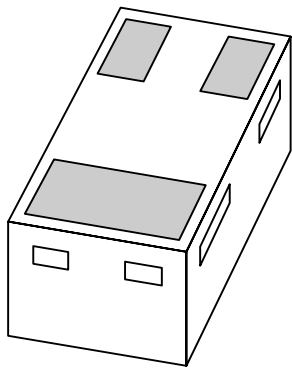


# DATA SHEET



## **BAT54CM** Schottky barrier double diode

Product specification

2003 Nov 11

# Schottky barrier double diode

# BAT54CM

### FEATURES

- Low forward voltage
- Leadless ultra small plastic package (1.0 × 0.6 × 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 communications, digital (still) cameras, PDAs and PCMCIA cards.

### DESCRIPTION

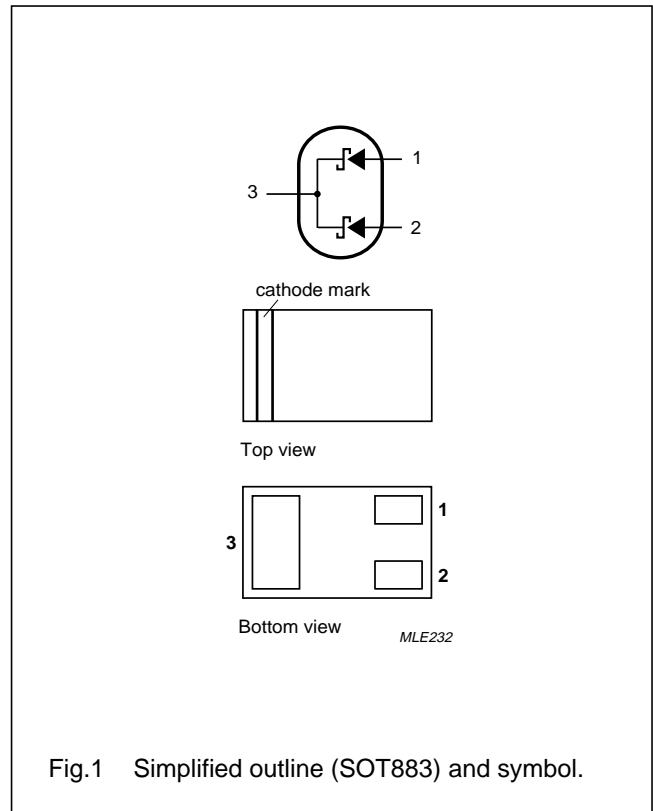
Planar Schottky barrier double diode encapsulated in a SOT883 leadless ultra small plastic package.

### MARKING

TYPE NUMBER	MARKING CODE
BAT54CM	S3

### PINNING

PIN	DESCRIPTION
1	anode (a <sub>1</sub> )
2	anode (a <sub>2</sub> )
3	common cathode



### ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BAT54CM	–	leadless ultra small plastic package; 3 solder lands; body 1.0 × 0.6 × 0.5 mm	SOT883

## Schottky barrier double diode

## BAT54CM

**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	$t_p \leq 1$ s; $\delta \leq 0.5$	–	300	mA
$I_{FSM}$	non-repetitive peak forward current	$t_p < 10$ ms	–	600	mA
$T_{stg}$	storage temperature		–65	+150	°C
$T_j$	junction temperature		–	150	°C
$P_{tot}$	total power dissipation (per package)	$T_{amb} \leq 25$ °C; note 1	–	250	mW

**Note**

1. Refer to SOT883 standard mounting conditions (footprint); FR4 with 60  $\mu$ m copper strip line.

**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 SOT883 standard mounting conditions (footprint), FR4 with 60  $\mu$ m copper strip line.

**Soldering**

Reflow soldering is the only recommended soldering method.

**ELECTRICAL CHARACTERISTICS**

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

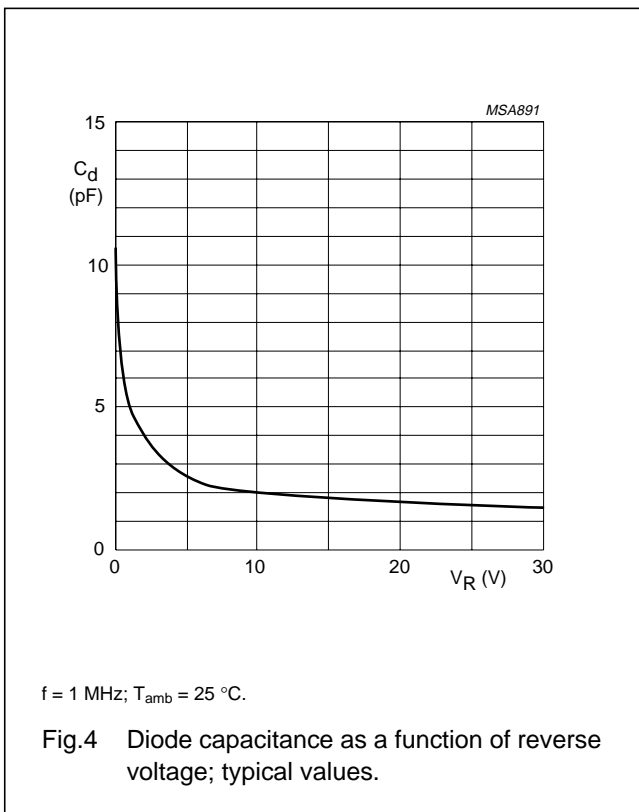
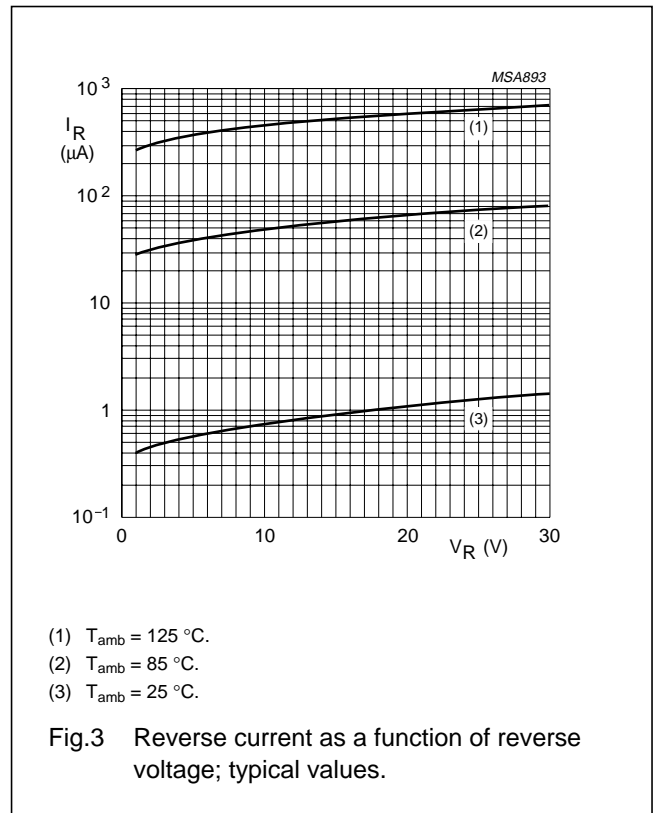
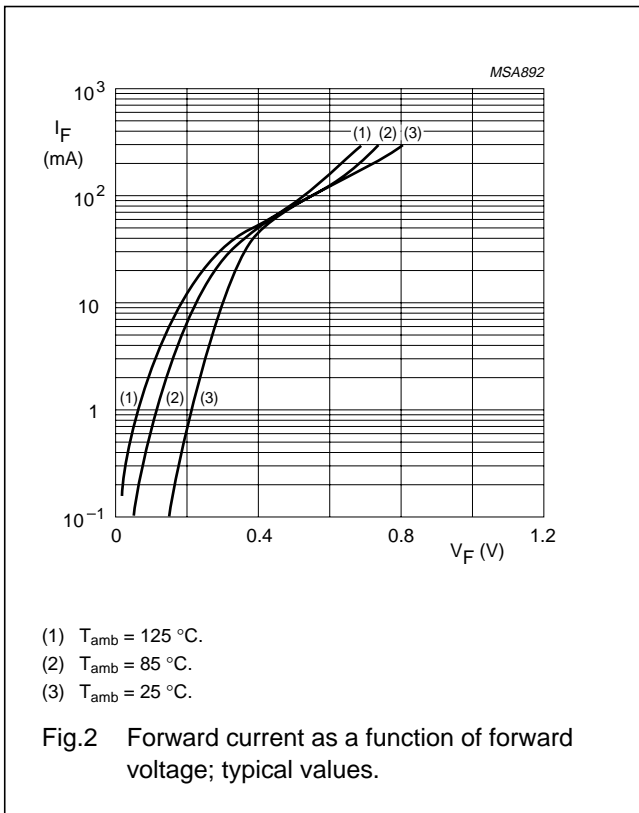
SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
<b>Per diode</b>				
$V_F$	forward voltage	see Fig.2; $I_F = 0.1$ mA $I_F = 1$ mA $I_F = 10$ mA $I_F = 30$ mA $I_F = 100$ mA	240 320 400 500 800	mV mV mV mV mV
$I_R$	continuous reverse current	$V_R = 25$ V; note 1; see Fig.3	2	$\mu$ A
$C_d$	diode capacitance	$f = 1$ MHz; $V_R = 1$ V; see Fig.4	10	pF

**Note**

1. Pulsed test:  $t_p \leq 300$   $\mu$ s;  $\delta \leq 0.02$ .

Schottky barrier double diode

BAT54CM



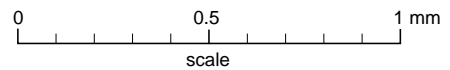
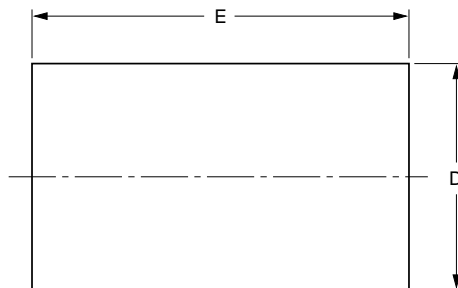
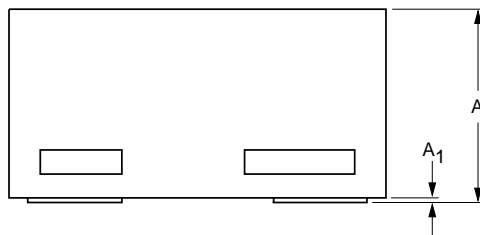
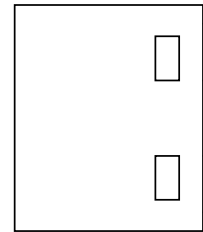
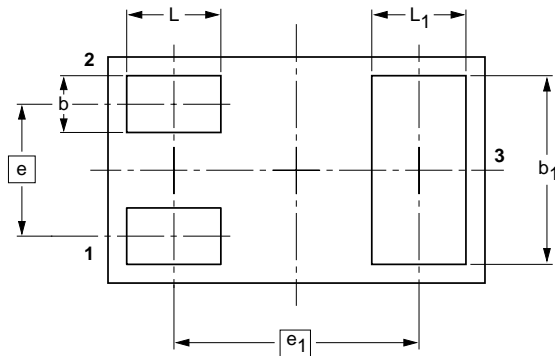
Schottky barrier double diode

BAT54CM

PACKAGE OUTLINE

Leadless ultra small plastic package; 3 solder lands; body 1.0 x 0.6 x 0.5 mm

SOT883



DIMENSIONS (mm are the original dimensions)

UNIT	A <sup>(1)</sup>	A <sub>1</sub> max.	b	b <sub>1</sub>	D	E	e	e <sub>1</sub>	L	L <sub>1</sub>
mm	0.50 0.46	0.03	0.20 0.12	0.55 0.47	0.62 0.55	1.02 0.95	0.35	0.65	0.30 0.22	0.30 0.22

Note

1. Including plating thickness

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOT883			SC-101			03-02-05 03-04-03

## Schottky barrier double diode

BAT54CM

## DATA SHEET STATUS

LEVEL	DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)(3)</sup>	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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