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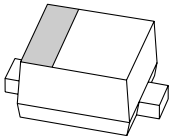

BA891

Band-switching diode

Rev. 04 — 8 January 2008 Product data sheet

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NXP Semiconductors

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Band-switching diode BA891

FEATURES

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

APPLICATIONS

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

DESCRIPTION

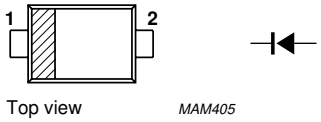
The BA891 is a planar high performance band-switching diode in the ultra small SOD523 SMD plastic package.

MARKING

TYPE NUMBER	MARKING CODE
BA891	7

PINNING

PIN	DESCRIPTION
1	cathode
2	anode



The marking band indicates the cathode.

Fig.1 Simplified outline (SOD523) and symbol.

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 °C	–	715	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–65	+150	°C

THERMAL CHARACTERISTICS

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

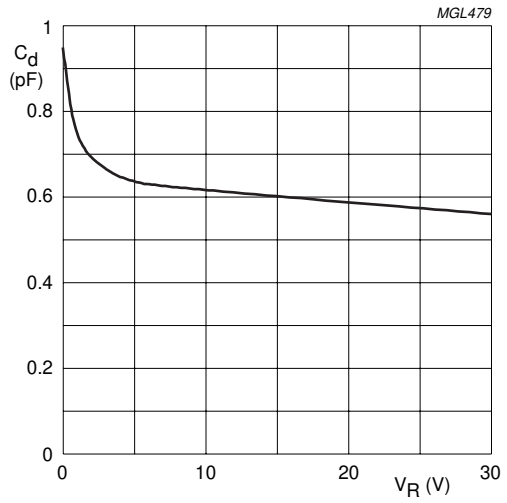
CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

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

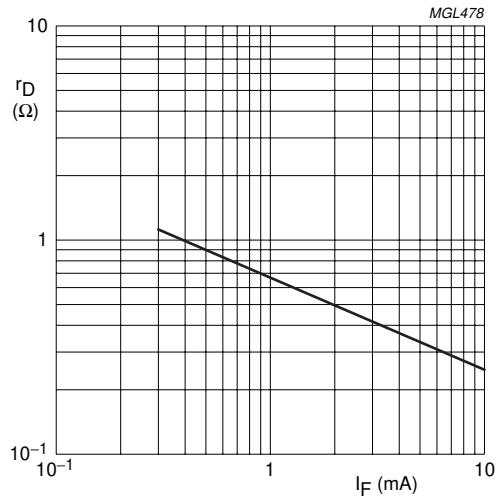
Note

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



f = 1 MHz; T_j = 25 °C.

Fig.2 Diode capacitance as a function of reverse voltage; typical values.

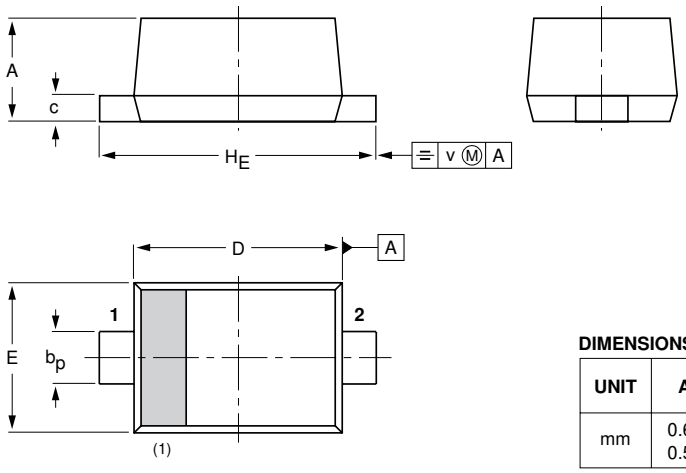


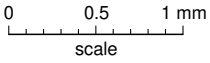
f = 100 MHz; T_j = 25 °C.

Fig.3 Diode forward resistance as a function of forward current; typical values.

PACKAGE OUTLINE

Plastic surface-mounted package; 2 leads **SOD523**





DIMENSIONS (mm are the original dimensions)

UNIT	A	b_p	c	D	E	H_E	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[1][2]	Product status[3]	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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Date of release: 8 January 2008
Document identifier: BA891_N_4