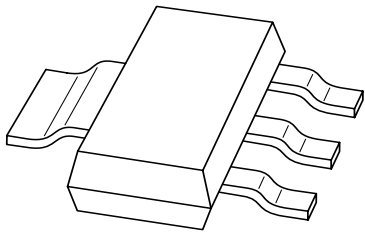


DATA SHEET



BAT120 series Schottky barrier double diodes

Product specification
Supersedes data of 2001 Aug 27

2003 Aug 04

Schottky barrier double diodes

BAT120 series

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

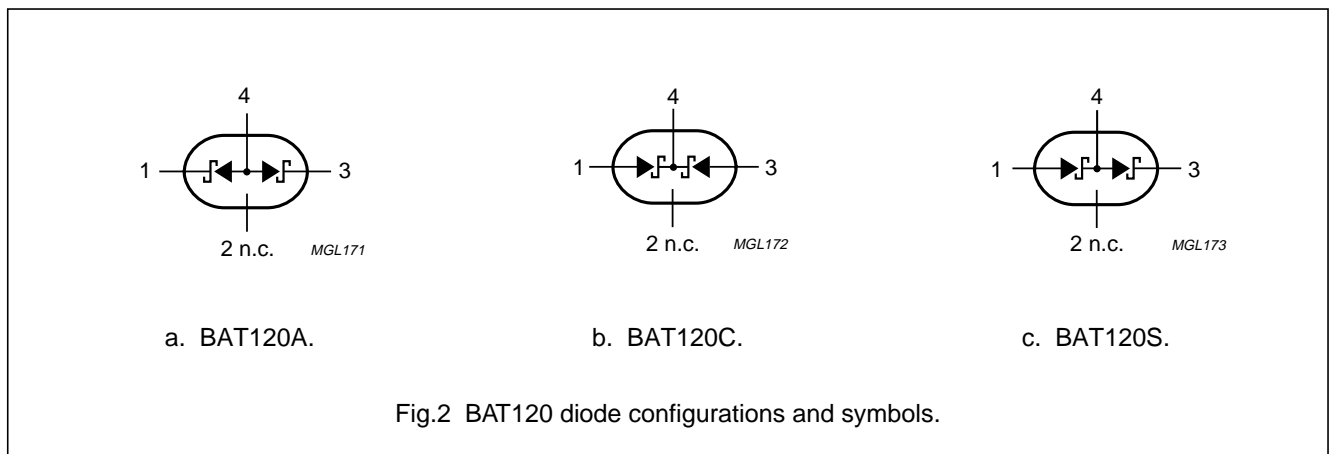
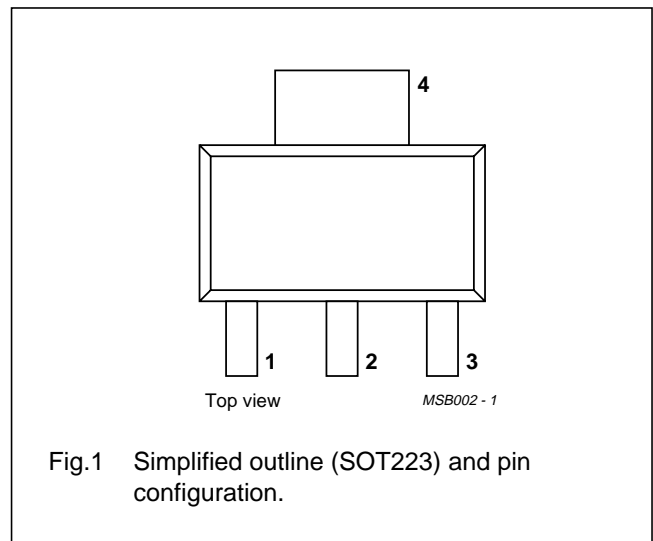
Planar Schottky barrier double diodes encapsulated in a SOT223 plastic SMD package.

MARKING

TYPE NUMBER	MARKING CODE
BAT120A	AT120A
BAT120C	AT120C
BAT120S	AT120S

PINNING

PIN	BAT120		
	A	C	S
1	k ₁	a ₁	a ₁
2	n.c.	n.c.	n.c.
3	k ₂	a ₂	k ₂
4	a ₁ , a ₂	k ₁ , k ₂	k ₁ , a ₂



Schottky barrier double diodes

BAT120 series

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per diode					
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	$t_p = 100$ μ 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
Per diode					
V_F	forward voltage	see Fig.3 $I_F = 100$ mA $I_F = 1$ A	260 400	300 450	mV mV
I_R	reverse current	$V_R = 20$ V; note 1; see Fig.4	80	500	μ A
		$V_R = 25$ V; note 1; see Fig.4	–	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.5	100	–	pF

Note

1. Pulse test: $t_p = 300$ μ 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

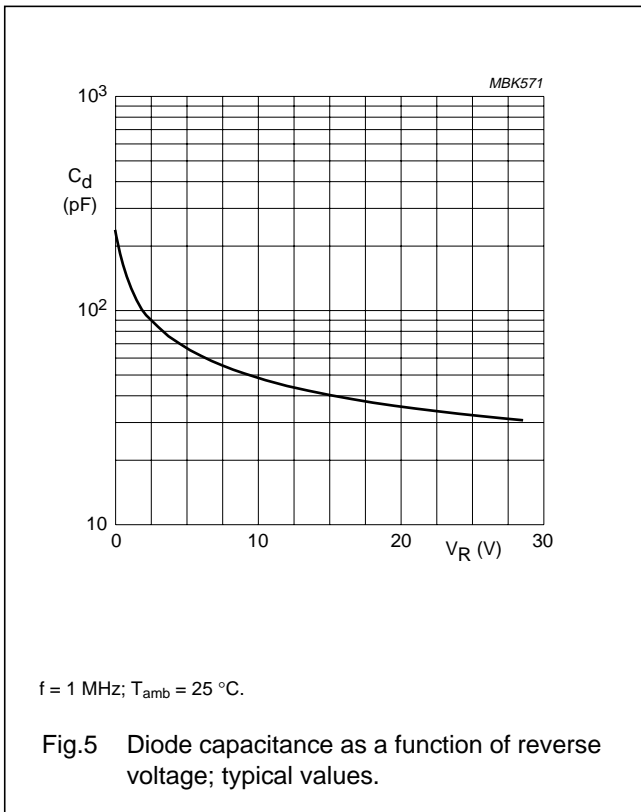
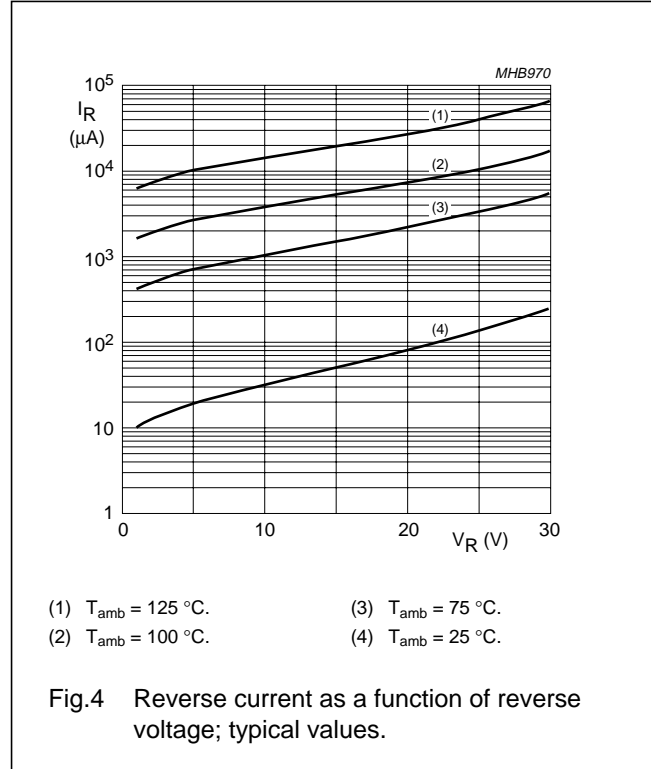
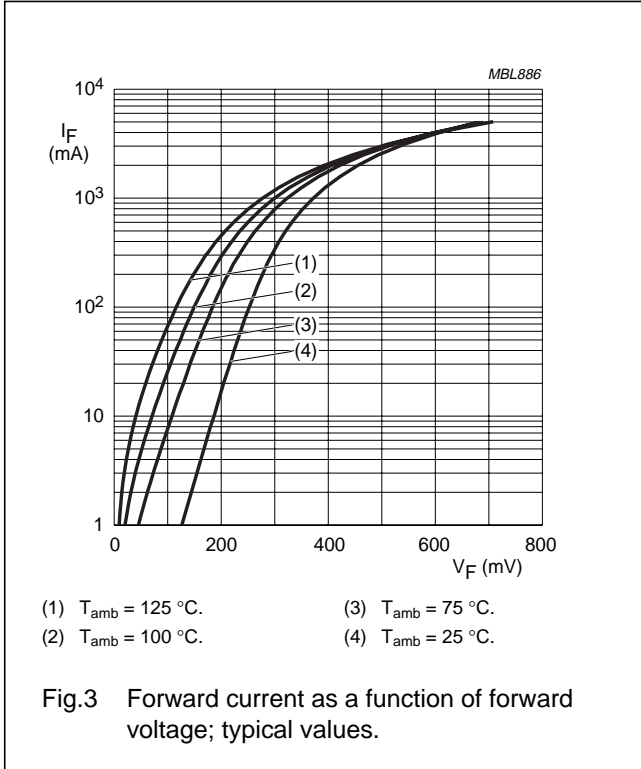
Note

1. Refer to SOT223 standard mounting conditions.

Schottky barrier double diodes

BAT120 series

GRAPHICAL DATA



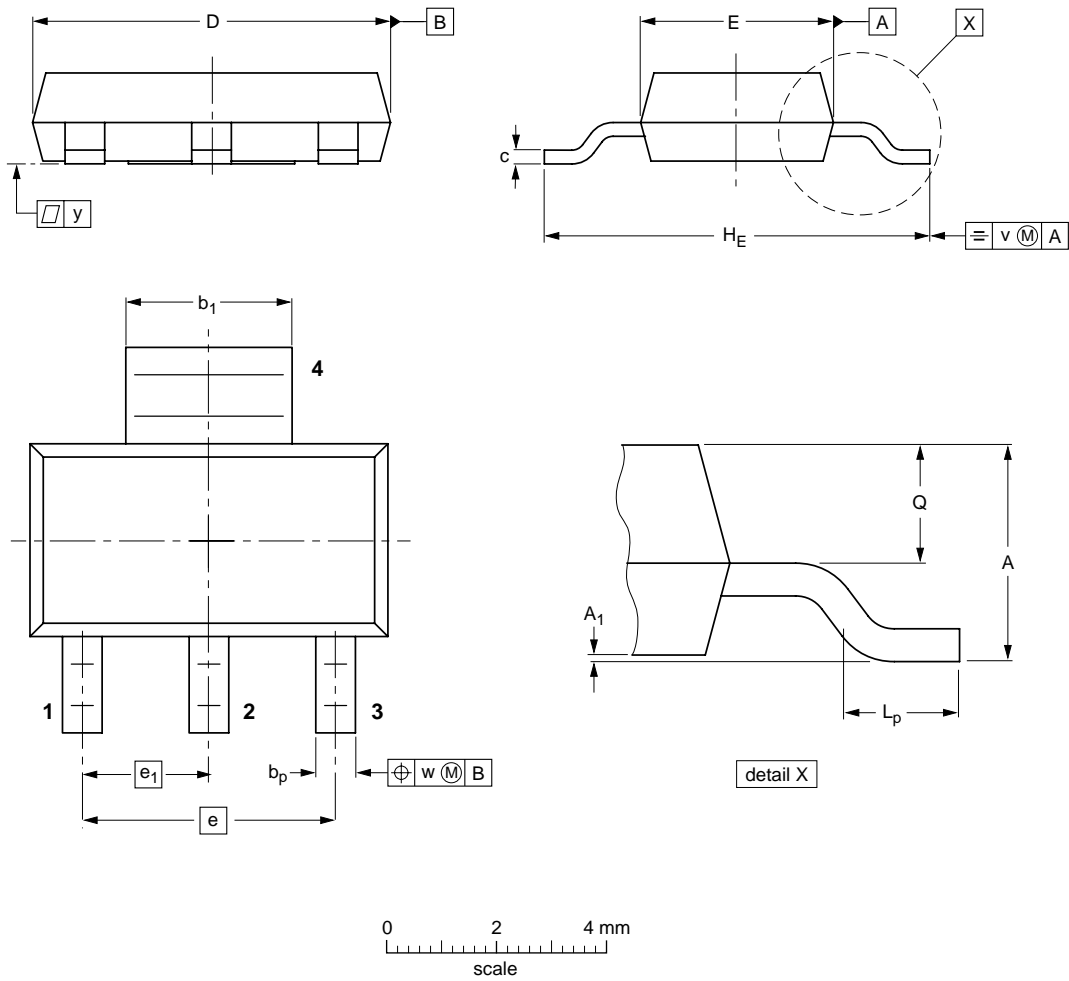
Schottky barrier double diodes

BAT120 series

PACKAGE OUTLINE

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

SOT223



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁	b _p	b ₁	c	D	E	e	e ₁	H _E	L _p	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 series

DATA SHEET STATUS

LEVEL	DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾⁽³⁾	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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3. For data sheets describing multiple type numbers, the highest-level product status determines the data sheet status.

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Limiting values definition — Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). 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.

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