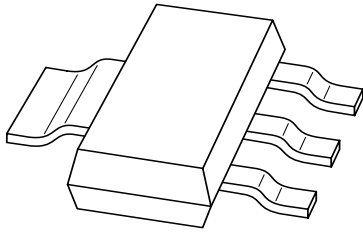


# DATA SHEET



## **BAT120** Schottky barrier double diodes

Product specification  
Supersedes data of 1998 Oct 30

2001 Aug 27

# Schottky barrier double diodes

# BAT120

### FEATURES

- Low switching losses
- Capability of absorbing very high surge current
- Fast recovery time
- Guard ring protected
- Plastic SMD package.

### APPLICATIONS

- Low power switched-mode power supplies
- Rectification
- Polarity protection.

### DESCRIPTION

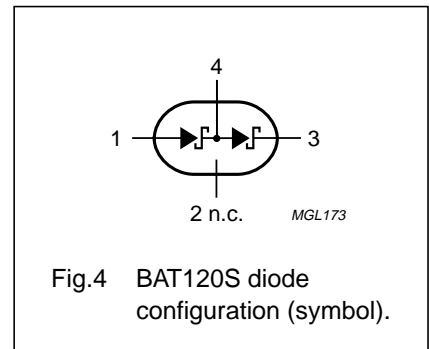
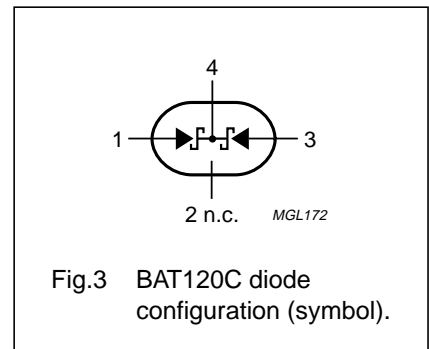
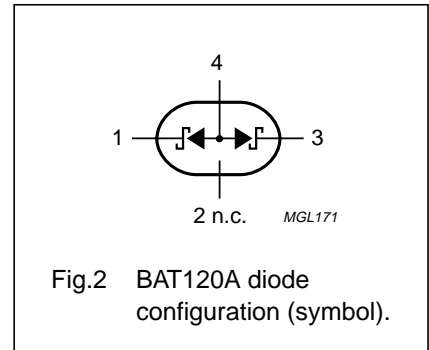
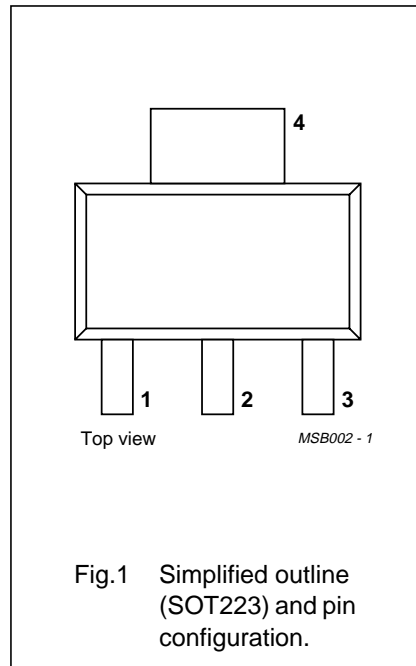
Planar Schottky barrier double diodes encapsulated in a SOT223 plastic SMD package

### MARKING

TYPE NUMBER	MARKING CODE
BAT120A	AT120A
BAT120C	AT120C
BAT120S	AT120S

### PINNING

PIN	BAT120		
	A	C	S
1	k <sub>1</sub>	a <sub>1</sub>	a <sub>1</sub>
2	n.c.	n.c.	n.c.
3	k <sub>2</sub>	a <sub>2</sub>	k <sub>2</sub>
4	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

BAT120

**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		–	25	V
$I_F$	continuous forward current		–	1	A
$I_{FSM}$	non-repetitive peak forward current	$t_p < 10$ ms; half sinewave; JEDEC method	–	10	A
$I_{RSM}$	non-repetitive peak reverse current	$t_p = 100$ $\mu$ s	–	0.5	A
$T_{stg}$	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.5 $I_F = 100$ mA $I_F = 1$ A	260 400	300 450	mV mV
$I_R$	reverse current	$V_R = 20$ V; note 1; see Fig.6	80	500	$\mu$ A
		$V_R = 25$ V; note 1; see Fig.6	–	1	mA
		$V_R = 20$ V; $T_j = 100$ °C; note 1	–	10	mA
$C_d$	diode capacitance	$f = 1$ MHz; $V_R = 4$ V; see Fig.7	100	–	pF

**Note**1. Pulse test:  $t_p = 300$   $\mu$ s;  $\delta = 0.02$ .**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	100	K/W

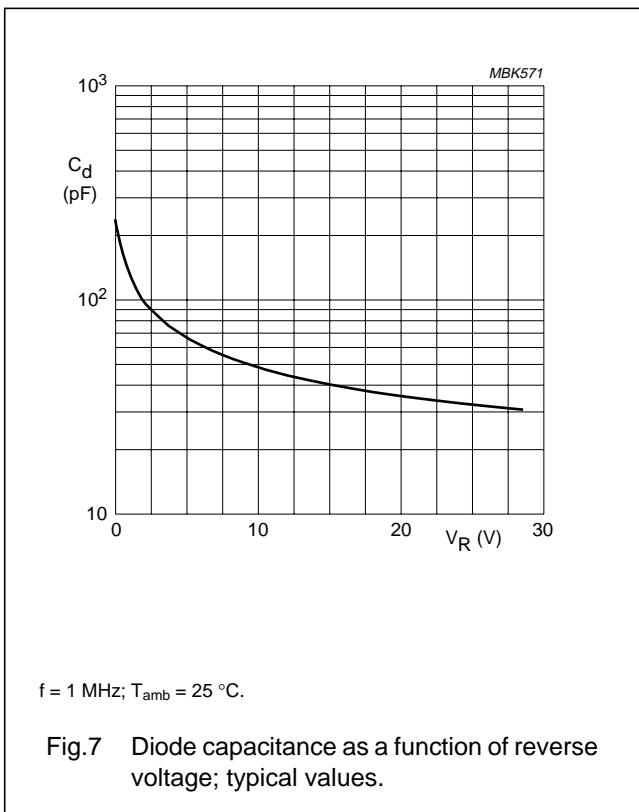
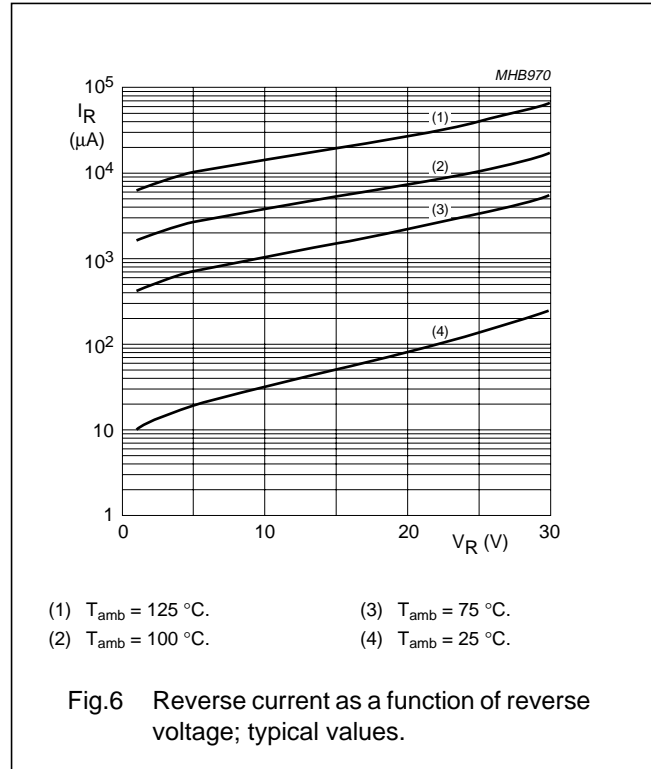
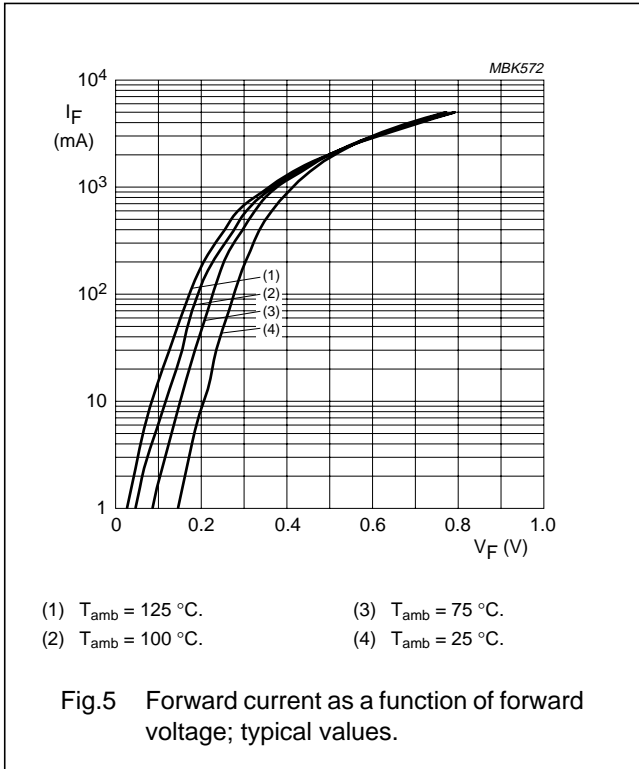
**Note**

1. Refer to SOT223 standard mounting conditions.

Schottky barrier double diodes

BAT120

GRAPHICAL DATA



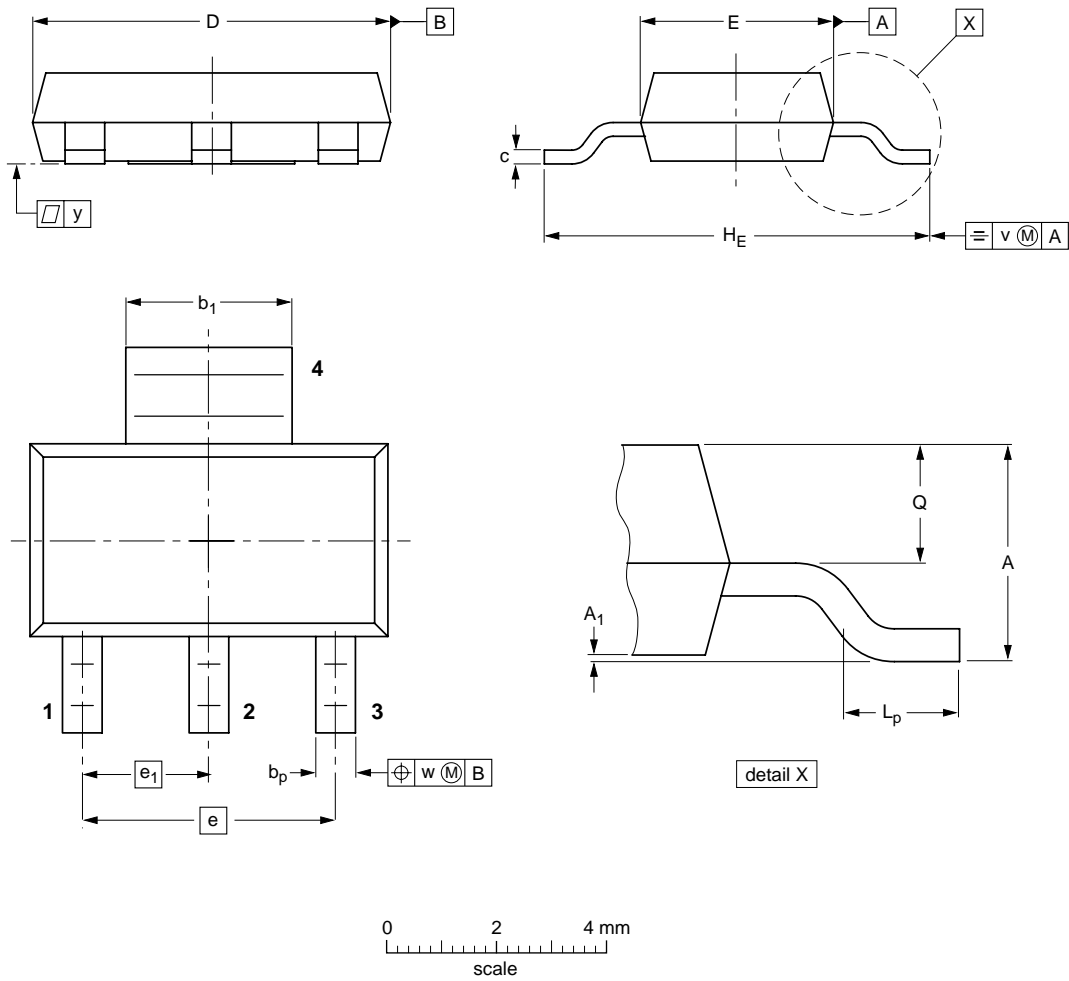
# Schottky barrier double diodes

# BAT120

## PACKAGE OUTLINE

Plastic surface mounted package; collector pad for good heat transfer; 4 leads

SOT223



**DIMENSIONS (mm are the original dimensions)**

UNIT	A	A <sub>1</sub>	b <sub>p</sub>	b <sub>1</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w	y
mm	1.8	0.10	0.80	3.1	0.32	6.7	3.7	4.6	2.3	7.3	1.1	0.95	0.2	0.1	0.1
	1.5	0.01	0.60	2.9	0.22	6.3	3.3			6.7	0.7	0.85			

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT223			SC-73			97-02-28 99-09-13

## Schottky barrier double diodes

BAT120

## DATA SHEET STATUS

DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	DEFINITIONS
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.
Preliminary data	Qualification	This data sheet contains data from the preliminary specification. Supplementary data will be published at a later date. Philips Semiconductors reserves the right to change the specification without notice, in order to improve the design and supply the best possible product.
Product data	Production	This data sheet contains data from the product specification. Philips Semiconductors reserves the right to make changes at any time in order to improve the design, manufacturing and supply. Changes will be communicated according to the Customer Product/Process Change Notification (CPCN) procedure SNW-SQ-650A.

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Schottky barrier double diodes

BAT120

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**NOTES**

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