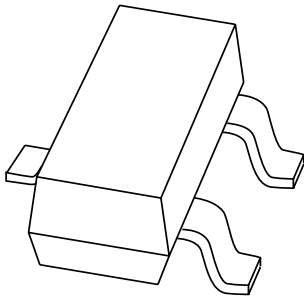


# DATA SHEET



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

Product data sheet  
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 BAT54 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>

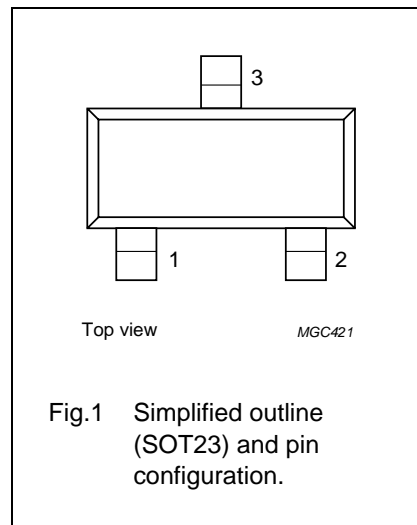


Fig.1 Simplified outline (SOT23) and pin configuration.

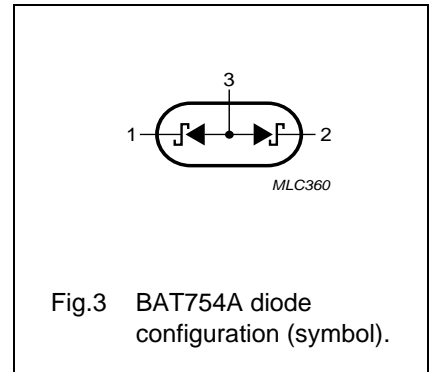


Fig.3 BAT754A diode configuration (symbol).

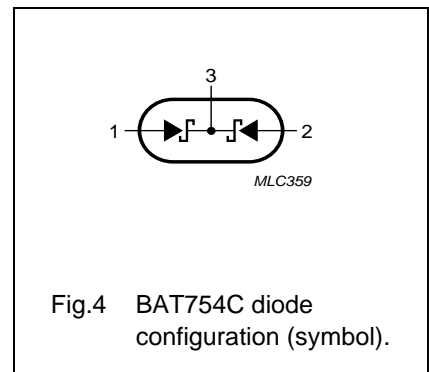


Fig.4 BAT754C diode configuration (symbol).

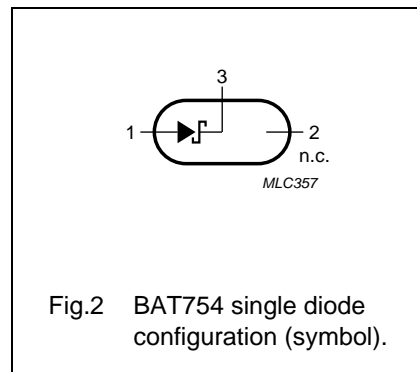


Fig.2 BAT754 single diode configuration (symbol).

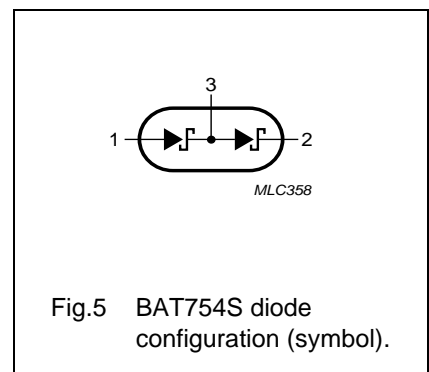


Fig.5 BAT754S diode configuration (symbol).

## 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	$t_p \leq 1$ s; $\delta \leq 0.5$	–	300	mA
$I_{FSM}$	non-repetitive peak forward current	$t = 8.3$ 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**

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

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

**Note**

1. Pulse test:  $t_p = 300$  μs;  $\delta \leq 0.02$ .

**THERMAL CHARACTERISTICS**

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

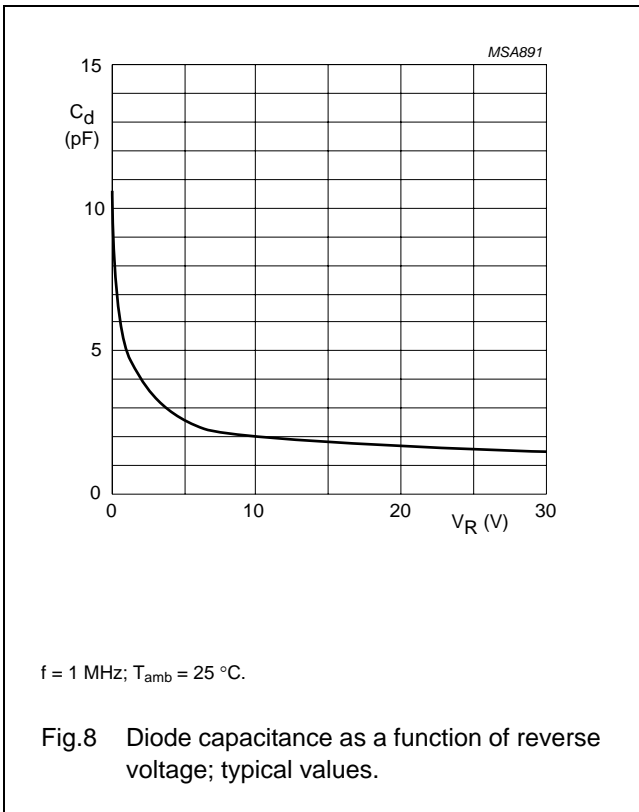
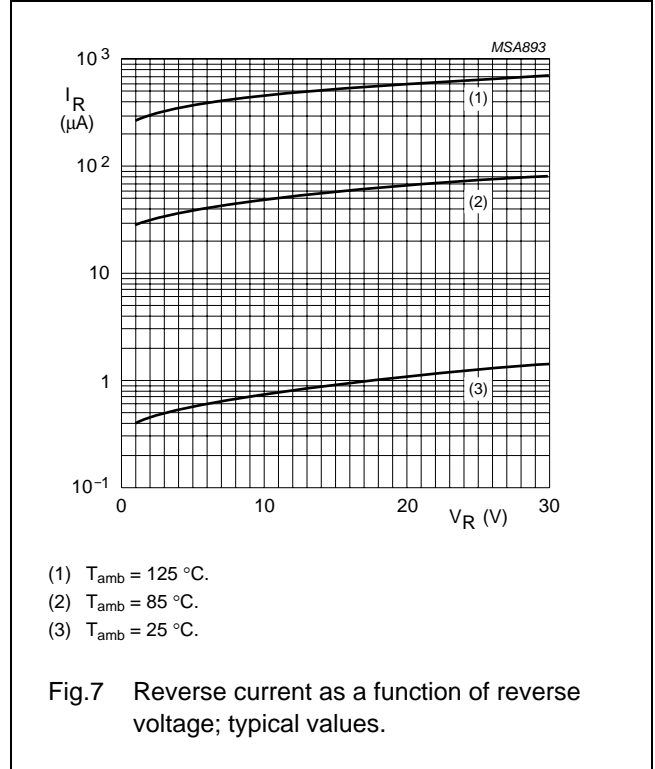
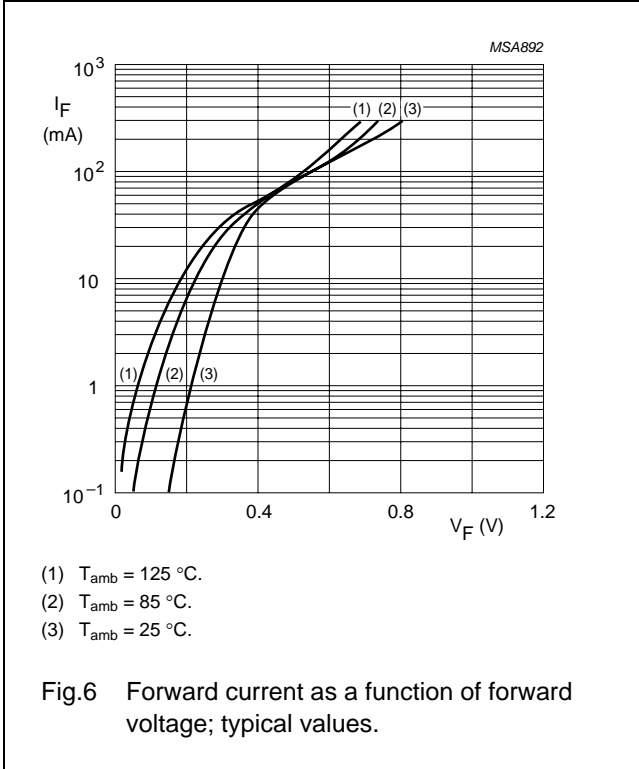
**Note**

1. Refer to SOT23 standard mounting conditions.

Schottky barrier (double) diodes

BAT754 series

GRAPHICAL DATA



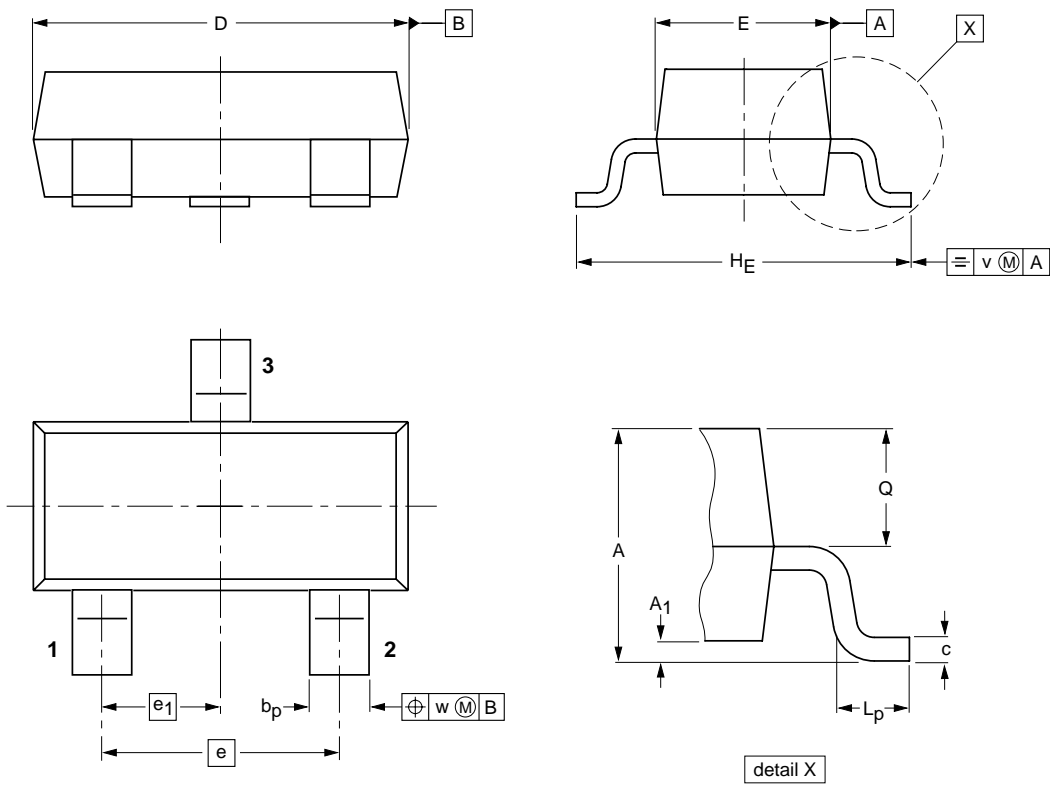
Schottky barrier (double) diodes

BAT754 series

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub> max.	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

OUTLINE VERSION	REFERENCES			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ		
SOT23		TO-236AB			97-02-28 99-09-13

## Schottky barrier (double) diodes

## BAT754 series

## 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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## **Contact information**

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