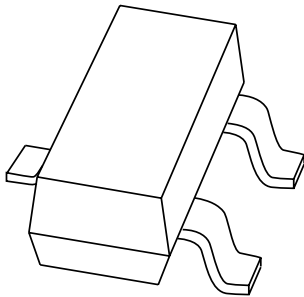


DATA SHEET



BAT17 Schottky barrier diode

Product specification
Supersedes data of 1999 May 26

2003 Mar 25

Schottky barrier diode

BAT17

FEATURES

- Low forward voltage
- Small SMD package
- Low capacitance.

APPLICATIONS

- UHF mixer
- Sampling circuits
- Modulators
- Phase detection.

DESCRIPTION

Planar Schottky barrier diode in a small SOT23 plastic SMD package.

MARKING

TYPE NUMBER	MARKING CODE ⁽¹⁾
BAT17	A3*

Note

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

PINNING

PIN	DESCRIPTION
1	anode
2	not connected
3	cathode

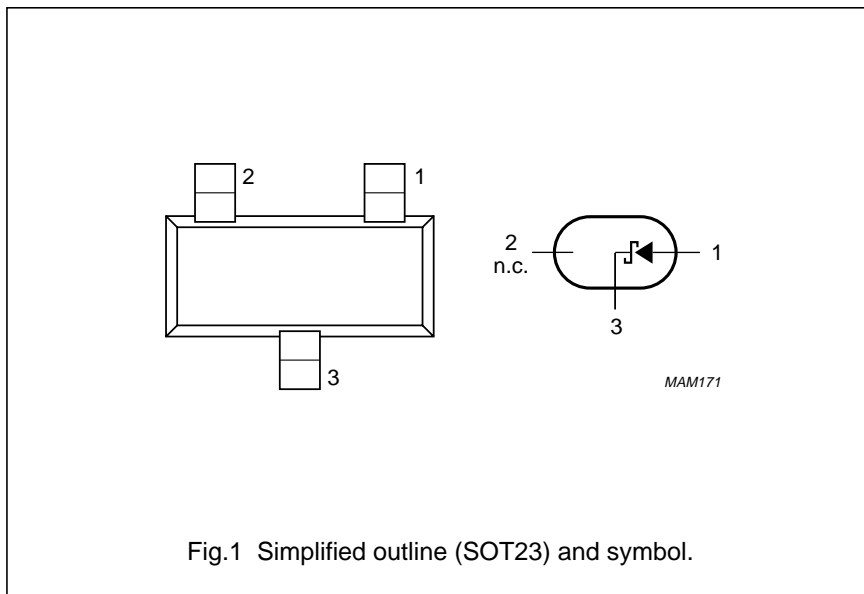


Fig.1 Simplified outline (SOT23) and symbol.

LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V_R	continuous reverse voltage	–	4	V
I_F	continuous forward current	–	30	mA
T_{stg}	storage temperature	–65	+150	°C
T_j	junction temperature	–	100	°C

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ELECTRICAL CHARACTERISTICS $T_{amb} = 25\text{ °C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
V_F	forward voltage	see Fig.2		
		$I_F = 0.1\text{ mA}$	350	mV
		$I_F = 1\text{ mA}$	450	mV
		$I_F = 10\text{ mA}$	600	mV
I_R	reverse current	$V_R = 3\text{ V}$; see Fig.3	0.25	μA
		$V_R = 3\text{ V}$; $T_{amb} = 60\text{ °C}$; see Fig.3	1.25	μA
r_D	diode forward resistance	$f = 1\text{ kHz}$; $I_F = 5\text{ mA}$	15	Ω
C_d	diode capacitance	$f = 1\text{ MHz}$; $V_R = 0$; see Fig.4	1	pF
F	noise figure	$f = 900\text{ MHz}$; note 1	8	dB

Note

- The local oscillator is adjusted for a diode current of 2 mA. IF amplifier noise $F_{if} = 1.5\text{ dB}$; $f = 35\text{ MHz}$.

THERMAL CHARACTERISTICS

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

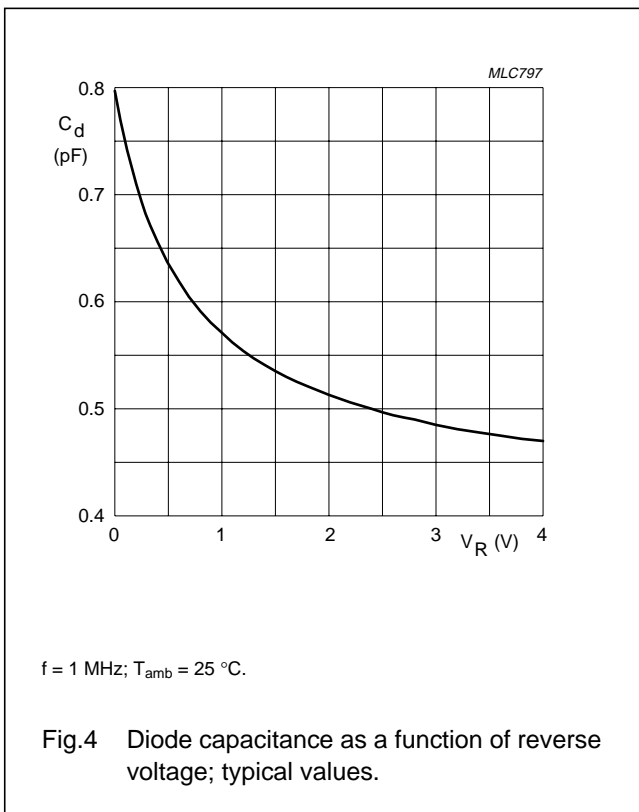
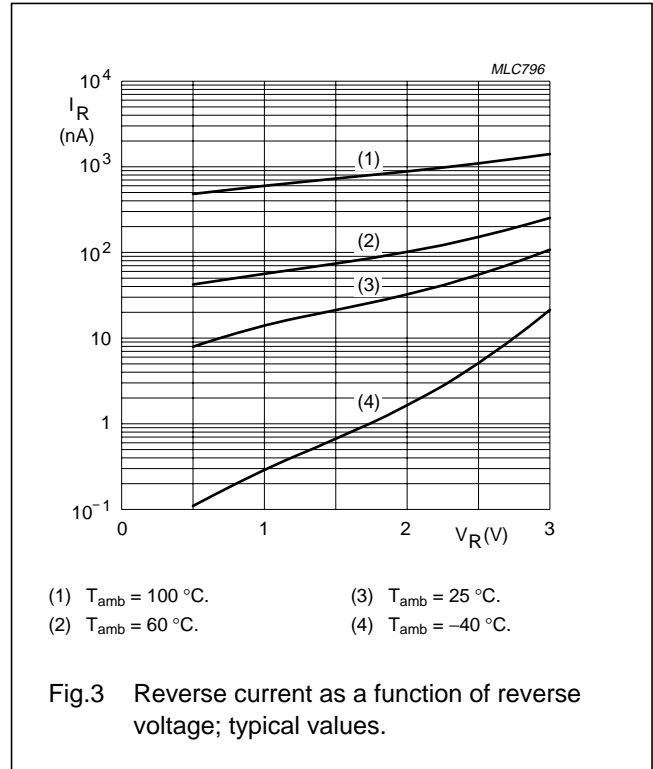
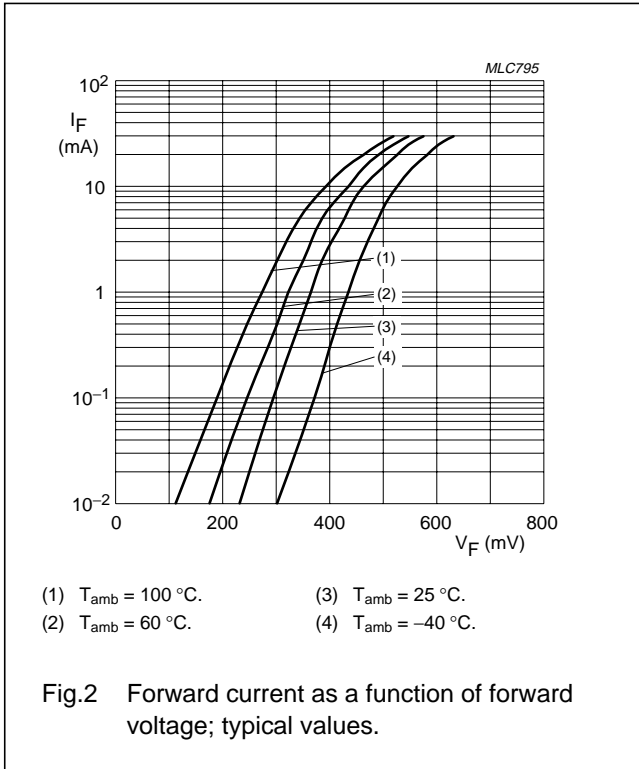
Note

- Refer to SOT23 standard mounting conditions.

Schottky barrier diode

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GRAPHICAL DATA



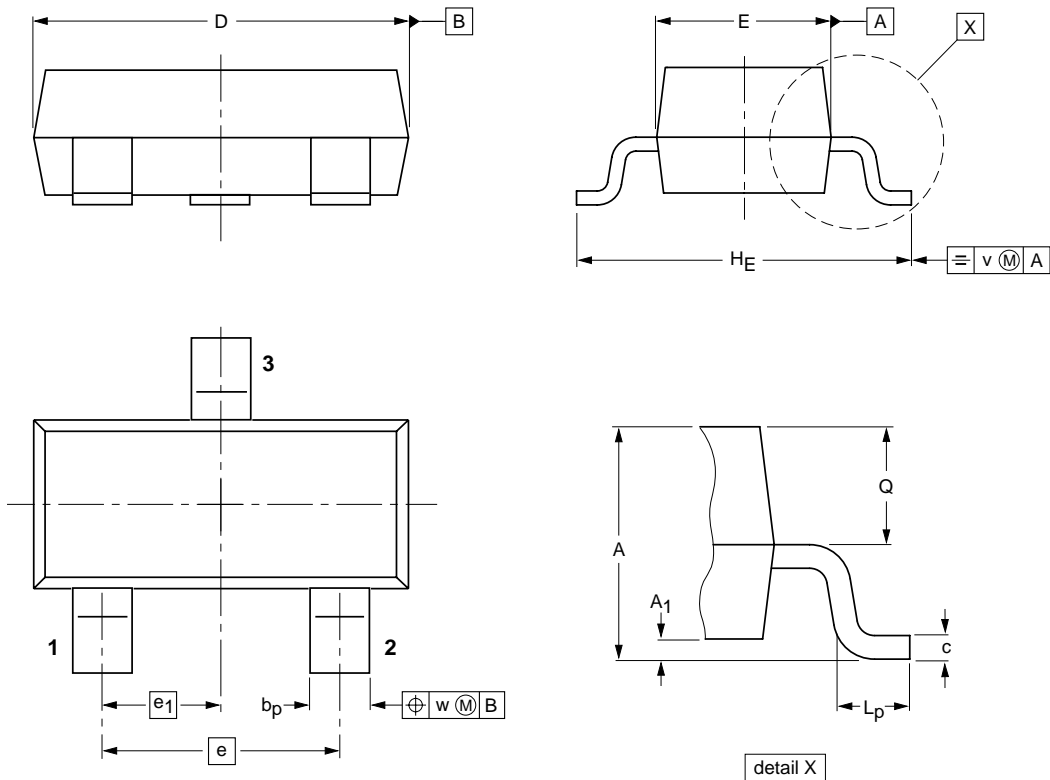
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PACKAGE OUTLINE

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

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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.
II	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.
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Notes

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2. The product status of the device(s) described in this data sheet may have changed since this data sheet was published. The latest information is available on the Internet at URL <http://www.semiconductors.philips.com>.
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NOTES

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Printed in The Netherlands

613514/03/pp8

Date of release: 2003 Mar 25

Document order number: 9397 750 10963

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