

DATA SHEET



BAS40L Schottky barrier diode

Product specification

2003 May 20

Schottky barrier diode

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FEATURES

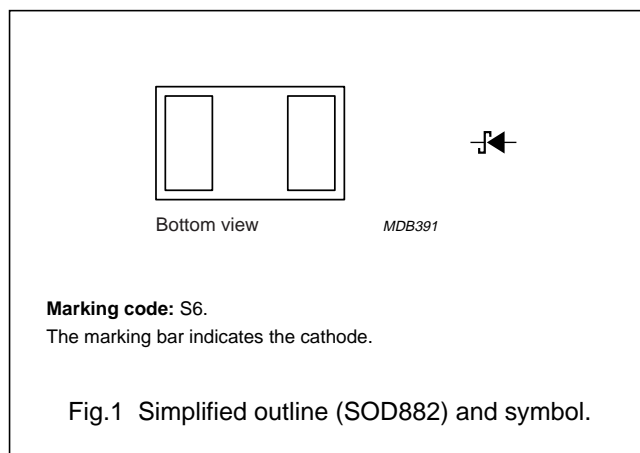
- Low diode capacitance
- Low forward voltage
- Guard ring protected
- High breakdown voltage
- Leadless ultra small plastic package (1 mm × 0.6 mm × 0.5 mm)
- Boardspace 1.17 mm² (approx. 10% of SOT23)
- Power dissipation comparable to SOT23.

APPLICATIONS

- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Mobile communication, digital (still) cameras, PDAs and PCMCIA cards.

DESCRIPTION

Planar Schottky barrier diode with an integrated guard ring for stress protection. Encapsulated in a SOD882 leadless ultra small plastic package.



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per diode					
V _R	continuous reverse voltage		–	40	V
I _F	continuous forward current		–	120	mA
I _{FRM}	repetitive peak forward current	t _p ≤ 1s; 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

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ELECTRICAL CHARACTERISTICS

$T_{amb} = 25\text{ °C}$ 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	$V_R = 30\text{ V}$; see Fig.3; note 1	1	μA
		$V_R = 40\text{ V}$; see Fig.3; note 1	10	μA
C_d	diode capacitance	$V_R = 0\text{ V}$; $f = 1\text{ MHz}$; 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
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	500	K/W

Note

1. Refer to SOD882 standard mounting conditions (footprint), FR4 with 60 μm copper strip line.

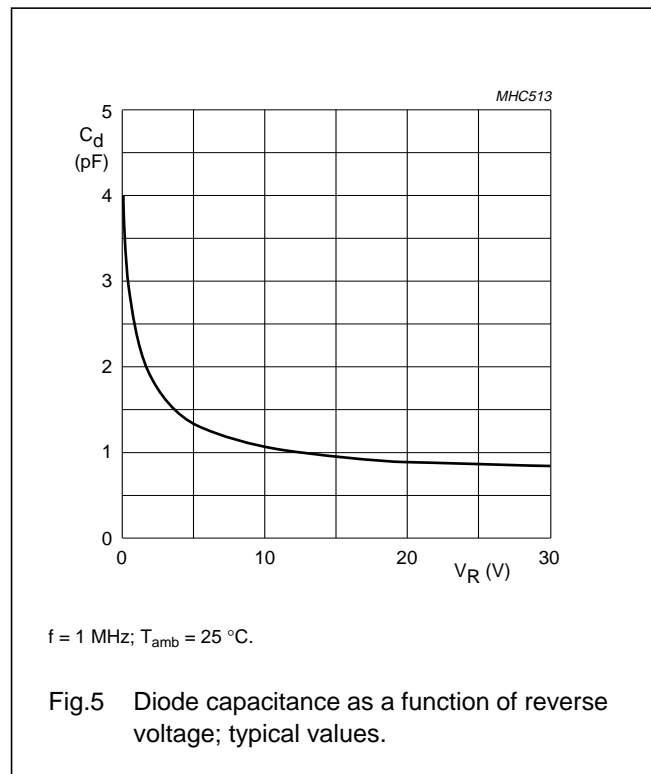
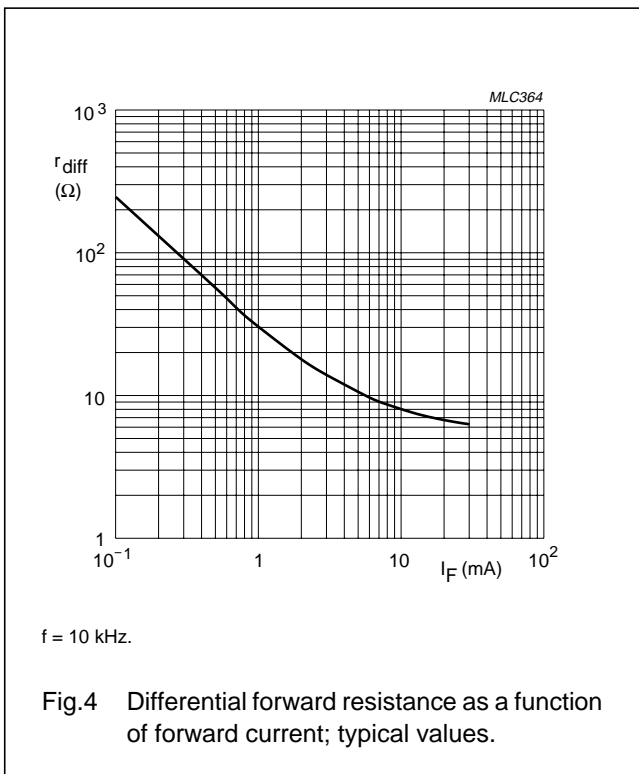
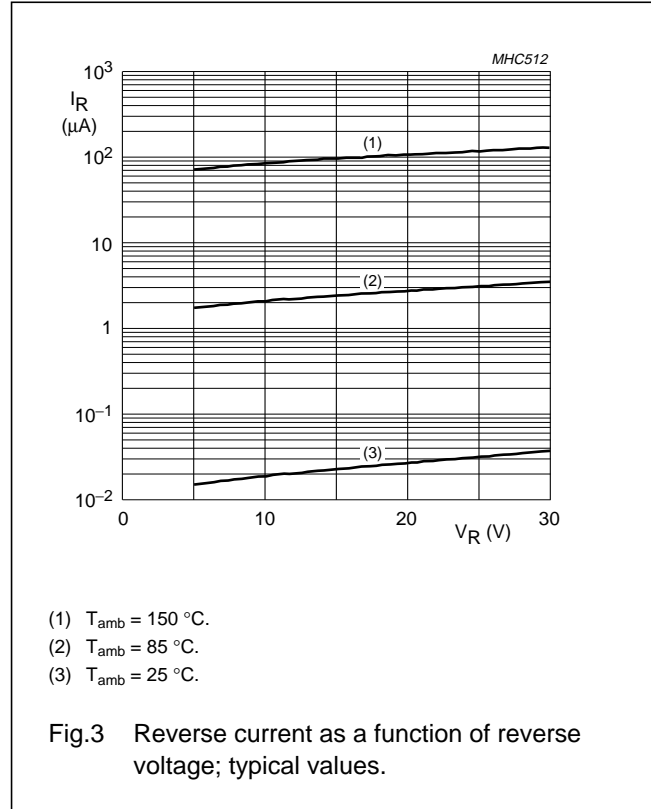
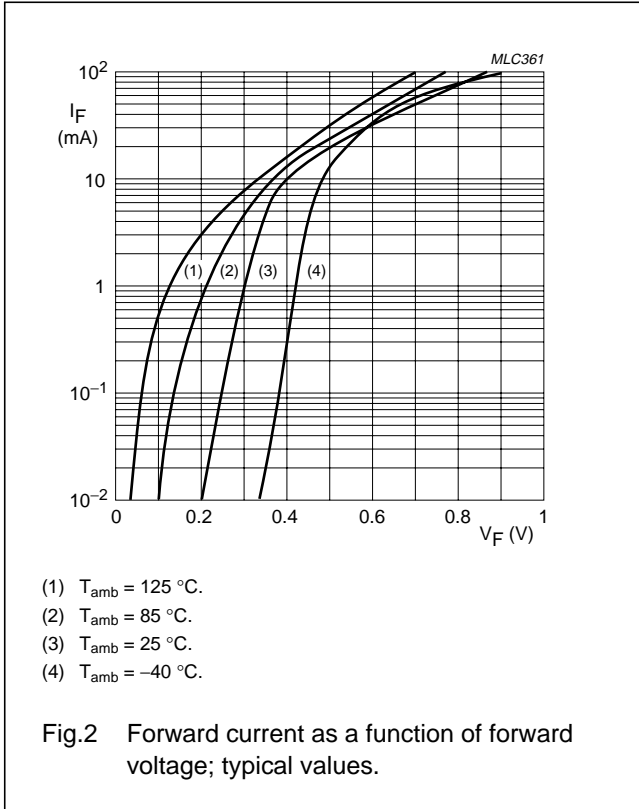
Soldering

Reflow soldering is the only recommended soldering method.

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GRAPHICAL DATA



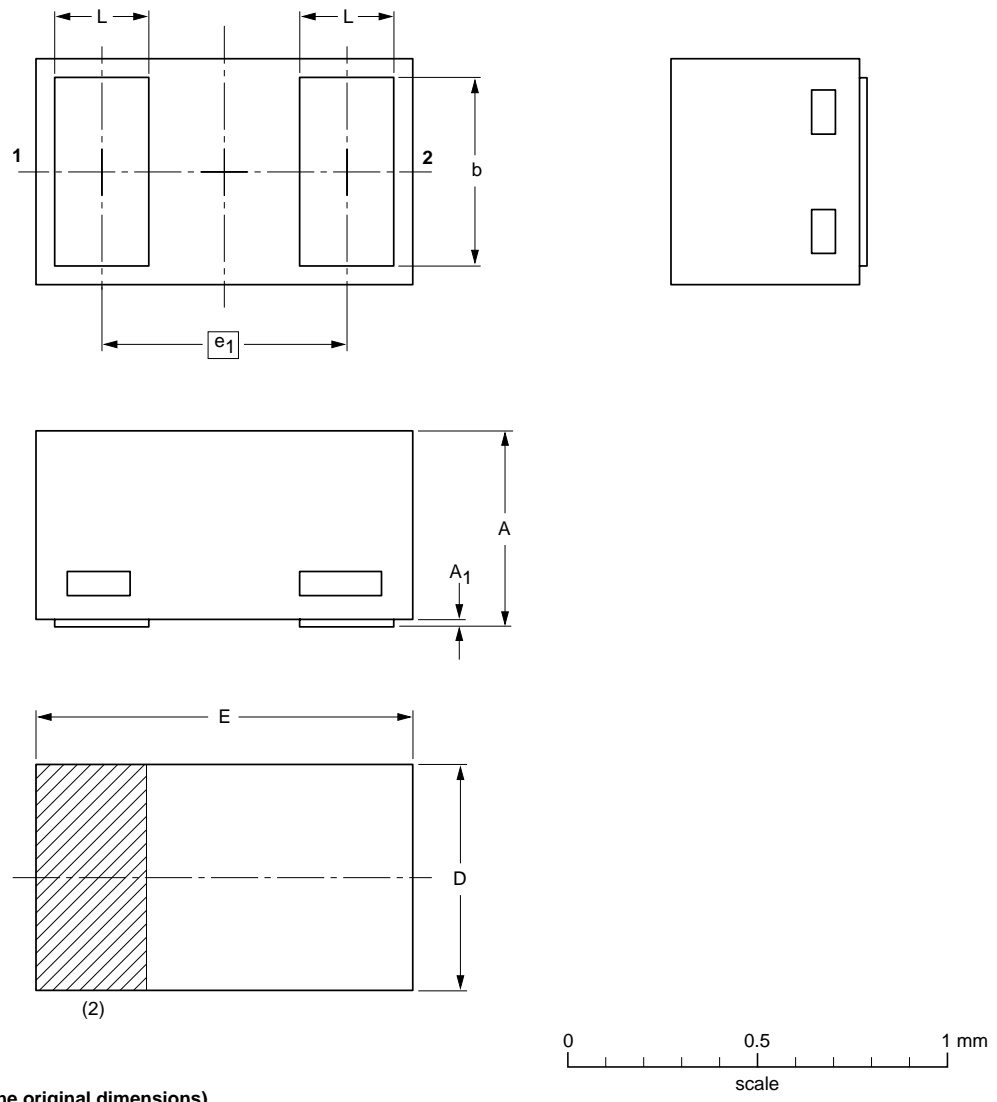
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PACKAGE OUTLINE

Leadless ultra small plastic package; 2 terminals; body 1.0 x 0.6 x 0.5 mm

SOD882



DIMENSIONS (mm are the original dimensions)

UNIT	A ⁽¹⁾	A ₁ max.	b	D	E	e ₁	L
mm	0.50 0.46	0.03	0.55 0.47	0.62 0.55	1.02 0.95	0.65	0.30 0.22

Notes

- Including plating thickness
- The marking bar indicates the cathode

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOD882						03-04-16 03-04-17

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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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