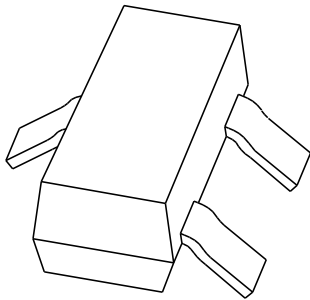


# DATA SHEET



## **BAT17** Schottky barrier diode

Product specification  
Supersedes data of April 1992  
File under Discrete Semiconductors, SC01

1996 Mar 20

# Schottky barrier diode

# BAT17

### FEATURES

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

### APPLICATIONS

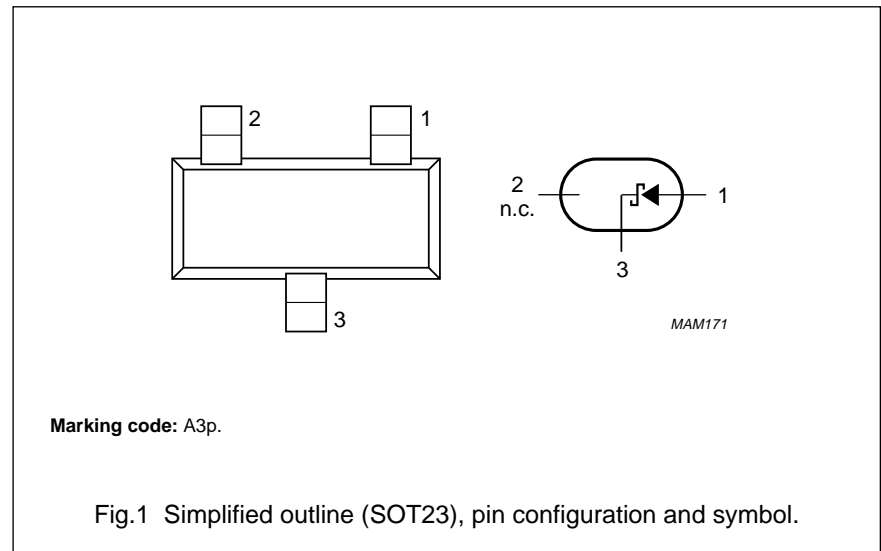
- UHF mixer
- Sampling circuits
- Modulators
- Phase detection.

### PINNING

PIN	DESCRIPTION
1	anode
2	not connected
3	cathode

### DESCRIPTION

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



### LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

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

## BAT17

**ELECTRICAL CHARACTERISTICS**

$T_{amb} = 25\text{ }^{\circ}\text{C}$  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	$\mu\text{A}$
		$V_R = 3\text{ V}$ ; $T_{amb} = 60\text{ }^{\circ}\text{C}$ ; 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	$f = 1\text{ MHz}$ ; $V_R = 0\text{ V}$ ; 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

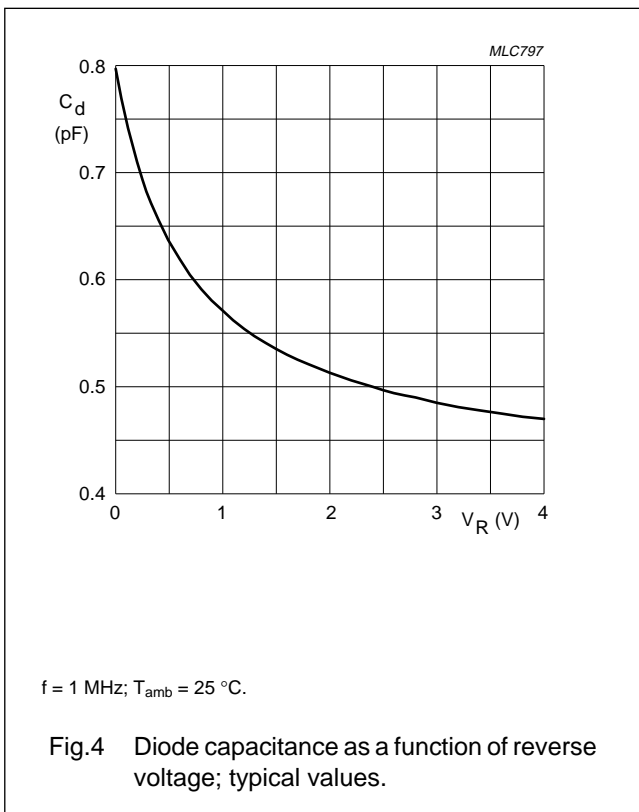
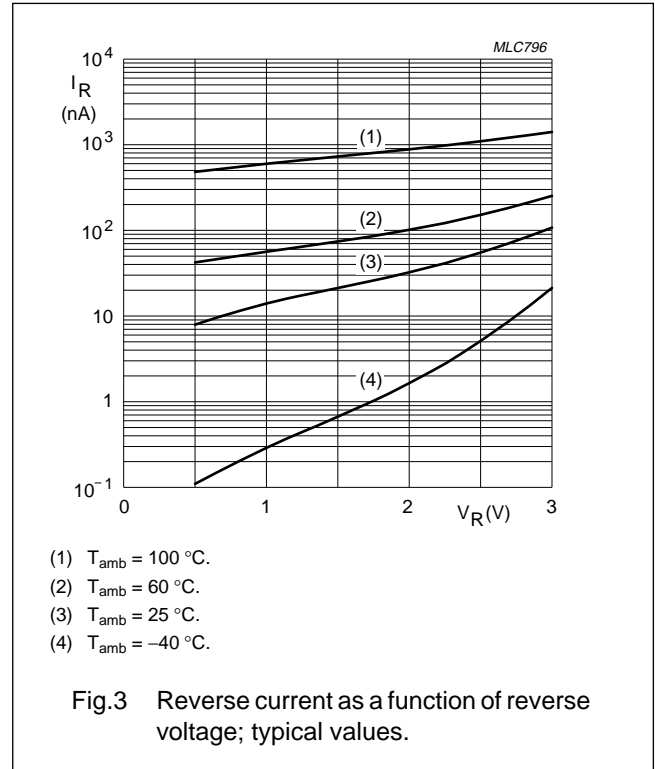
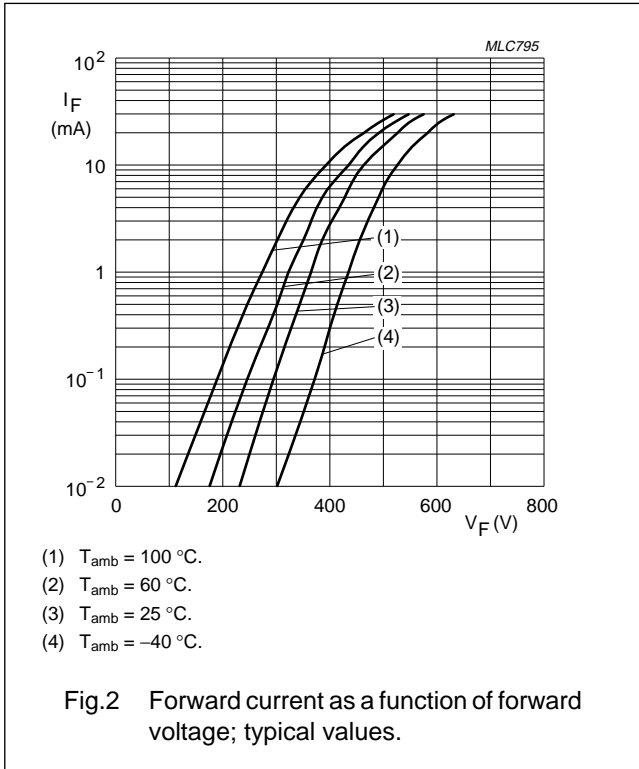
**Note**

- Refer to SOT23 standard mounting conditions.

Schottky barrier diode

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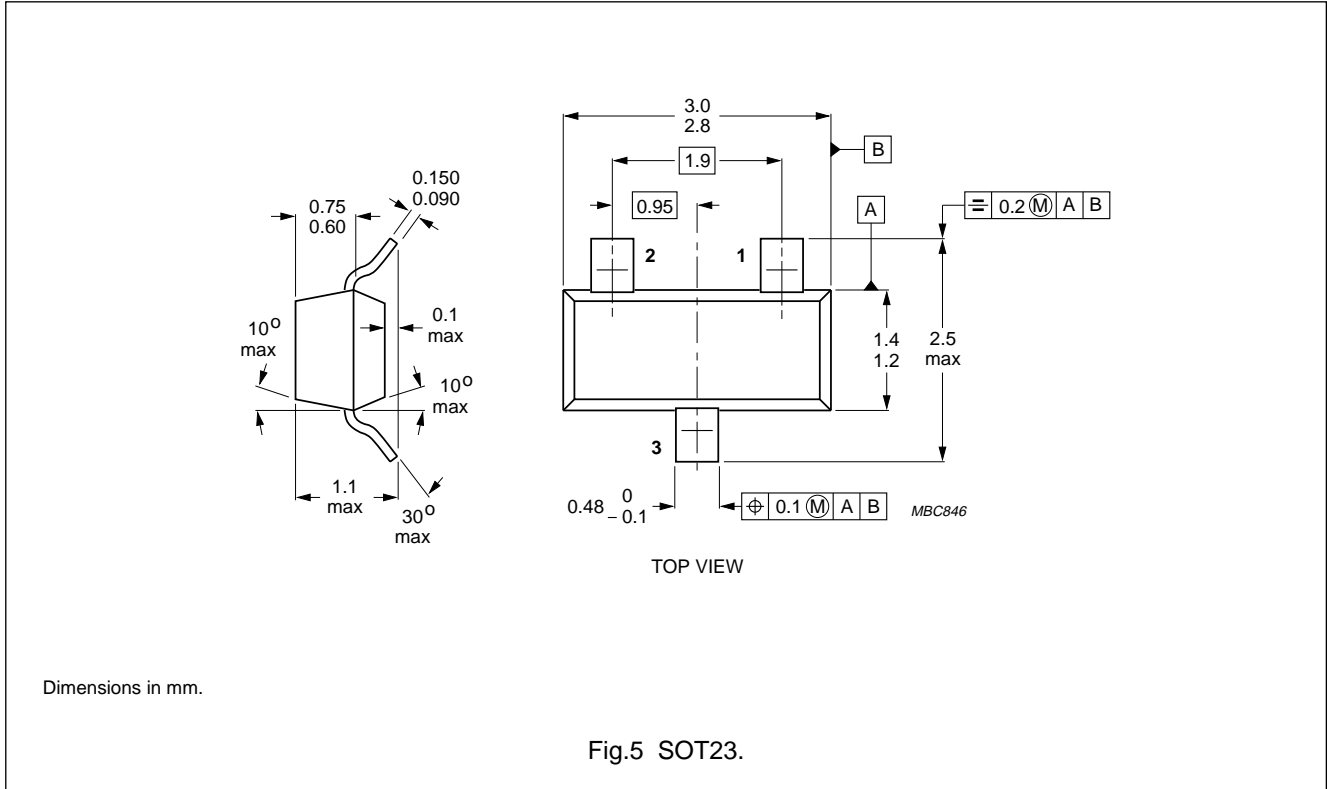
GRAPHICAL DATA



Schottky barrier diode

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PACKAGE OUTLINE



DEFINITIONS

<b>Data sheet status</b>	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
<b>Limiting values</b>	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). 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.	
<b>Application information</b>	
Where application information is given, it is advisory and does not form part of the specification.	

LIFE SUPPORT APPLICATIONS

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