



# 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

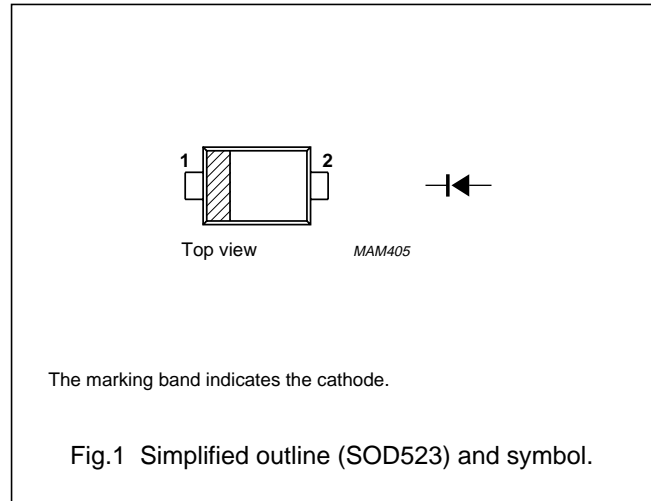
The BA891 is a planar high performance band-switching diode in the ultra small SOD523 SMD plastic package.

## 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

BA891

## THERMAL CHARACTERISTICS

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

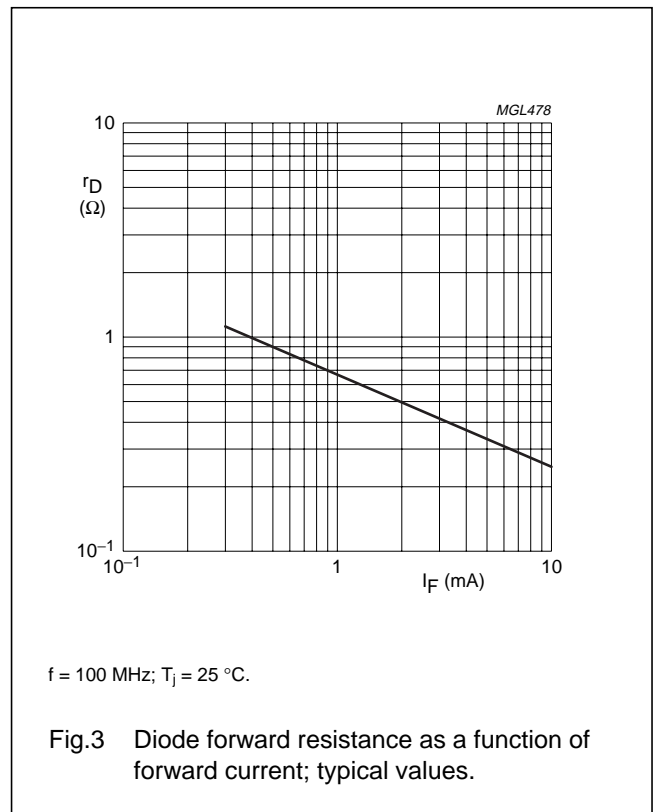
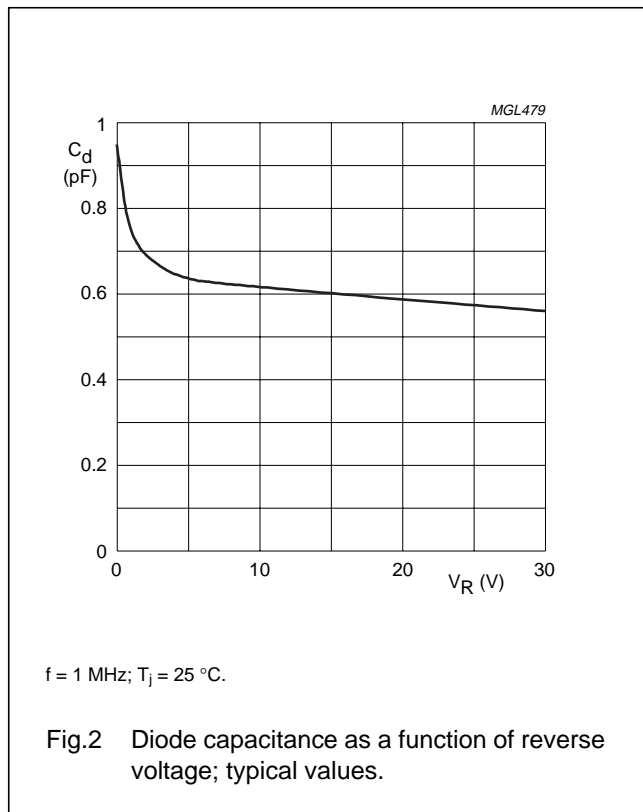
## CHARACTERISTICS

$T_j = 25\text{ °C}$  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

**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".

[3] 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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## 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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