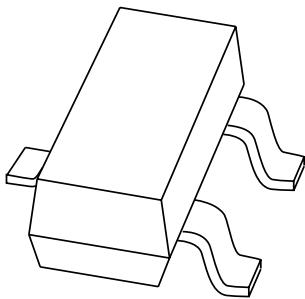


# DATA SHEET



## **BAT721 series** Schottky barrier (double) diodes

Product specification  
Supersedes data of 1999 May 06

2001 Oct 12

**Schottky barrier (double) diodes****BAT721 series****FEATURES**

- Ultra high switching speed
- Low forward voltage
- Guard ring protected
- Small plastic SMD package.

**APPLICATIONS**

- Ultra high-speed switching
- Voltage clamping
- Protection circuits.

**DESCRIPTION**

Planar Schottky barrier diodes encapsulated in a SOT23 small plastic SMD package. Single diodes and double diodes with different pinning are available.

**MARKING**

TYPE NUMBER	MARKING CODE <sup>(1)</sup>
BAT721	L7*
BAT721A	L8*
BAT721C	L9*
BAT721S	L0*

**Note**

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

**PINNING**

PIN	BAT721		
	A	C	S
1	a	k <sub>1</sub>	a <sub>1</sub>
2	n.c.	k <sub>2</sub>	a <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>

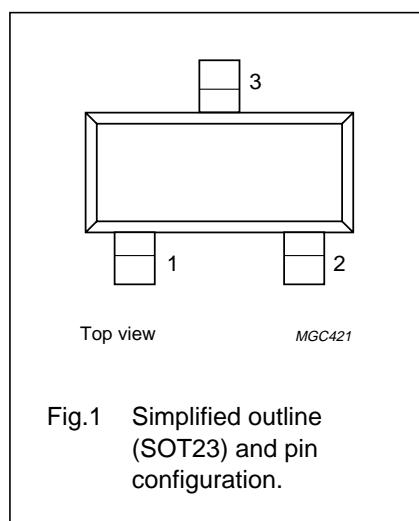


Fig.1 Simplified outline (SOT23) and pin configuration.

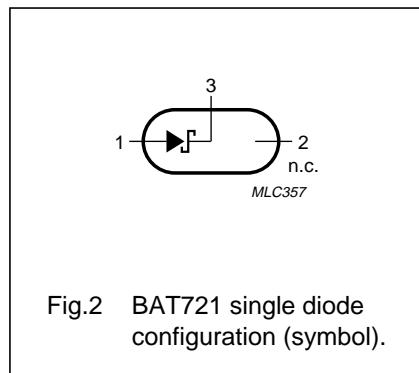


Fig.2 BAT721 single diode configuration (symbol).

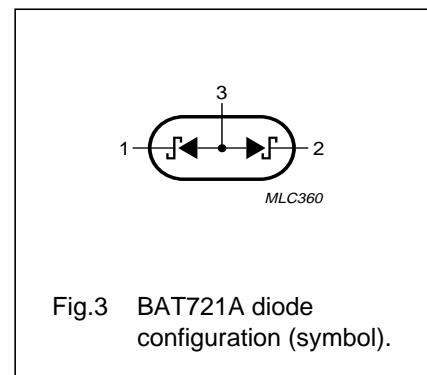


Fig.3 BAT721A diode configuration (symbol).

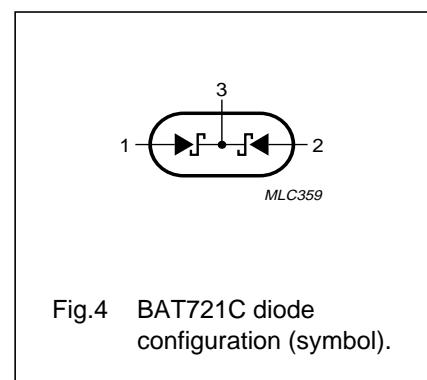


Fig.4 BAT721C diode configuration (symbol).

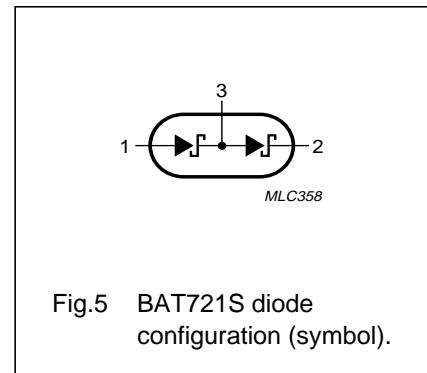


Fig.5 BAT721S diode configuration (symbol).

## Schottky barrier (double) diodes

## BAT721 series

**LIMITING VALUES**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_R$	continuous reverse voltage		–	40	V
$I_F$	continuous forward current		–	200	mA
$I_{FSM}$	non-repetitive peak forward current	$t_p = 8.3 \text{ ms half sinewave; JEDEC method}$	–	1	A
$T_{stg}$	storage temperature		–65	+150	°C
$T_j$	junction temperature		–	125	°C

**ELECTRICAL CHARACTERISTICS** $T_j = 25 \text{ °C}$  unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_F$	continuous forward voltage	see Fig.6 $I_F = 10 \text{ mA}$ $I_F = 100 \text{ mA}$ $I_F = 200 \text{ mA}$	–	300	mV
$I_R$	continuous reverse current	$V_R = 30 \text{ V}; \text{ see Fig.7}$ $V_R = 30 \text{ V}; T_j = 100 \text{ °C}; \text{ see Fig.7}$	–	15	μA
$C_d$	diode capacitance	$f = 1 \text{ MHz}; V_R = 0; \text{ see Fig.8}$	40	50	pF

**Note**

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

**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

## BAT721 series

## GRAPHICAL DATA

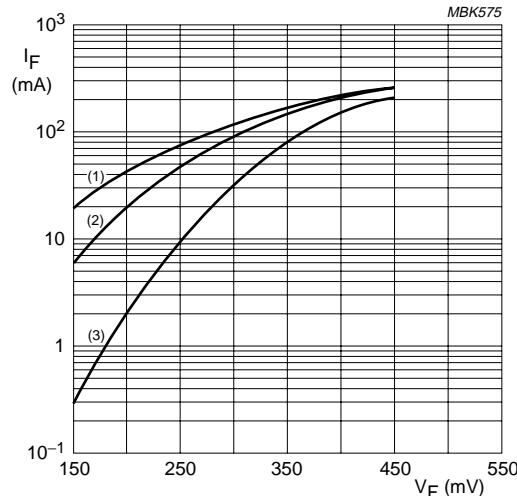


Fig.6 Forward current as a function of forward voltage; typical values.

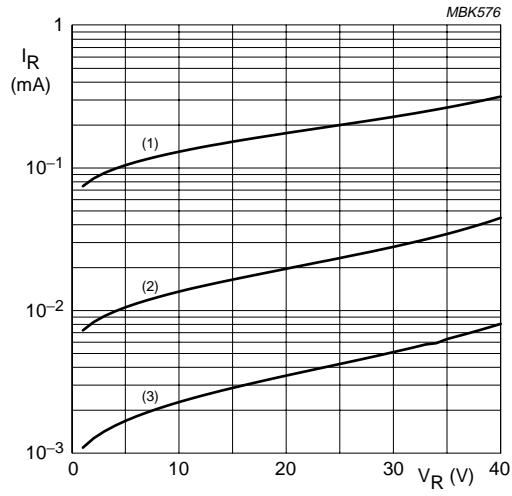


Fig.7 Reverse current as a function of reverse voltage; typical values.

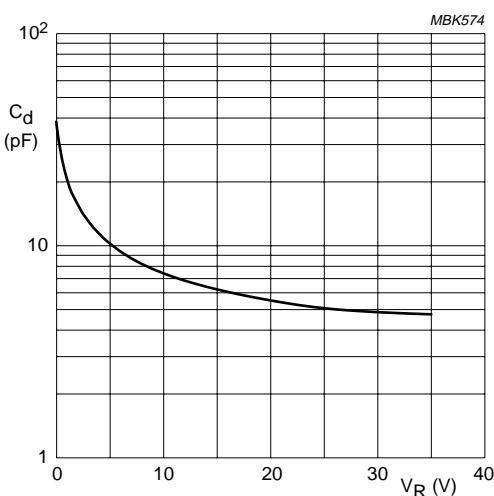
 $f = 1$  MHz;  $T_j = 25$  °C.

Fig.8 Diode capacitance as a function of reverse voltage; typical values.

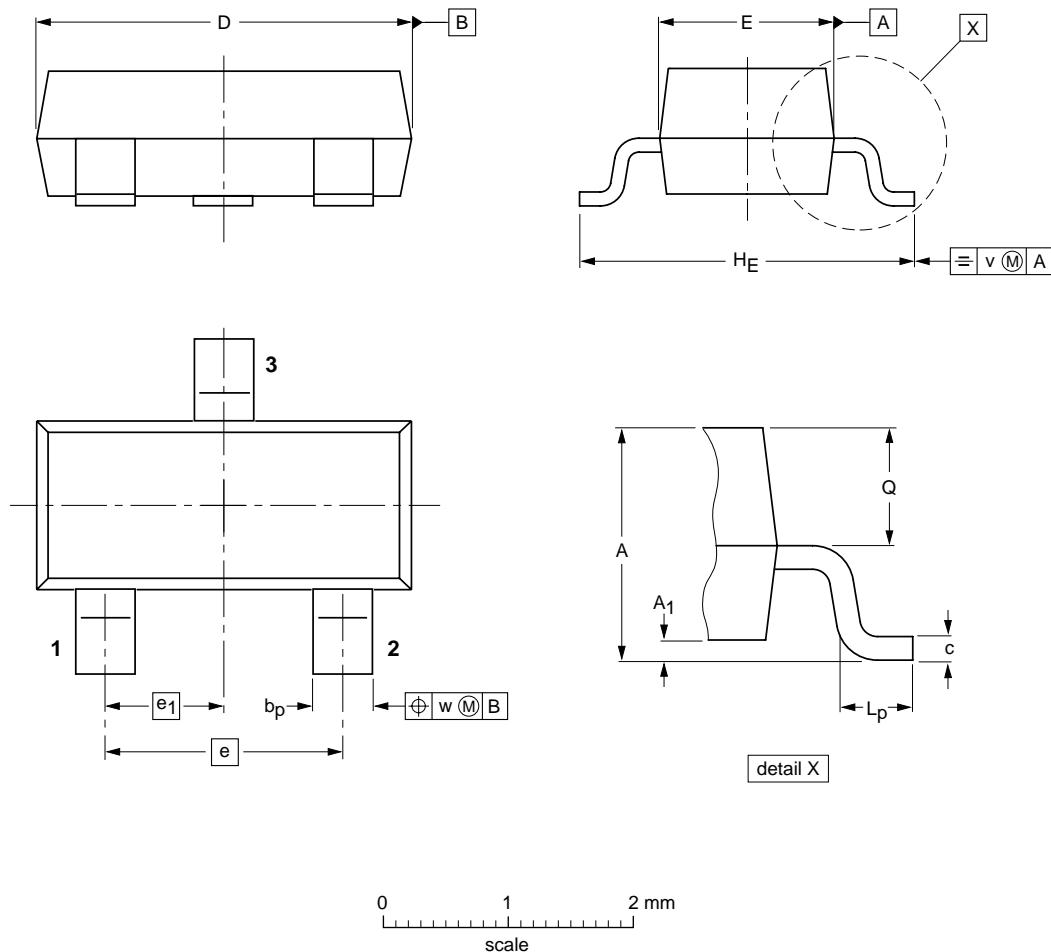
## Schottky barrier (double) diodes

## BAT721 series

## PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



## DIMENSIONS (mm are the original dimensions)

UNIT	A	$A_1$ max.	$b_p$	c	D	E	e	$e_1$	$H_E$	$L_p$	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

## BAT721 series

## DATA SHEET STATUS

DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	DEFINITIONS
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Schottky barrier (double) diodes

BAT721 series

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**NOTES**

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Printed in The Netherlands

613514/03/08/8

Date of release: 2001 Oct 12

Document order number: 9397 750 08763

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