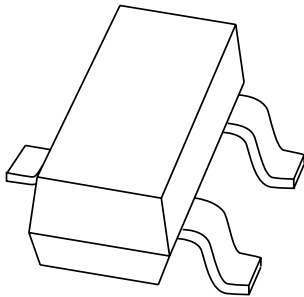


# DATA SHEET



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

Product specification  
Supersedes data of 1998 Jan 21

1999 May 06

# 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

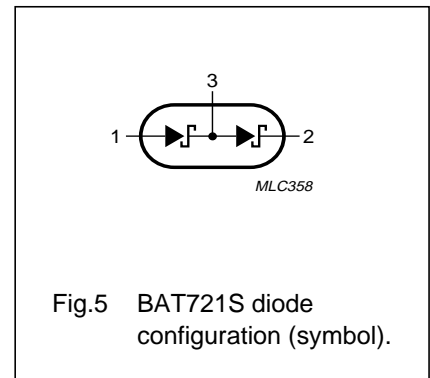
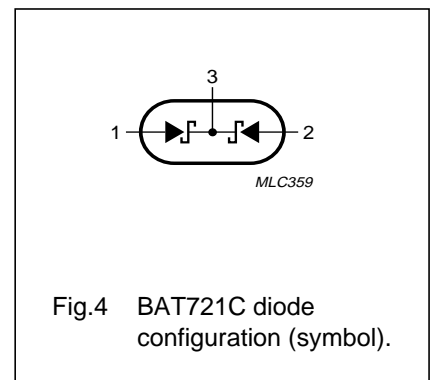
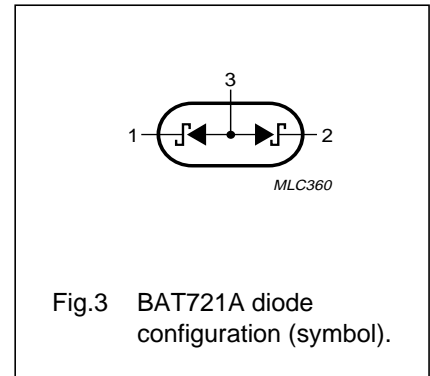
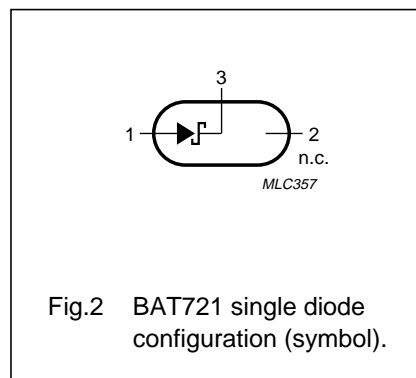
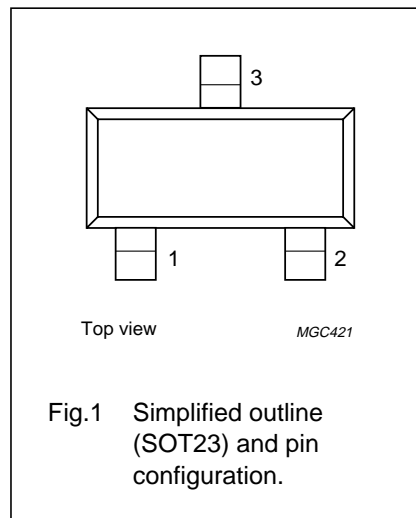
TYPE NUMBER	MARKING CODE <sup>(1)</sup>
BAT721	L7*
BAT721A	L8*
BAT721C	L9*
BAT721S	L0*

### Note

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

### PINNING

PIN	BAT721			
	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>



## Schottky barrier (double) diodes

## BAT721 series

**LIMITING VALUES**

In accordance with the Absolute Maximum Rating System (IEC 134).

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	$t_p = 8.3$ ms half sinewave; JEDEC method	–	1	A
$T_{stg}$	storage temperature		–65	+150	°C
$T_j$	junction temperature		–	125	°C

**ELECTRICAL CHARACTERISTICS**

$T_j = 25$  °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_F$	continuous forward voltage	see Fig.6			
		$I_F = 10$ mA	–	300	mV
		$I_F = 100$ mA	–	420	mV
		$I_F = 200$ mA	–	550	mV
$I_R$	continuous reverse current	$V_R = 30$ V; see Fig.7	–	15	μA
		$V_R = 30$ V; $T_j = 100$ °C; see Fig.7	–	3	mA
$C_d$	diode capacitance	$f = 1$ MHz; $V_R = 0$ ; see Fig.8	40	50	pF

**Note**

1. Pulse test:  $t_p \leq 300$  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

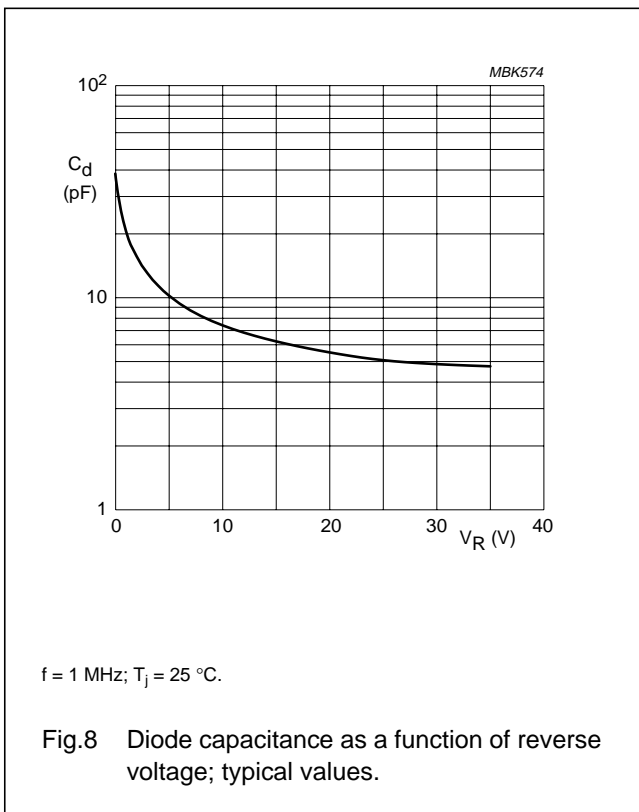
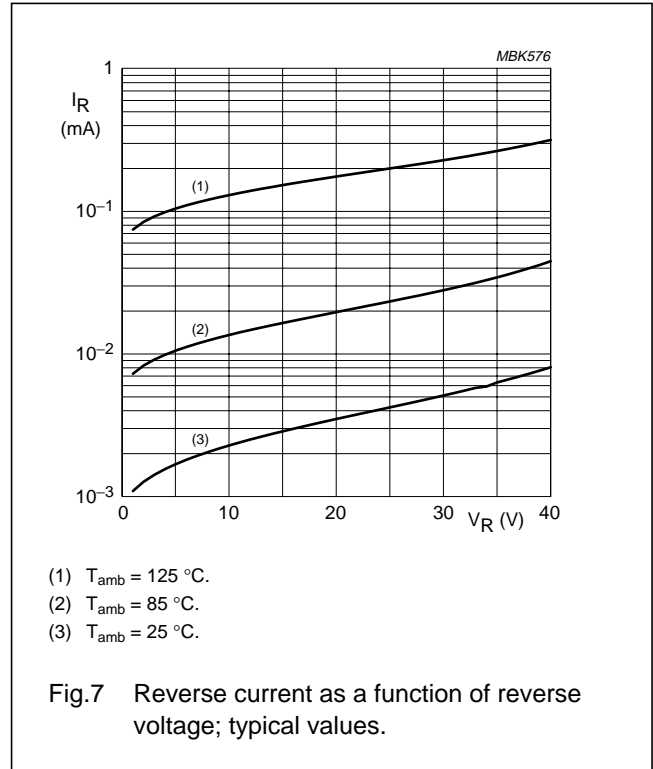
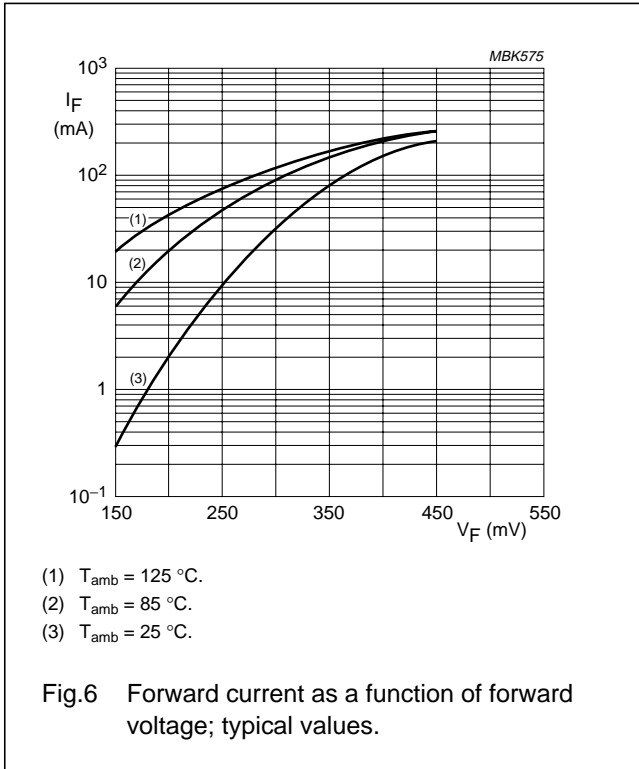
**Note**

1. Refer to SOT23 standard mounting conditions.

Schottky barrier (double) diodes

BAT721 series

GRAPHICAL DATA



Schottky barrier (double) diodes

BAT721 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						97-02-28

## Schottky barrier (double) diodes

## BAT721 series

**DEFINITIONS**

<b>Data sheet status</b>	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
<b>Limiting values</b>	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
<b>Application information</b>	
Where application information is given, it is advisory and does not form part of the specification.	

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These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.

Schottky barrier (double) diodes

BAT721 series

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