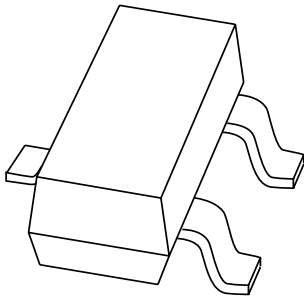


DATA SHEET



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 ⁽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

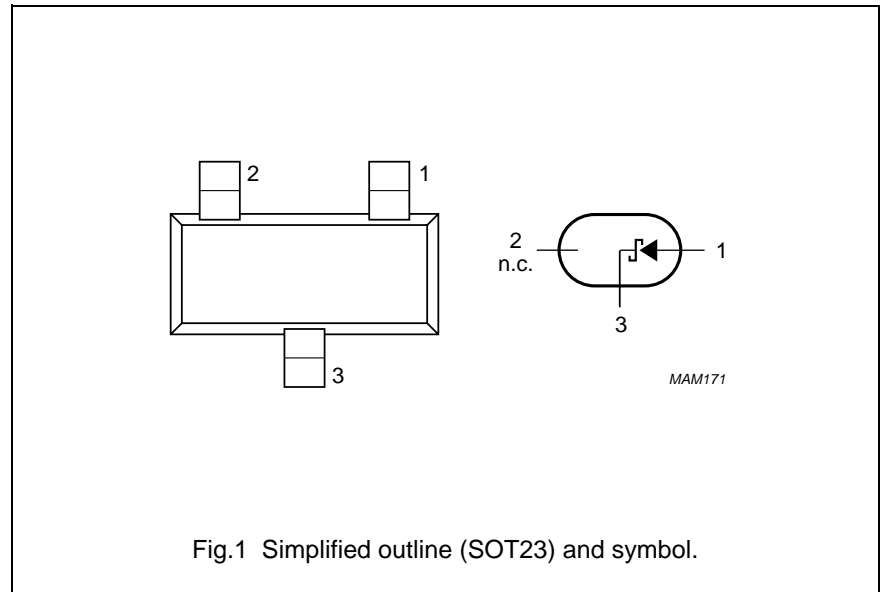


Fig.1 Simplified outline (SOT23) and symbol.

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

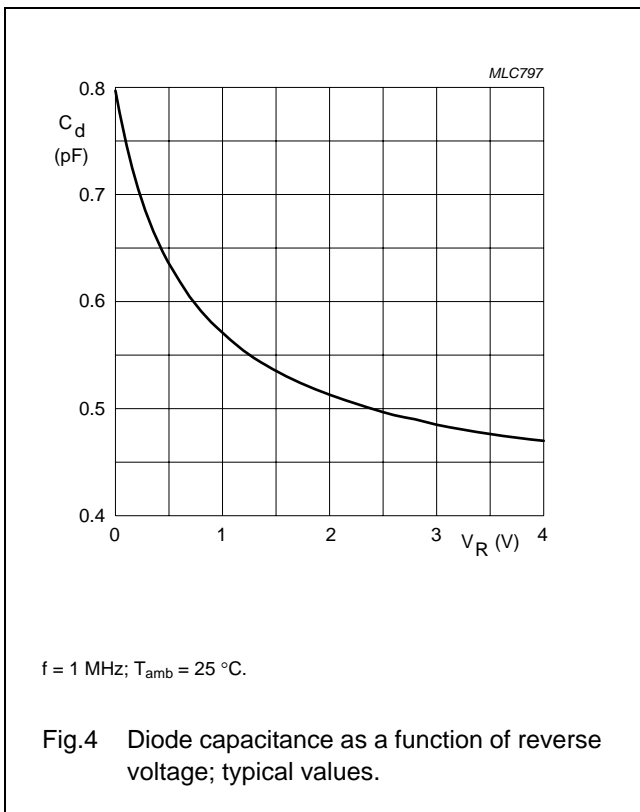
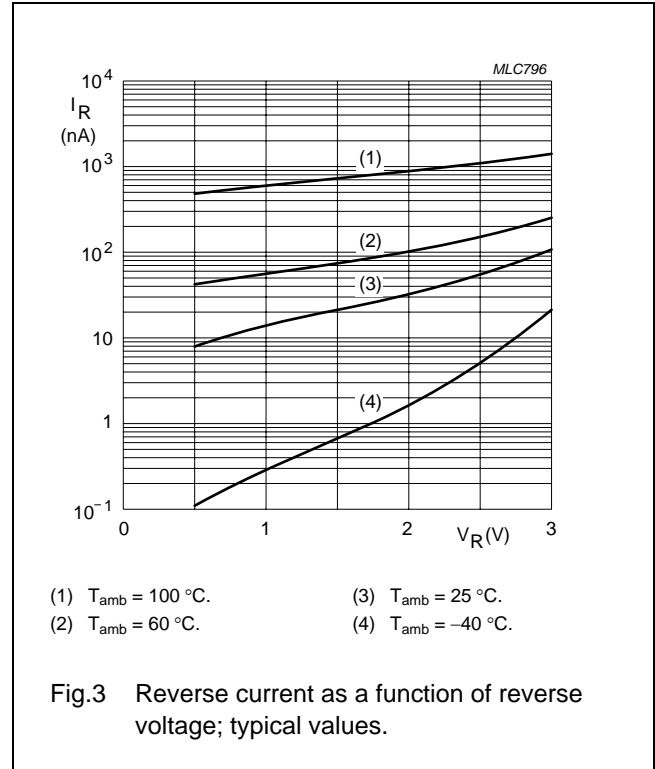
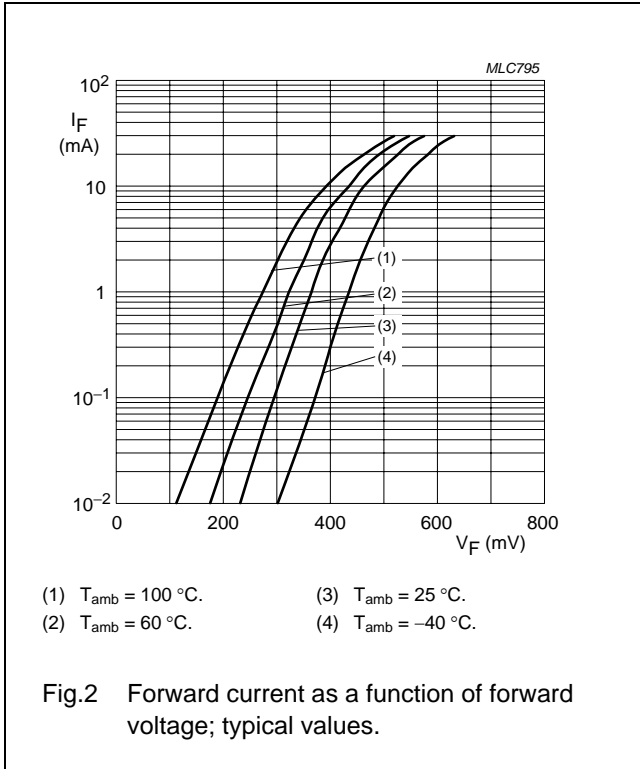
Note

- Refer to SOT23 standard mounting conditions.

Schottky barrier diode

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GRAPHICAL DATA



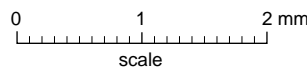
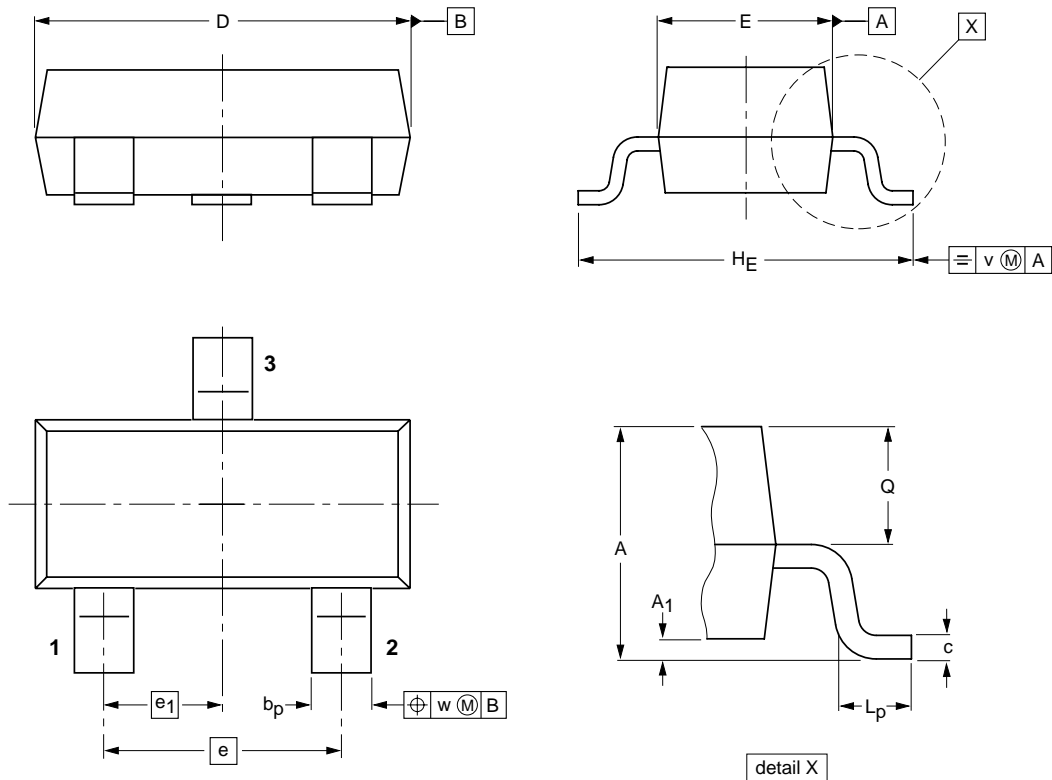
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PACKAGE OUTLINE

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

DOCUMENT STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	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.

Notes

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2. The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL <http://www.nxp.com>.

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For additional information please visit: **<http://www.nxp.com>**

For sales offices addresses send e-mail to: **salesaddresses@nxp.com**

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