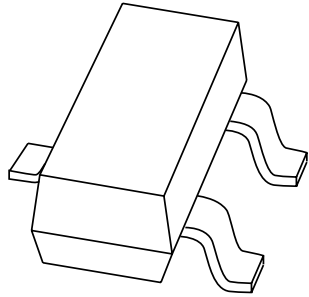


# DATA SHEET



**BAV23S**

General purpose double diode

Product specification  
Supersedes data of 1999 May 05

2001 Oct 12

# General purpose double diode

# BAV23S

### FEATURES

- Small plastic SMD package
- Switching speed: max. 50 ns
- General application
- Continuous reverse voltage: max. 200 V
- Repetitive peak reverse voltage: max. 250 V
- Repetitive peak forward current: max. 625 mA.

### APPLICATIONS

- General purpose where high breakdown voltages are required.

### DESCRIPTION

The BAV23S consists of two general purpose diodes connected in series fabricated in planar technology, and encapsulated in the small SOT23 plastic SMD package.

### MARKING

TYPE NUMBER	MARKING CODE <sup>(1)</sup>
BAV23S	L31 or *V5

#### Note

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

### PINNING

PIN	DESCRIPTION
1	anode
2	cathode
3	common connection

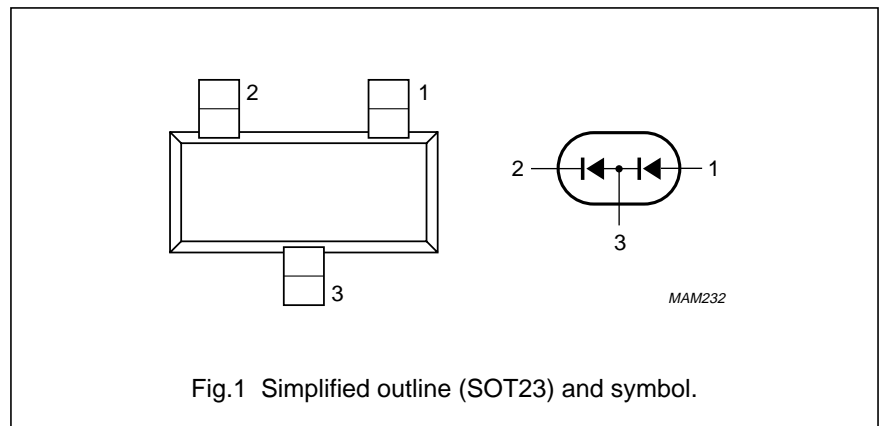


Fig.1 Simplified outline (SOT23) and symbol.

### LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
<b>Per diode</b>					
V <sub>RRM</sub>	repetitive peak reverse voltage		–	250	V
V <sub>RRM</sub>	repetitive peak reverse voltage	series connection	–	500	V
V <sub>R</sub>	continuous reverse voltage		–	200	V
V <sub>R</sub>	continuous reverse voltage	series connection	–	400	V
I <sub>F</sub>	continuous forward current	single diode loaded; note 1; see Fig.2	–	225	mA
		double diode loaded; note 1; see Fig.2	–	125	mA
I <sub>FRM</sub>	repetitive peak forward current		–	625	mA
I <sub>FSM</sub>	non-repetitive peak forward current	square wave; T <sub>j</sub> = 25 °C prior to surge; see Fig.4			
		t = 1 μs	–	9	A
		t = 100 μs	–	3	A
		t = 10 ms	–	1.7	A
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> = 25 °C; note 1	–	250	mW
T <sub>stg</sub>	storage temperature		–65	+150	°C
T <sub>j</sub>	junction temperature		–	150	°C

#### Note

1. Device mounted on an FR4 printed-circuit board.

## General purpose double diode

BAV23S

**ELECTRICAL CHARACTERISTICS** $T_j = 25\text{ °C}$  unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
<b>Per diode</b>				
$V_F$	forward voltage	see Fig.3 $I_F = 100\text{ mA}$ $I_F = 200\text{ mA}$	1.0 1.25	V V
$V_F$	forward voltage	series connection; see Fig.3 $I_F = 100\text{ mA}$ $I_F = 200\text{ mA}$	2.0 2.5	V V
$I_R$	reverse current	see Fig.5 $V_R = 200\text{ V}$ $V_R = 200\text{ V}; T_j = 150\text{ °C}$	100 100	nA $\mu\text{A}$
$I_R$	reverse current	series connection $V_R = 400\text{ V}$ $V_R = 400\text{ V}; T_j = 150\text{ °C}$	100 100	nA $\mu\text{A}$
$C_d$	diode capacitance	$f = 1\text{ MHz}; V_R = 0$ ; see Fig.6	5	pF
$t_{rr}$	reverse recovery time	when switched from $I_F = 30\text{ mA}$ to $I_R = 30\text{ mA}$ ; $R_L = 100\ \Omega$ ; measured at $I_R = 3\text{ mA}$ ; see Fig.7	50	ns

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-tp}$	thermal resistance from junction to tie-point		360	K/W
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	500	K/W

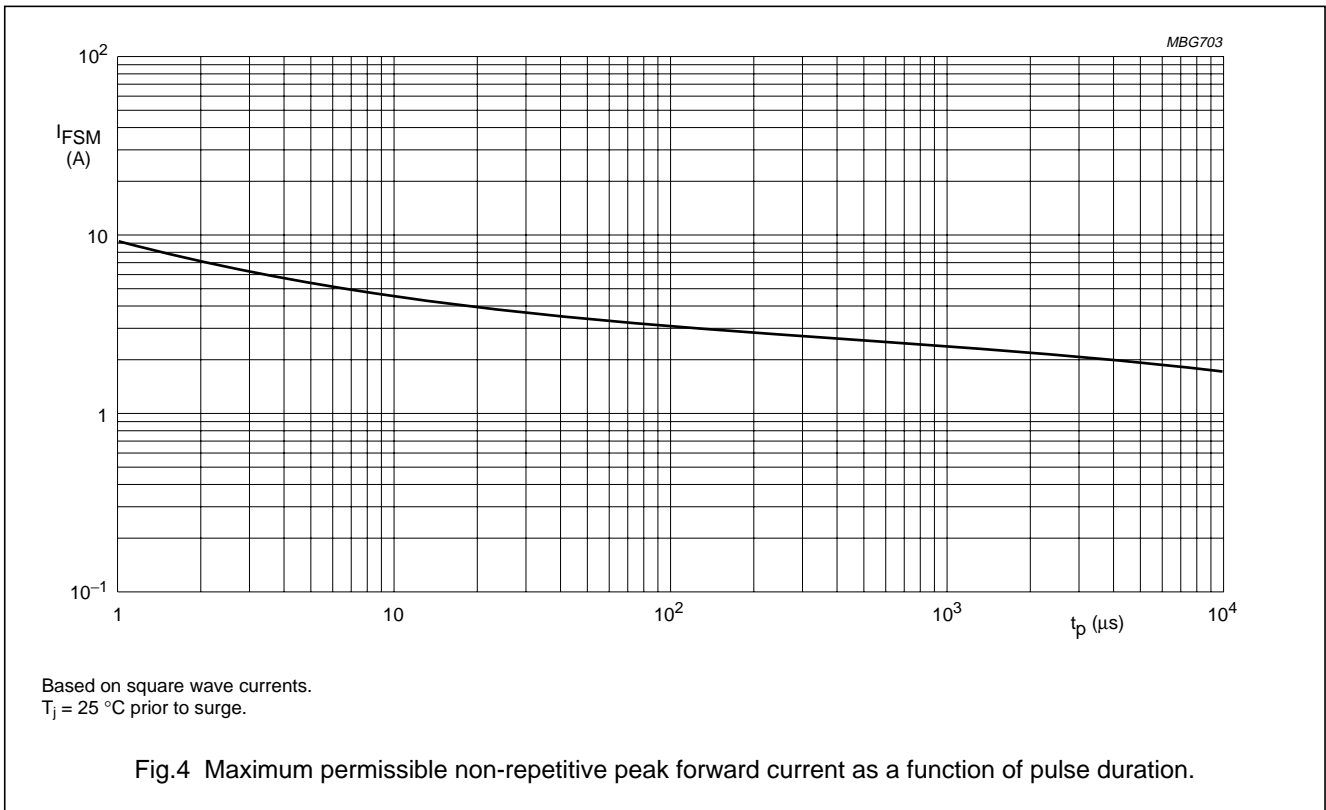
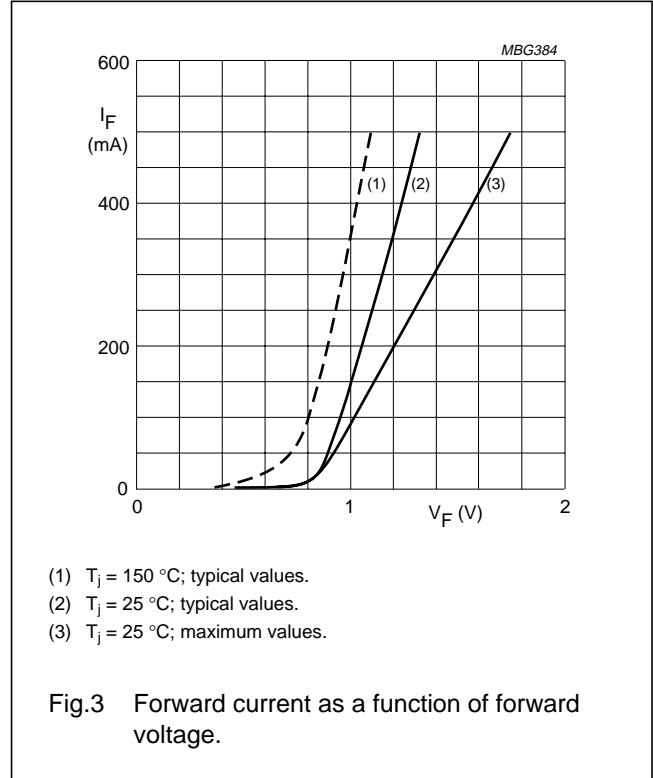
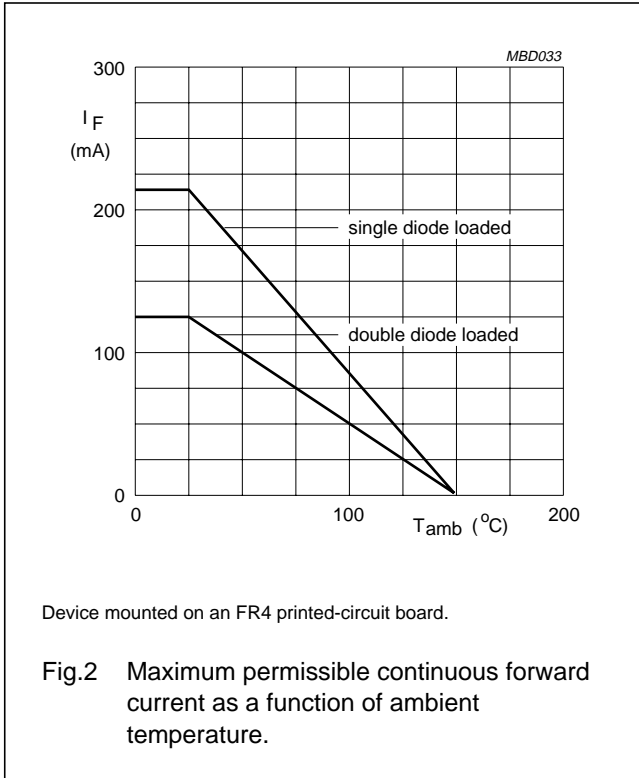
**Note**

1. Device mounted on an FR4 printed-circuit board.

General purpose double diode

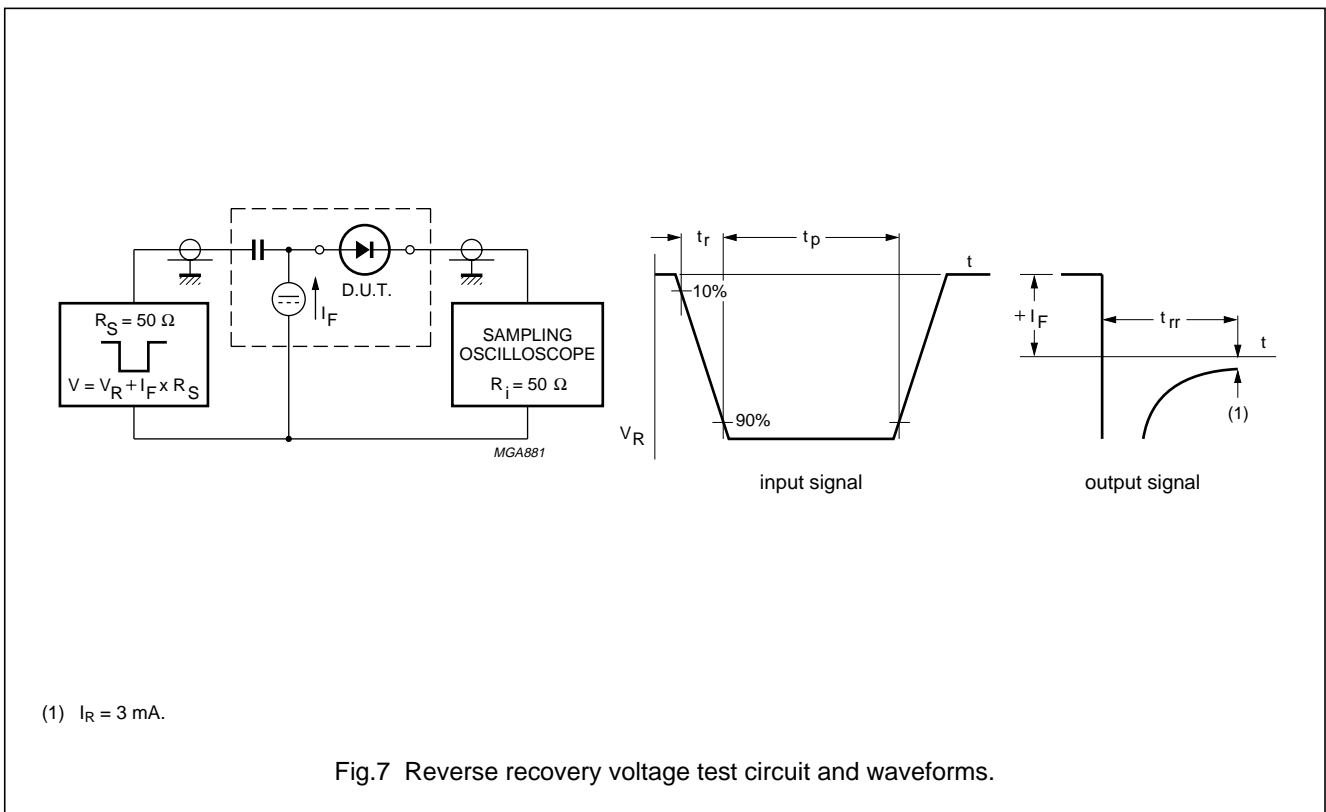
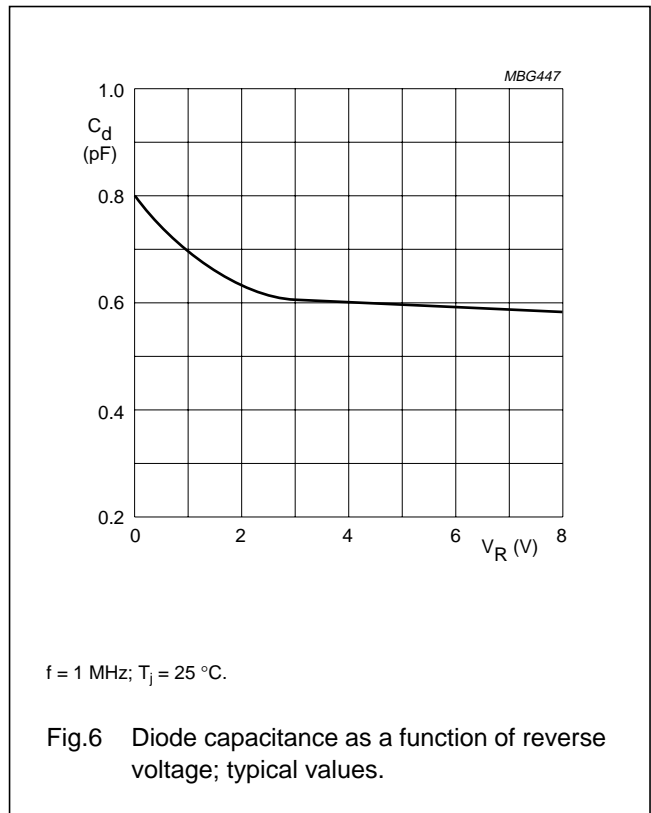
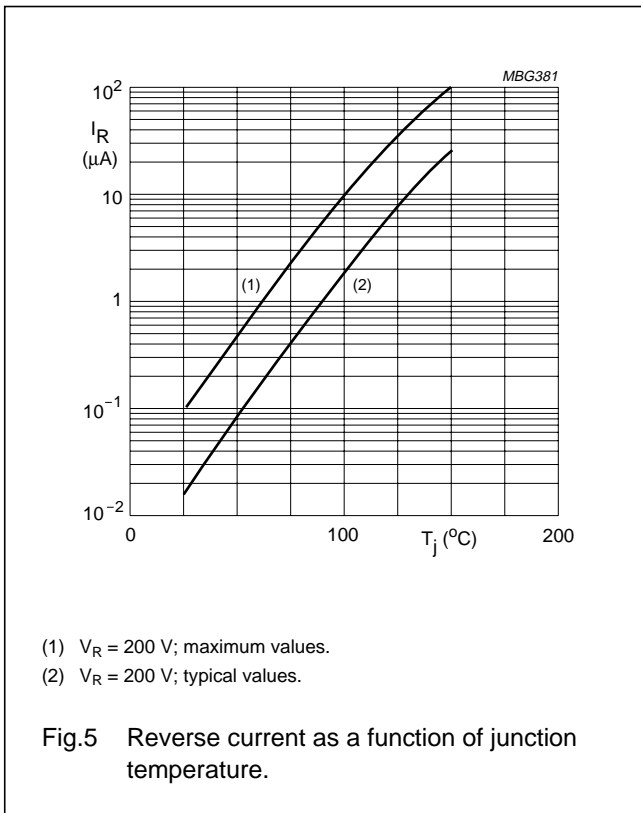
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GRAPHICAL DATA



General purpose double diode

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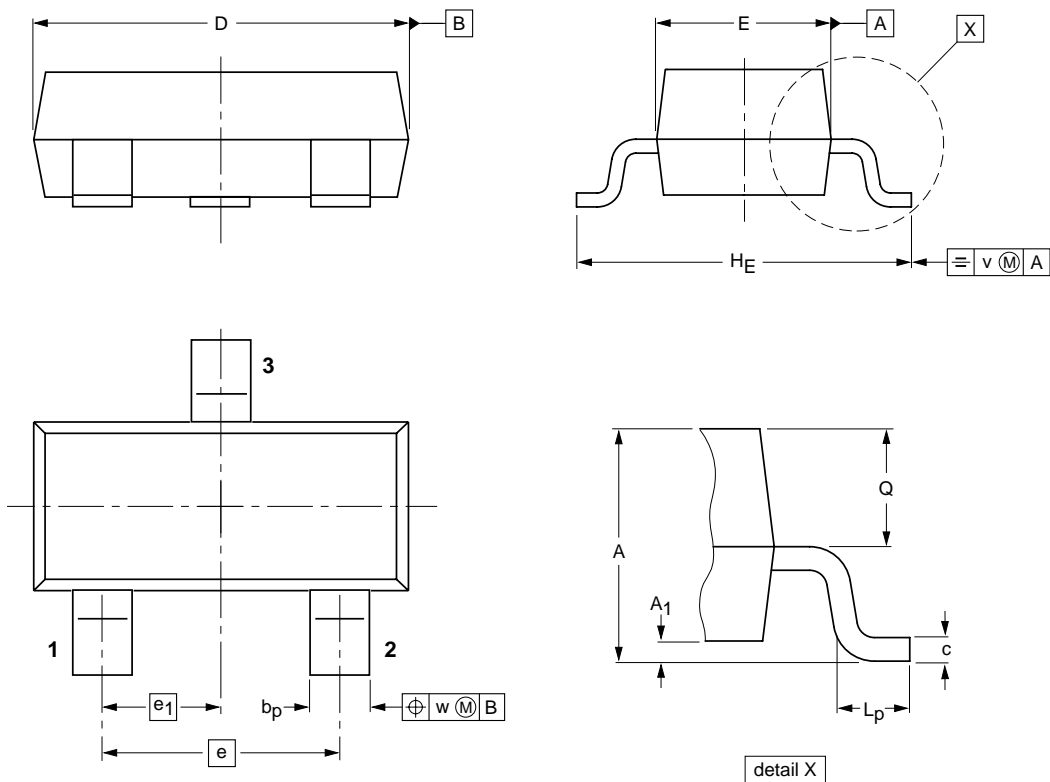
General purpose double diode

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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			97-02-28 99-09-13

## General purpose double diode

BAV23S

## DATA SHEET STATUS

DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	DEFINITIONS
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