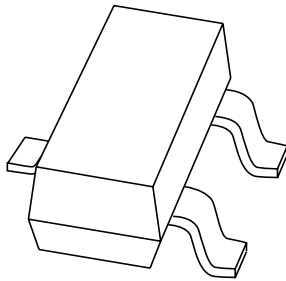


# DATA SHEET



## **BAT754 series** Schottky barrier (double) diodes

Product specification  
Supersedes data of 1999 Aug 05

2003 Mar 25

# Schottky barrier (double) diodes

# BAT754 series

### FEATURES

- Very low forward voltage
- Guard ring protected
- Small plastic SMD package
- Low diode capacitance.

### APPLICATIONS

- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Blocking diodes
- Low power consumption applications, e.g. hand-held applications.

### DESCRIPTION

Planar Schottky barrier diodes encapsulated in a SOT23 small plastic SMD package. Low forward voltage selection of the BAT754 series. Single diodes and double diodes with different pinning are available.

### MARKING

TYPE NUMBER	MARKING CODE <sup>(1)</sup>
BAT754	2K*
BAT754A	2L*
BAT754C	2M*
BAT754S	2N*

#### Note

- \* = p : Made in Hong Kong.  
 \* = t : Made in Malaysia.  
 \* = W : Made in China.

### PINNING

PIN	BAT754			
		A	C	S
1	a	k <sub>1</sub>	a <sub>1</sub>	a <sub>1</sub>
2	n.c.	k <sub>2</sub>	a <sub>2</sub>	k <sub>2</sub>
3	k	a <sub>1</sub> , a <sub>2</sub>	k <sub>1</sub> , k <sub>2</sub>	k <sub>1</sub> , a <sub>2</sub>

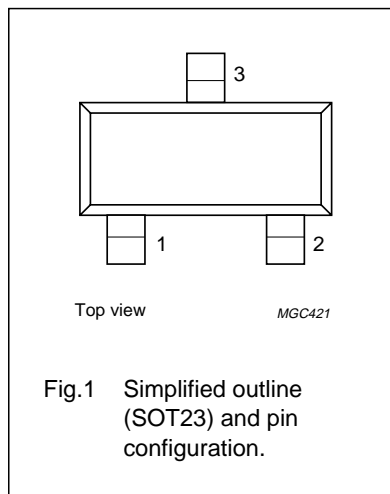


Fig.1 Simplified outline (SOT23) and pin configuration.

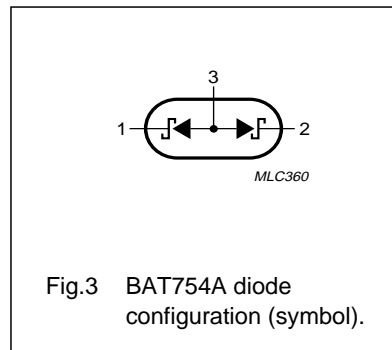


Fig.3 BAT754A diode configuration (symbol).

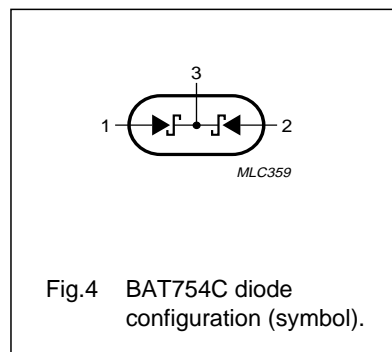


Fig.4 BAT754C diode configuration (symbol).

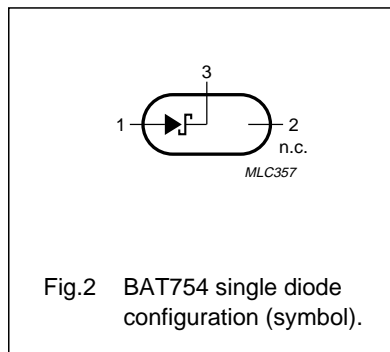


Fig.2 BAT754 single diode configuration (symbol).

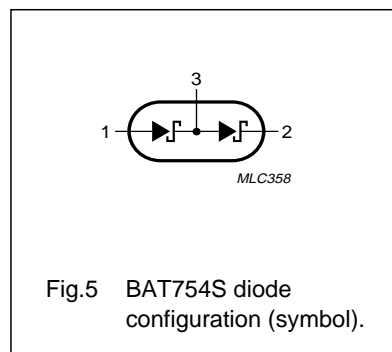


Fig.5 BAT754S diode configuration (symbol).

## Schottky barrier (double) diodes

## BAT754 series

**LIMITING VALUES**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
<b>Per diode</b>					
$V_R$	continuous reverse voltage		–	30	V
$I_F$	continuous forward current		–	200	mA
$I_{FRM}$	repetitive peak forward current	$t_p \leq 1 \text{ s}; \delta \leq 0.5$	–	300	mA
$I_{FSM}$	non-repetitive peak forward current	$t = 8.3 \text{ ms}$ half sinewave; JEDEC method	–	600	mA
$T_{stg}$	storage temperature		–65	+150	°C
$T_j$	junction temperature		–	125	°C
$T_{amb}$	operating ambient temperature		–65	+125	°C

**ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
<b>Per diode</b>					
$V_F$	forward voltage	see Fig.6 $I_F = 0.1 \text{ mA}$ $I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$ $I_F = 30 \text{ mA}$ $I_F = 100 \text{ mA}$	– – – – 600	200 260 340 420 –	mV mV mV mV mV
$I_R$	reverse current	$V_R = 25 \text{ V}$ ; note 1; see Fig.7	–	2	$\mu\text{A}$
$C_d$	diode capacitance	$f = 1 \text{ MHz}$ ; $V_R = 1 \text{ V}$ ; see Fig.8	–	10	pF

**Note**

1. Pulse test:  $t_p = 300 \mu\text{s}$ ;  $\delta \leq 0.02$ .

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	500	K/W

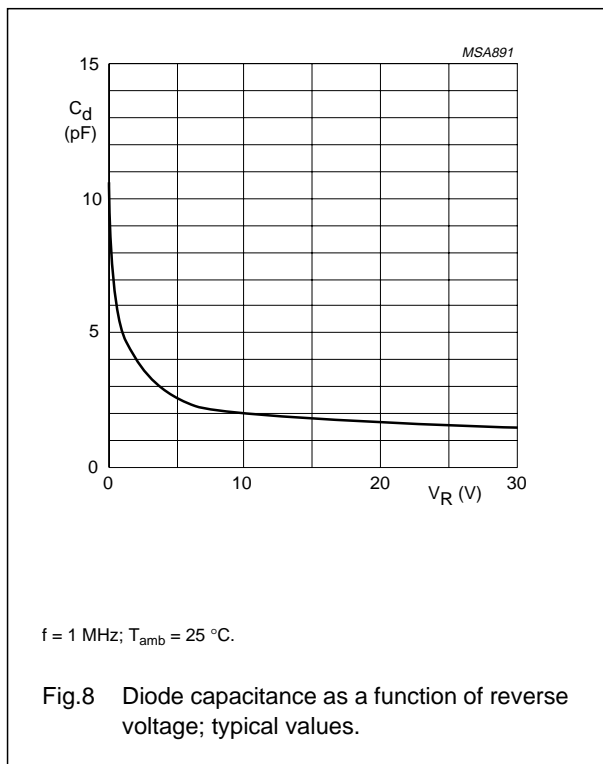
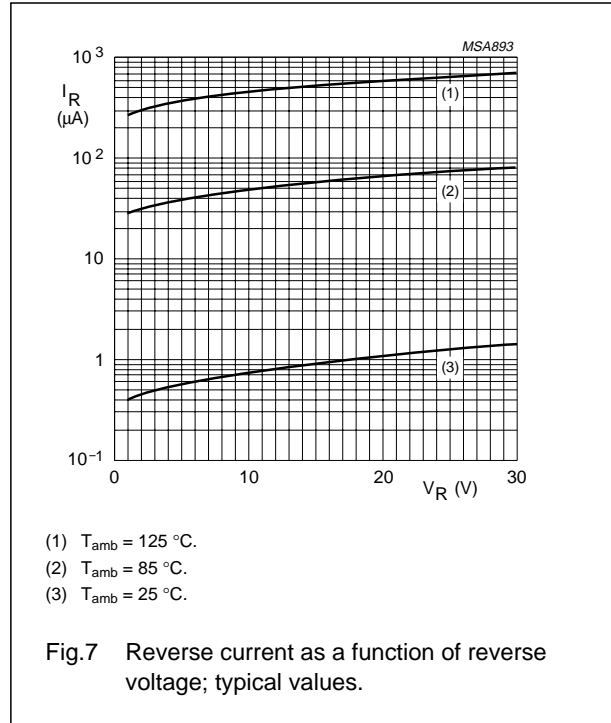
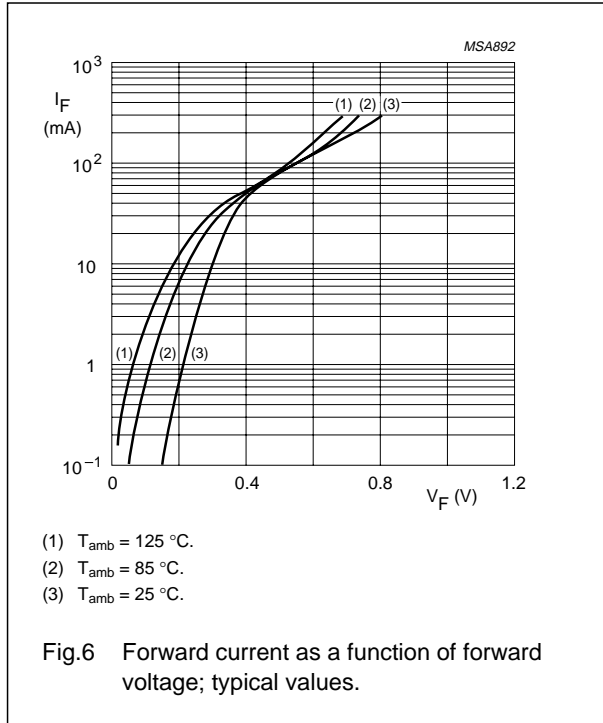
**Note**

1. Refer to SOT23 standard mounting conditions.

Schottky barrier (double) diodes

BAT754 series

GRAPHICAL DATA



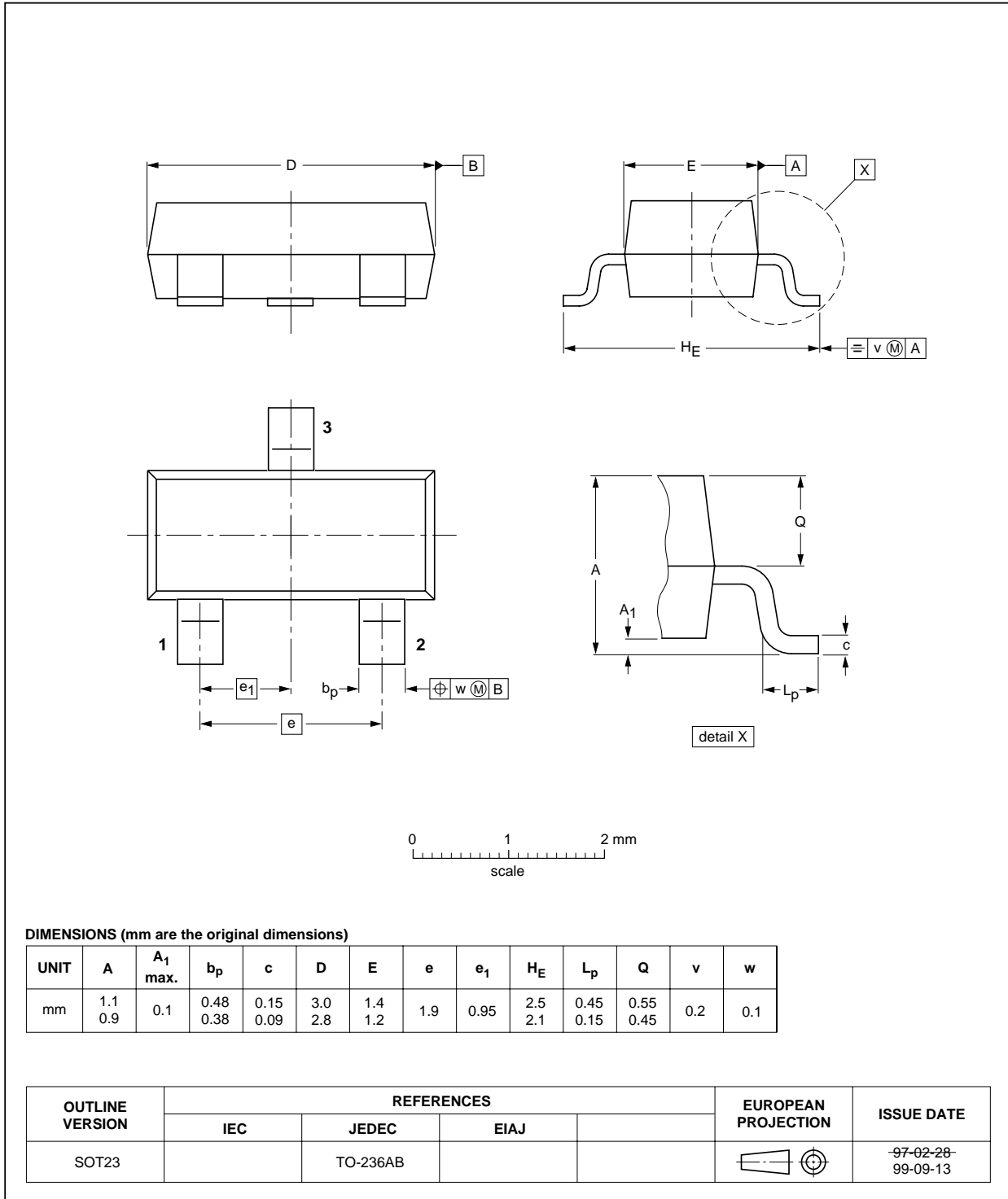
Schottky barrier (double) diodes

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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



## Schottky barrier (double) diodes

## BAT754 series

## 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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Schottky barrier (double) diodes

BAT754 series

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**NOTES**

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