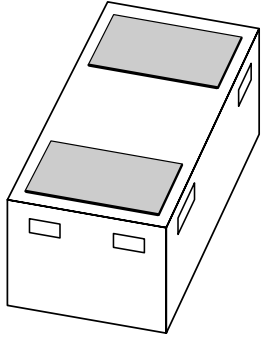


# DATA SHEET



## **BAT54L** Schottky barrier diode

Product data sheet

2003 Jun 23

# Schottky barrier diode

# BAT54L

## FEATURES

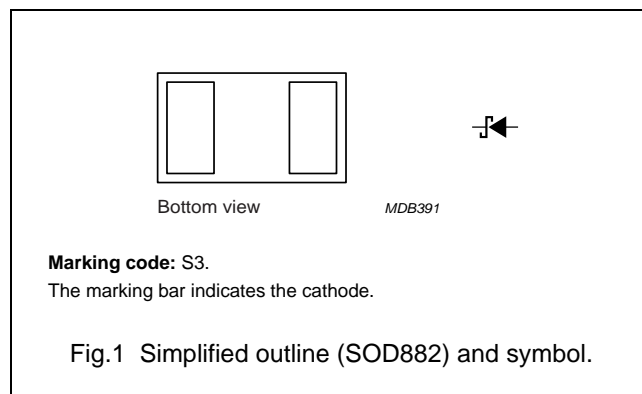
- Low forward voltage
- Leadless ultra small plastic package (1 mm × 0.6 mm × 0.5 mm)
- Boardspace 1.17 mm<sup>2</sup> (approx. 10% of SOT23)
- Power dissipation comparable to SOT23.

## APPLICATIONS

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

## DESCRIPTION

Planar Schottky barrier diode 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
V <sub>R</sub>	continuous reverse voltage		–	30	V
I <sub>F</sub>	continuous forward current		–	200	mA
I <sub>FRM</sub>	repetitive peak forward current	t <sub>p</sub> ≤ 1s; δ ≤ 0.5	–	300	mA
I <sub>FSM</sub>	non-repetitive peak forward current	t <sub>p</sub> < 10 ms	–	600	mA
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> ≤ 25 °C; note 1	–	250	mW
T <sub>stg</sub>	storage temperature		–65	+150	°C
T <sub>j</sub>	junction temperature		–	150	°C

## Note

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

## Schottky barrier diode

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**ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
$V_F$	forward voltage	see Fig.2		
		$I_F = 0.1\text{ mA}$	240	mV
		$I_F = 1\text{ mA}$	320	mV
		$I_F = 10\text{ mA}$	400	mV
		$I_F = 30\text{ mA}$	500	mV
		$I_F = 100\text{ mA}$	800	mV
$I_R$	continuous reverse current	$V_R = 25\text{ V}$ ; see Fig.3; note 1	2	$\mu\text{A}$
$C_d$	diode capacitance	$V_R = 1\text{ V}$ ; $f = 1\text{ MHz}$ ; see Fig.4	10	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 printed-circuit board with  $60\text{ }\mu\text{m}$  copper strip line.

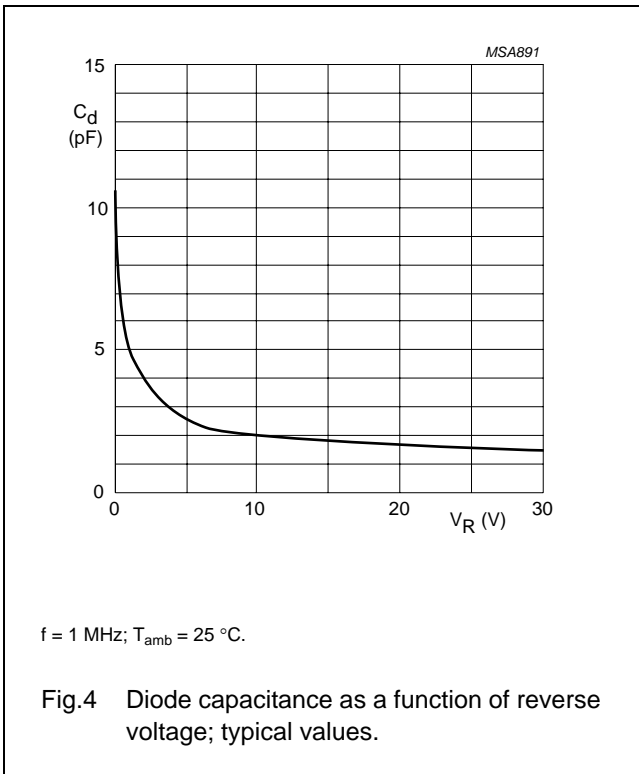
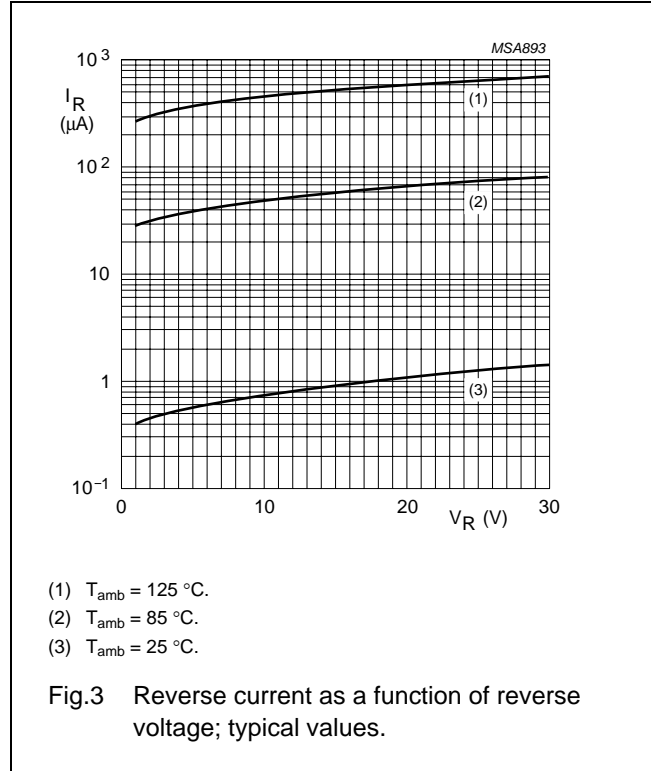
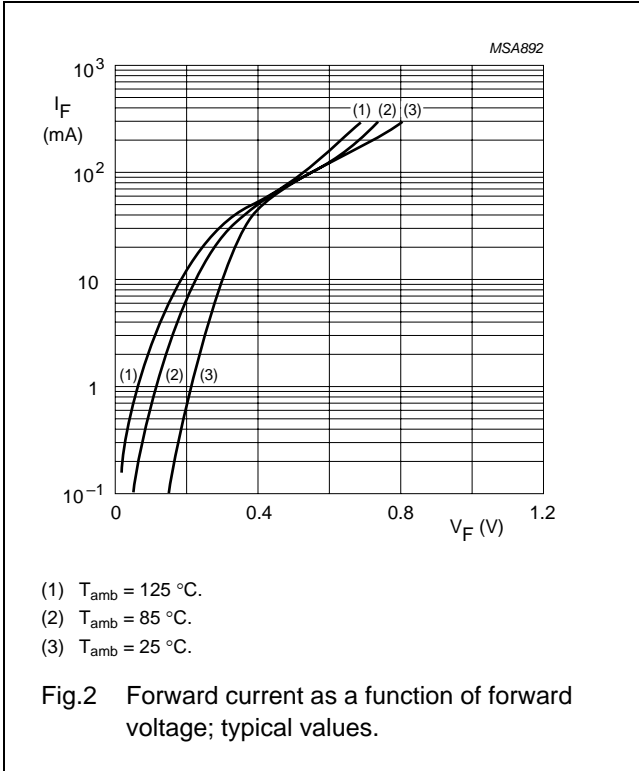
**Soldering**

Reflow soldering is the only recommended soldering method.

Schottky barrier diode

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GRAPHICAL DATA



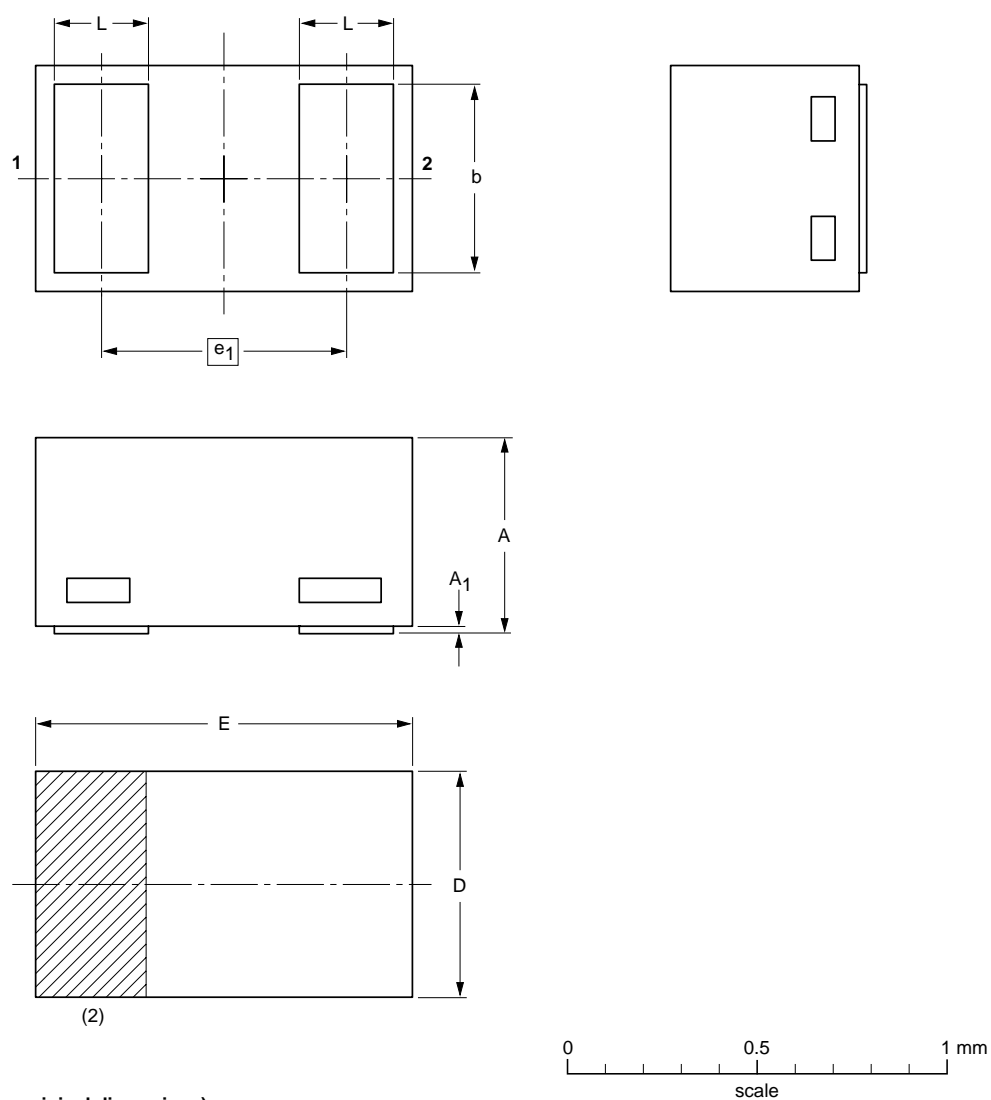
# Schottky barrier diode

# BAT54L

## 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 <sup>(1)</sup>	A <sub>1</sub> max.	b	D	E	e <sub>1</sub>	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**

- 1. Including plating thickness
- 2. The marking bar indicates the cathode

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

# Schottky barrier diode

# BAT54L

## DATA SHEET STATUS

DOCUMENT STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	DEFINITION
Objective data sheet	Development	This document contains data from the objective specification for product development.
Preliminary data sheet	Qualification	This document contains data from the preliminary specification.
Product data sheet	Production	This document contains the product specification.

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## **Customer notification**

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## **Contact information**

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