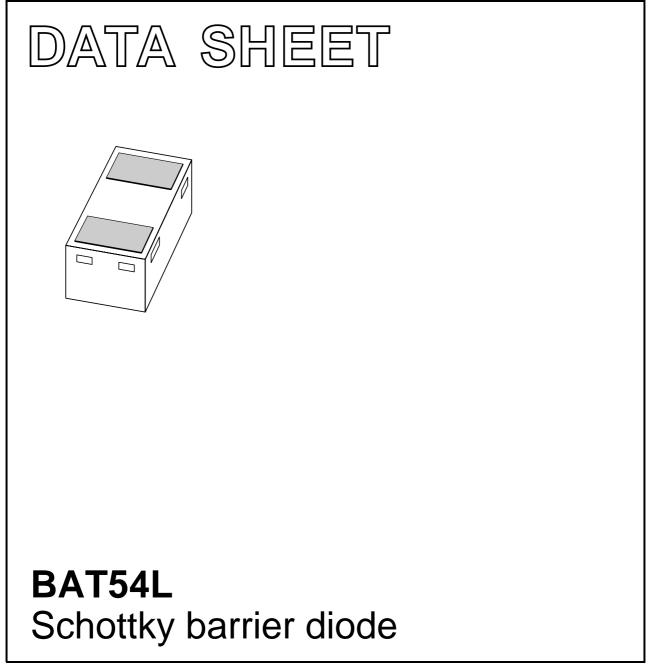
DISCRETE SEMICONDUCTORS



Product data sheet

2003 Jun 23



BAT54L

FEATURES

- Low forward 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 encapsulated in a SOD882 leadless ultra small plastic package.

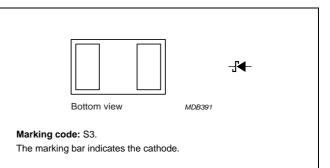


Fig.1 Simplified outline (SOD882) and symbol.

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _R	continuous reverse voltage		-	30	V
I _F	continuous forward current		-	200	mA
I _{FRM}	repetitive peak forward current	$t_p \le 1s; \delta \le 0.5$	—	300	mA
I _{FSM}	non-repetitive peak forward current	t _p < 10 ms	_	600	mA
P _{tot}	total power dissipation	$T_{amb} \le 25 \ ^{\circ}C$; note 1	-	250	mW
T _{stg}	storage temperature		-65	+150	°C
Tj	junction temperature		-	150	°C

Note

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

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
V _F	forward voltage	see Fig.2		
		I _F = 0.1 mA	240	mV
		$I_F = 1 \text{ mA}$	320	mV
		I _F = 10 mA	400	mV
		I _F = 30 mA	500	mV
		I _F = 100 mA	800	mV
I _R	continuous reverse current	V _R = 25 V; see Fig.3; note 1	2	μA
C _d	diode capacitance	V _R = 1 V; f = 1 MHz; see Fig.4	10	pF

Note

1. Pulse test: t_p = 300 µs; δ = 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

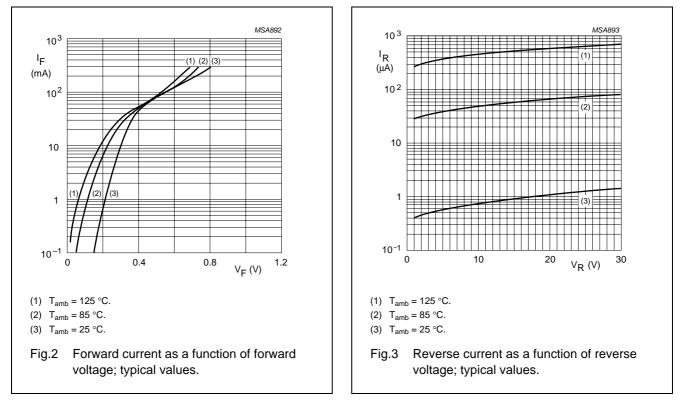
1. Refer to SOD882 standard mounting conditions (footprint), FR4 printed-circuit board with 60 µm copper strip line.

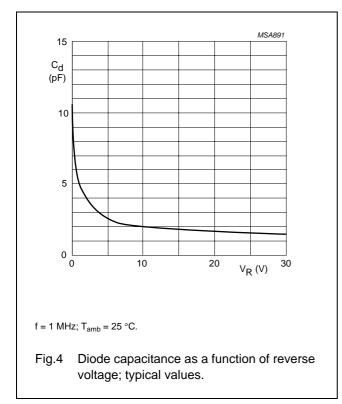
Soldering

Reflow soldering is the only recommended soldering method.

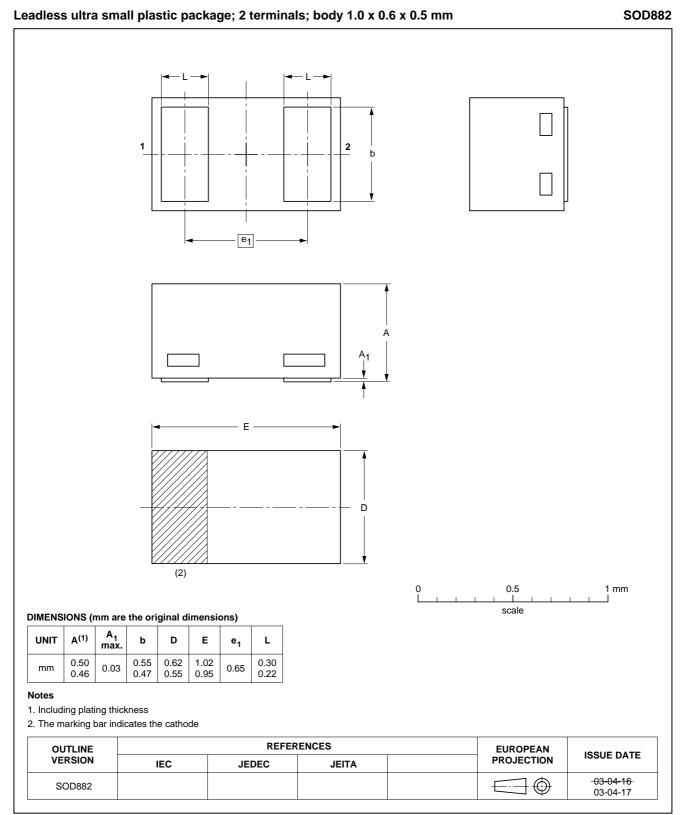
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GRAPHICAL DATA





PACKAGE OUTLINE



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DOCUMENT STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	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.

DATA SHEET STATUS

Notes

- 1. Please consult the most recently issued document before initiating or completing a design.
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Customer notification

This data sheet was changed to reflect the new company name NXP Semiconductors. No changes were made to the content, except for the legal definitions and disclaimers.

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