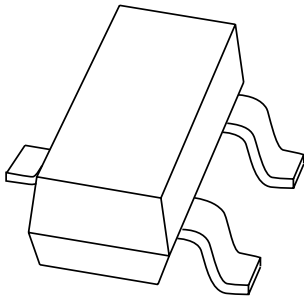


# DATA SHEET



## **BAT17** Schottky barrier diode

Product data sheet  
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 <sup>(1)</sup>
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

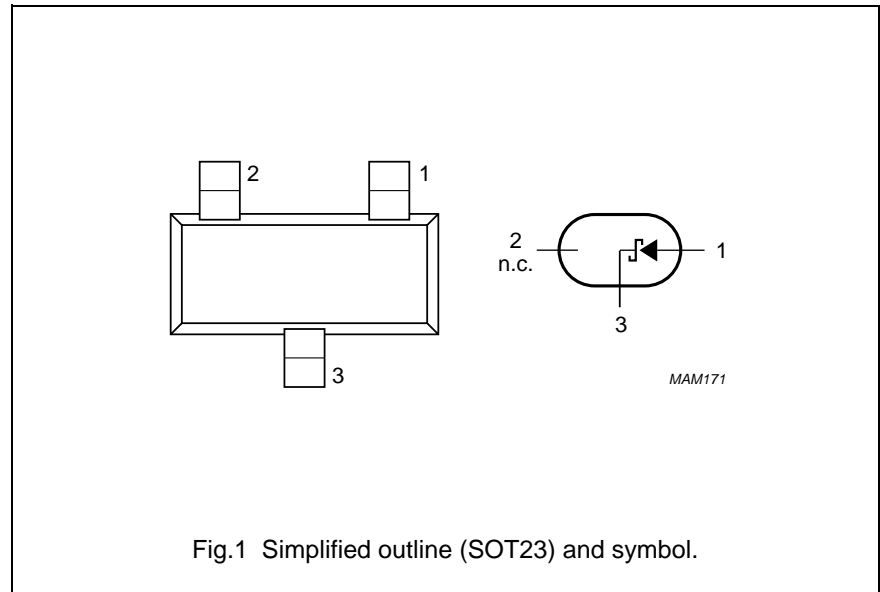


Fig.1 Simplified outline (SOT23) and symbol.

## 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

## Schottky barrier diode

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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	$\mu\text{A}$
		$V_R = 3\text{ V}$ ; $T_{amb} = 60\text{ °C}$ ; see Fig.3	1.25	$\mu\text{A}$
$r_D$	diode forward resistance	$f = 1\text{ kHz}$ ; $I_F = 5\text{ mA}$	15	$\Omega$
$C_d$	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

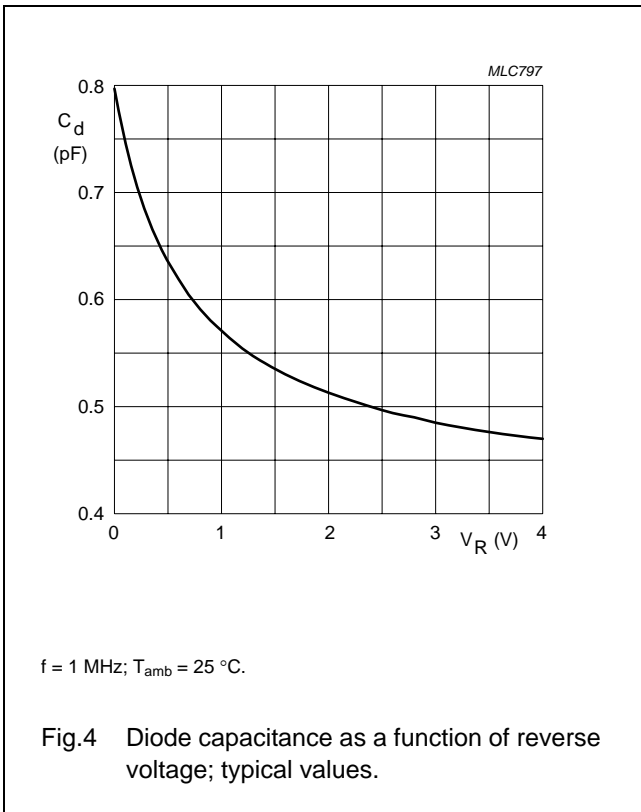
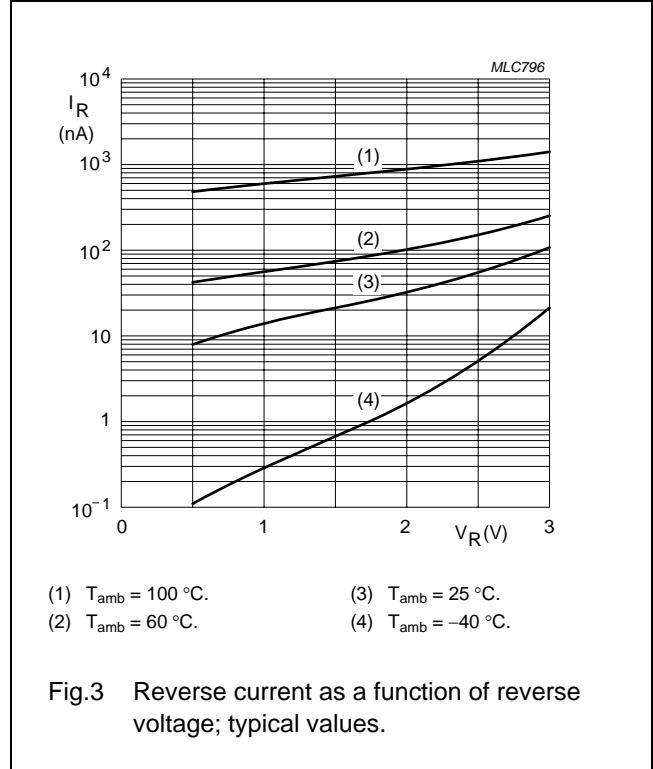
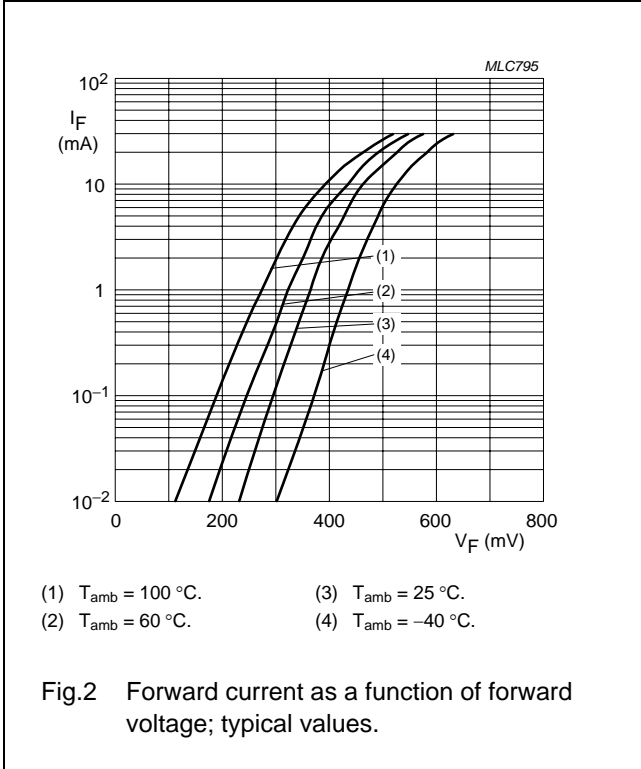
**Note**

- Refer to SOT23 standard mounting conditions.

Schottky barrier diode

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GRAPHICAL DATA



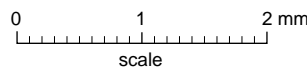
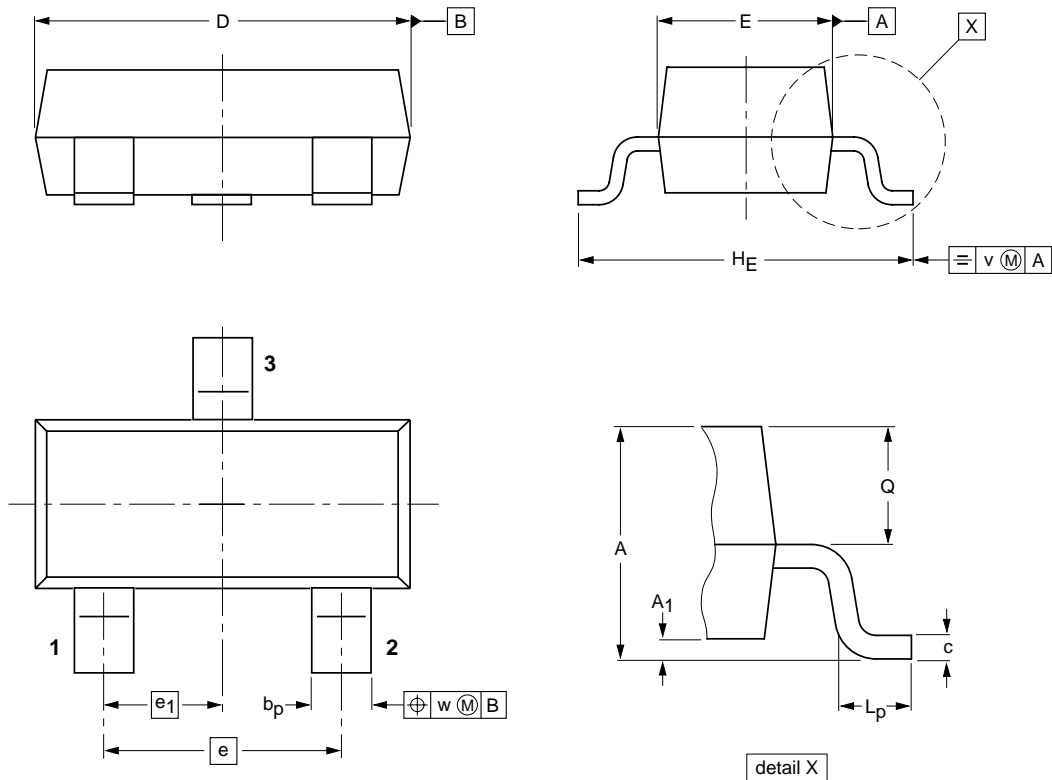
# Schottky barrier diode

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## 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		TO-236AB				<del>97-02-28</del> 99-09-13

## Schottky barrier diode

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## DATA SHEET STATUS

DOCUMENT STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	DEFINITION
Objective data sheet	Development	This document contains data from the objective specification for product development.
Preliminary data sheet	Qualification	This document contains data from the preliminary specification.
Product data sheet	Production	This document contains the product specification.

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## **Contact information**

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Printed in The Netherlands

613514/03/pp7

Date of release: 2003 Mar 25

Document order number: 9397 750 10963

