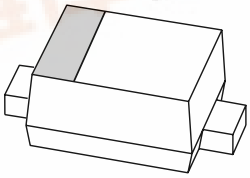
DATA SHEET



BA277-01
Band-switching diode

Product specification
Supersedes data of 2001 Sep 07

2002 Oct 29

Philips Semiconductors

PHILIPS

Band-switching diode BA277-01

FEATURES

- Small plastic SMD package
- Continuous reverse voltage: max. 35 V
- Continuous forward current: max. 100 mA
- Low diode capacitance: max. 1.2 pF
- Low diode forward resistance: max. 0.7 Ω.

APPLICATIONS

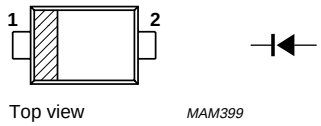
- Low loss band switching in VHF television tuners
- Surface mount band-switching circuits.

DESCRIPTION

Planar high performance band-switching diode in a small SOD723 SMD plastic package.

PINNING

PIN	DESCRIPTION
1	cathode
2	anode



Marking code: M2.

Fig.1 Simplified outline (SOD723) 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	–	315	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–65	+150	°C

ELECTRICAL CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
V_F	forward voltage	I_F = 10 mA	1	V
I_R	reverse current	V_R = 25 V	50	nA
		V_R = 20 V; T_{amb} = 75 °C	1	µA
C_d	diode capacitance	f = 1 MHz; V_R = 6 V; see Fig.2	1.2	pF
r_D	diode forward resistance	I_F = 2 mA; f = 100 MHz; note 1; see Fig.3	0.7	Ω

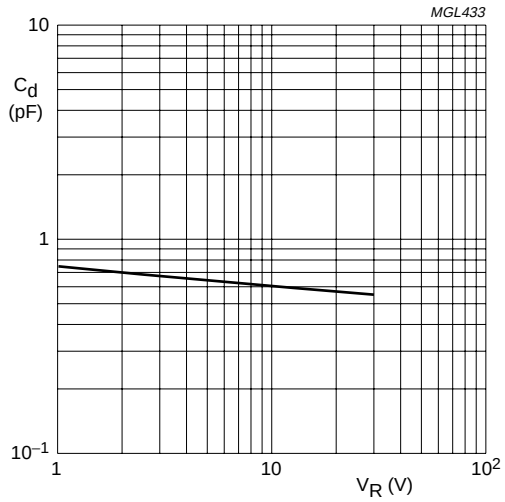
Note

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

THERMAL CHARACTERISTICS

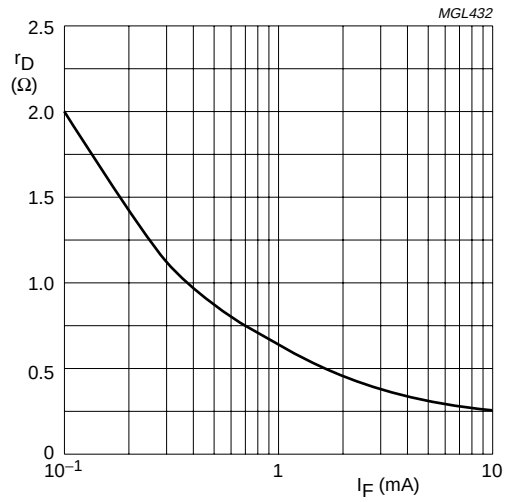
SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j\text{-}s}$	thermal resistance from junction to soldering-point	190	K/W

GRAPHICAL DATA



f = 1 MHz; T_j = 25 °C.

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

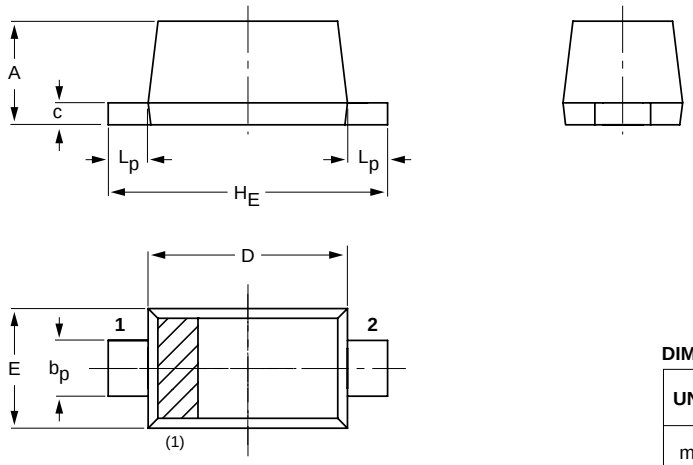


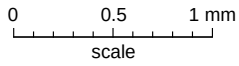
f = 100 MHz; T_j = 25 °C.

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

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads **SOD723**





DIMENSIONS (mm are the original dimensions)

UNIT	A	b_p	c	D	E	H_E	L_p
mm	0.55 0.49	0.32 0.25	0.15 0.08	1.05 0.95	0.65 0.55	1.45 1.35	0.27 0.13

Note

1. The marking bar indicates the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOD723						02-07-05

DATA SHEET STATUS

LEVEL	DATA SHEET STATUS[1]	PRODUCT STATUS[2][3]	DEFINITION
I	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.
II	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.
III	Product data	Production	This data sheet contains data from the product specification. Philips Semiconductors reserves the right to make changes at any time in order to improve the design, manufacturing and supply. Relevant changes will be communicated via a Customer Product/Process Change Notification (CPCN).

Notes

1. Please consult the most recently issued data sheet before initiating or completing a design.
2. The product status of the device(s) described in this data sheet may have changed since this data sheet was published. The latest information is available on the Internet at URL http://www.semiconductors.philips.com.
3. For data sheets describing multiple type numbers, the highest-level product status determines the data sheet status.

DEFINITIONS

Short-form specification — The data in a short-form specification is extracted from a full data sheet with the same type number and title. For detailed information see the relevant data sheet or data handbook.

Limiting values definition — Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.

Application information — Applications that are described herein for any of these products are for illustrative purposes only. Philips Semiconductors make no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

DISCLAIMERS

Life support applications — These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips Semiconductors customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips Semiconductors for any damages resulting from such application.

Right to make changes — Philips Semiconductors reserves the right to make changes in the products - including circuits, standard cells, and/or software - described or contained herein in order to improve design and/or performance. When the product is in full production (status ‘Production’), relevant changes will be communicated via a Customer Product/Process Change Notification (CPCN). Philips Semiconductors assumes no responsibility or liability for the use of any of these products, conveys no licence or title under any patent, copyright, or mask work right to these products, and makes no representations or warranties that these products are free from patent, copyright, or mask work right infringement, unless otherwise specified.

NOTES

NOTES

Philips Semiconductors – a worldwide company

Contact information

For additional information please visit **http://www.semiconductors.philips.com**. Fax: **+31 40 27 24825**
For sales offices addresses send e-mail to: **sales.addresses@www.semiconductors.philips.com**.

SCA74

Printed in The Netherlands 613512/02/pp8 Date of release: 2002 Oct 29 Document order number: 9397 750 10324

Let's make things better.

Philips