



# BA891

Band-switching diode

Rev. 04 — 8 January 2008

Product data sheet

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NXP Semiconductors

# Band-switching diode

**BA891**

## FEATURES

- Ultra small plastic SMD package
- Low diode capacitance: max. 1.05 pF
- Low diode forward resistance: max. 0.7  $\Omega$
- Small inductance.

## APPLICATIONS

- Low loss band-switching in VHF television tuners
- Surface mount band-switching circuits.

## DESCRIPTION

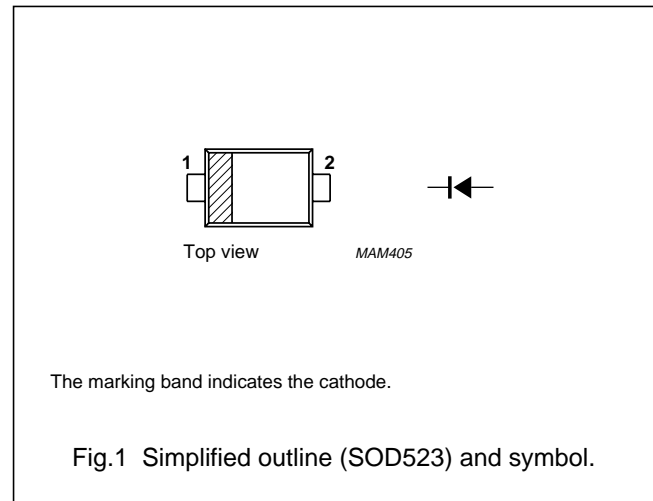
The BA891 is a planar high performance band-switching diode in the ultra small SOD523 SMD plastic package.

## MARKING

TYPE NUMBER	MARKING CODE
BA891	7

## PINNING

PIN	DESCRIPTION
1	cathode
2	anode



## LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_R$	continuous reverse voltage		–	35	V
$I_F$	continuous forward current		–	100	mA
$P_{tot}$	total power dissipation	$T_s = 90\text{ }^\circ\text{C}$	–	715	mW
$T_{stg}$	storage temperature		–65	+150	$^\circ\text{C}$
$T_j$	junction temperature		–65	+150	$^\circ\text{C}$

Band-switching diode

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**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-s}$	thermal resistance from junction to soldering point	85	K/W

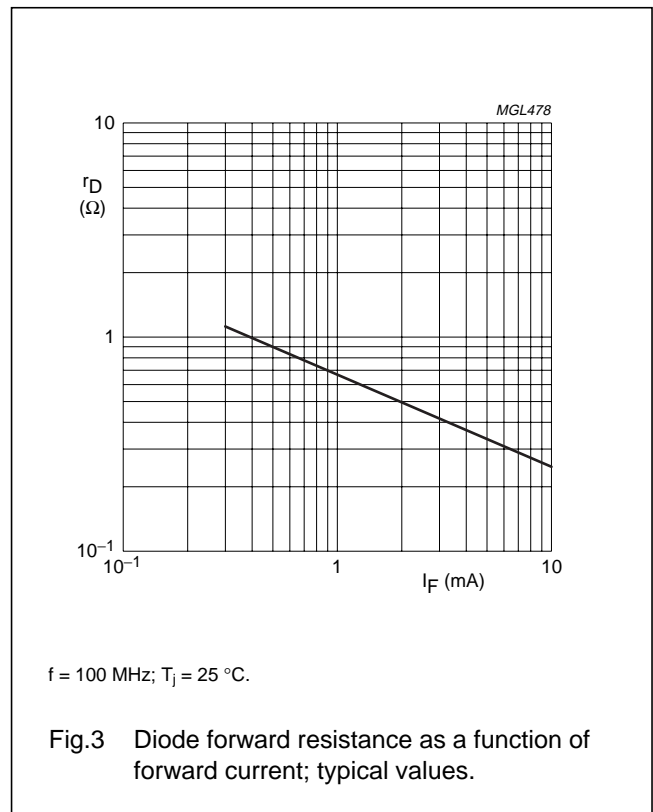
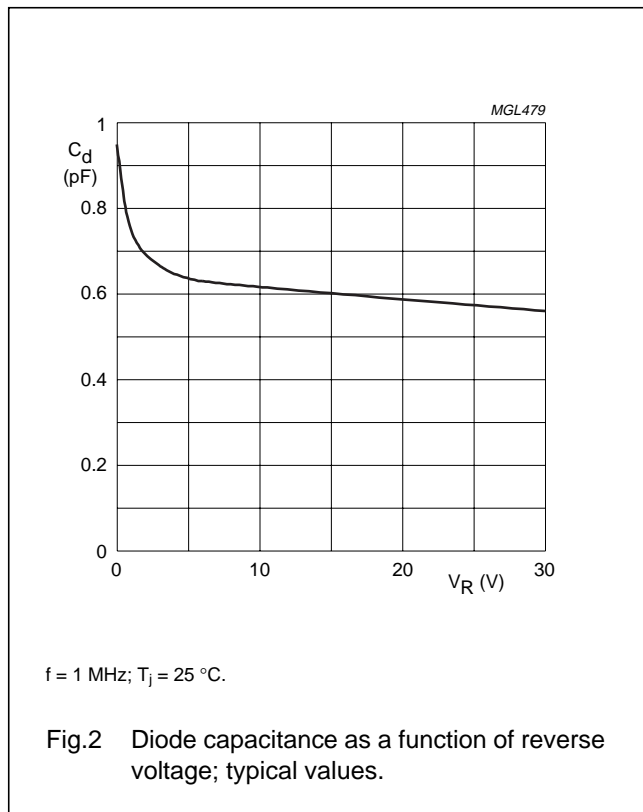
**CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
$V_F$	forward voltage	$I_F = 10\text{ mA}$	–	1	V
$I_R$	reverse current	$V_R = 30\text{ V}$	–	20	nA
$C_d$	diode capacitance	$f = 1\text{ MHz}$ ; note 1; see Fig.2 $V_R = 1\text{ V}$ $V_R = 3\text{ V}$	0.8 0.65	1.05 0.9	pF pF
$r_D$	diode forward resistance	$f = 100\text{ MHz}$ ; note 1; see Fig.3 $I_F = 3\text{ mA}$ $I_F = 10\text{ mA}$	0.42 0.28	0.7 0.5	$\Omega$ $\Omega$
$L_S$	series inductance		0.6	–	nH

**Note**

1. Guaranteed on AQL basis; inspection level S4, AQL 1.0.



Band-switching diode

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PACKAGE OUTLINE

Plastic surface-mounted package; 2 leads

SOD523

0 0.5 1 mm  
scale

**DIMENSIONS (mm are the original dimensions)**

UNIT	A	bp	c	D	E	HE	v
mm	0.65 0.58	0.34 0.26	0.17 0.11	1.25 1.15	0.85 0.75	1.65 1.55	0.1

**Note**  
1. The marking bar indicates the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOD523			SC-79			-02-12-13- 06-03-16

## Legal information

### Data sheet status

Document status <sup>[1][2]</sup>	Product status <sup>[3]</sup>	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

[1] Please consult the most recently issued document before initiating or completing a design.

[2] The term 'short data sheet' is explained in section "Definitions".

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## Revision history

### Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
BA891_N_4	20080108	Product data sheet	-	BA891_3
Modifications:	• Package outline on page 4 changed			
BA891_3 (9397 750 09281)	20020125	Product specification	-	BA891_2
BA891_2 (9397 750 04308)	19980831	Product specification	-	BA891_1
BA891_1 (9397 750 04193)	19980818	Product specification	-	-

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