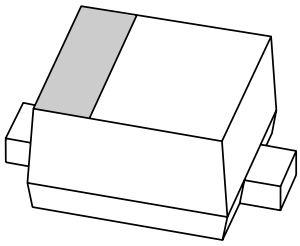
DATA SHEET



BA891
Band-switching diode

Product specification
Supersedes data of 1998 Aug 31

2002 Jan 25

Philips
Semiconductors

PHILIPS

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

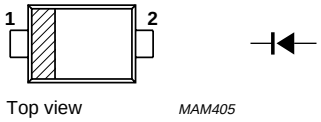
The BA891 is a planar high performance band-switching diode in the ultra small SOD523 SMD plastic package.

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

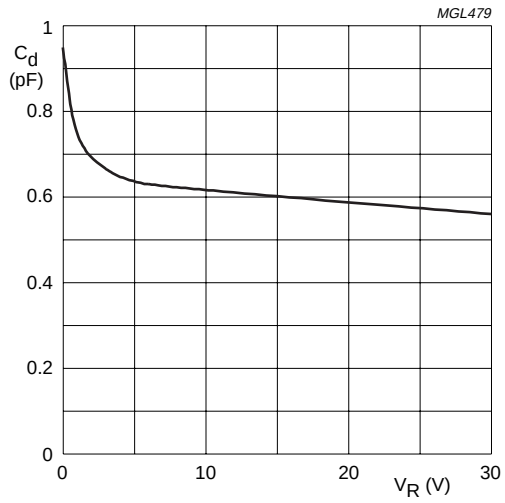
CHARACTERISTICS

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

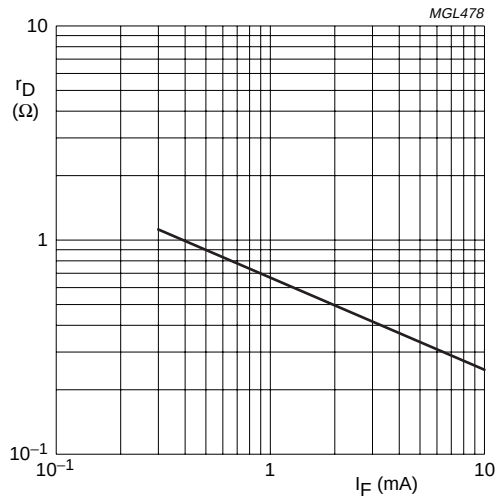
Note

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.

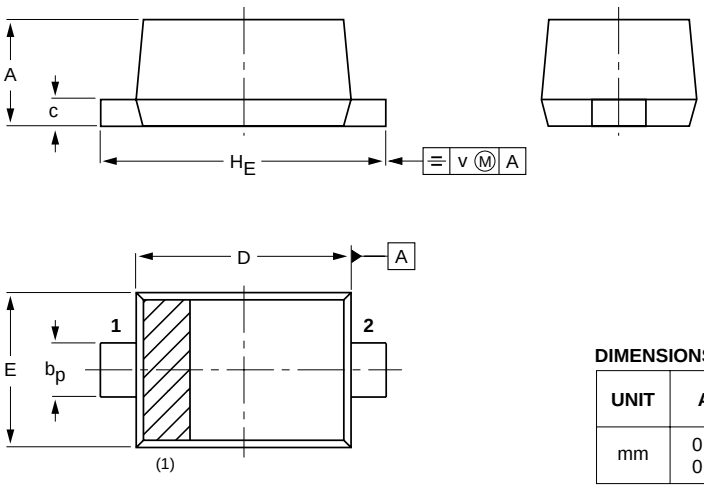


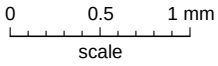
f = 100 MHz; T_j = 25 °C.

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	0.7 0.5	0.35 0.25	0.2 0.1	1.3 1.1	0.9 0.7	1.7 1.5	0.15

Note

1. The marking bar indicates the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOD523			SC-79			98-11-25

DATA SHEET STATUS

DATA SHEET STATUS[1]	PRODUCT STATUS[2]	DEFINITIONS
Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
Preliminary data	Qualification	This data sheet contains data from the preliminary specification. Supplementary data will be published at a later date. Philips Semiconductors reserves the right to change the specification without notice, in order to improve the design and supply the best possible product.
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Notes

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