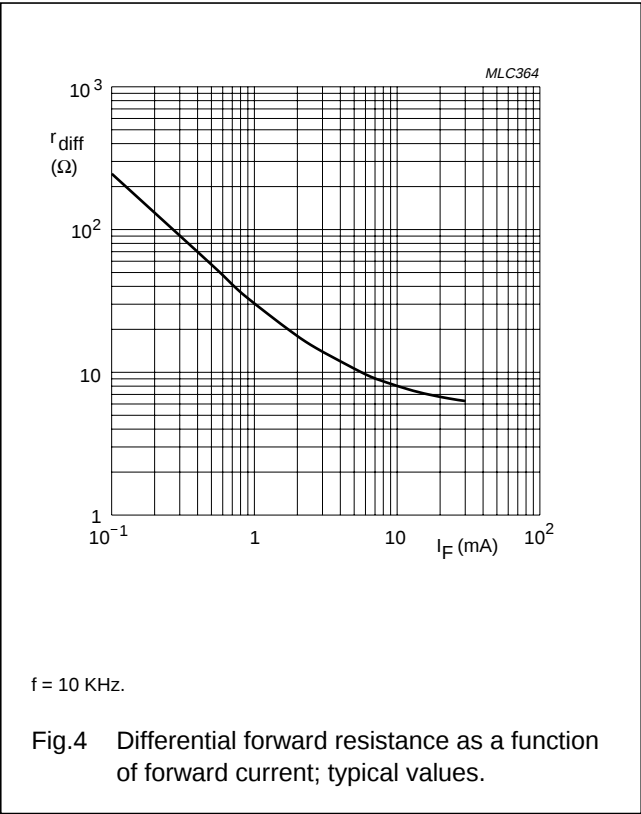
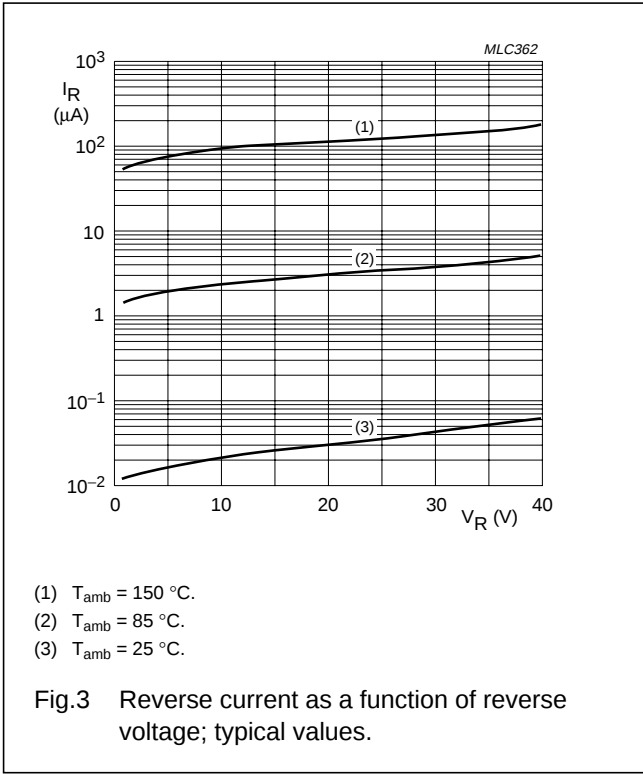
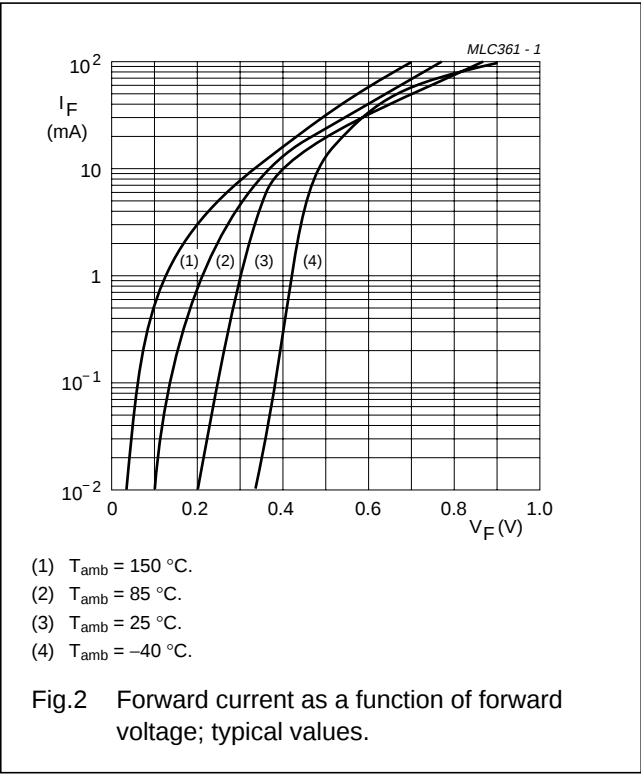
Note

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

Schottky barrier diode

1PS79SB40

GRAPHICAL DATA



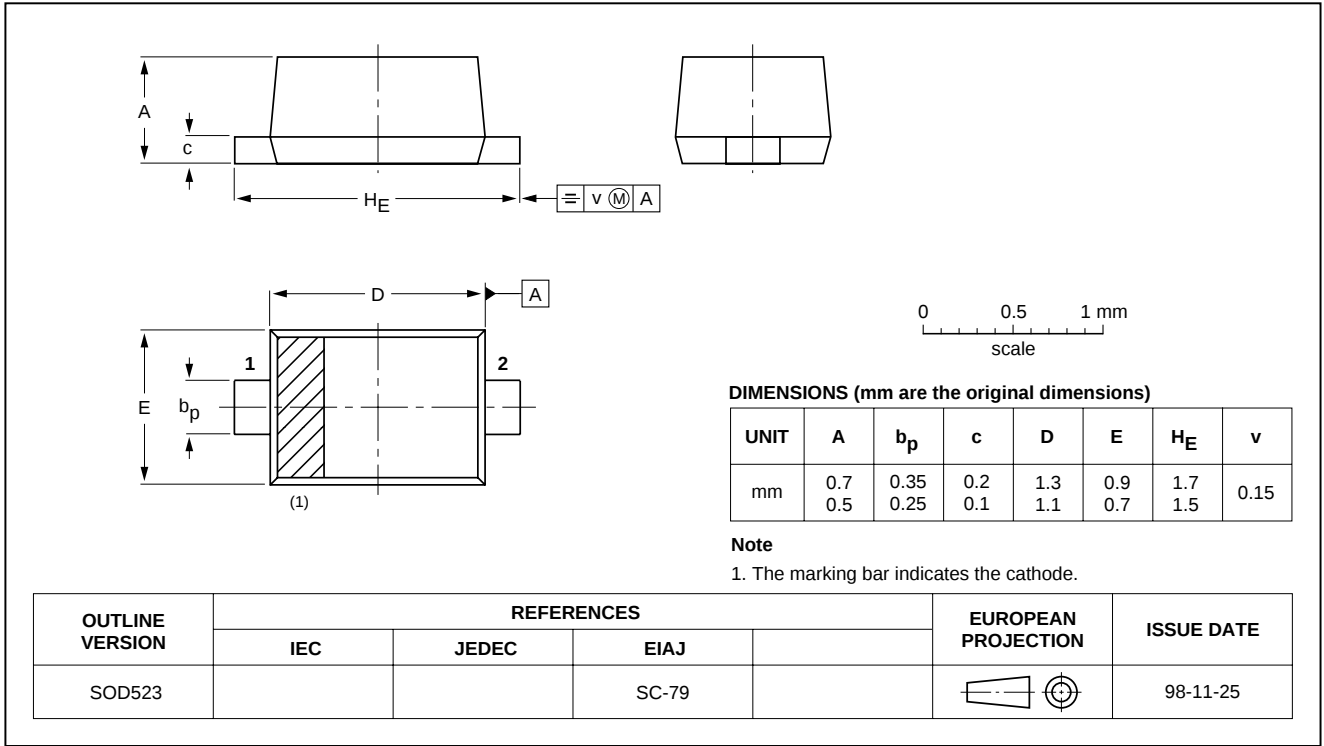
Schottky barrier diode

1PS79SB40

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD523



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

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NOTES

Schottky barrier diode

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NOTES

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SCA63

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