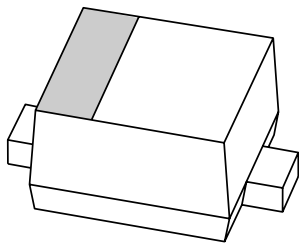


# DATA SHEET



## **BA278** Band-switching diode

Preliminary specification

2001 Jan 15

# Band-switching diode

# BA278

## 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  $\Omega$ .

## APPLICATIONS

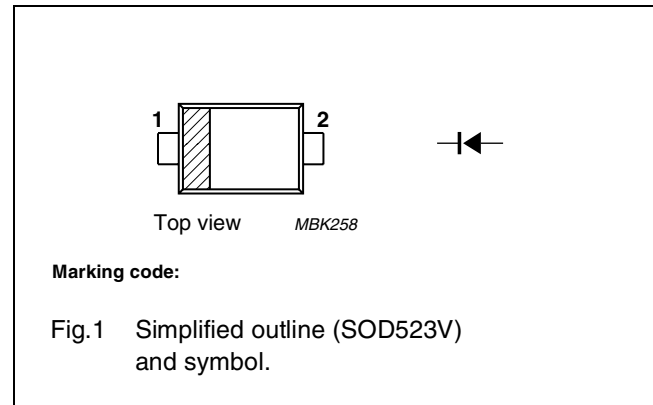
- Low loss band switching in VHF television tuners.
- Surface mount band-switching circuits.

## DESCRIPTION

Planar high performance band-switching diode in a small plastic SOD523V SMD package.

## PINNING

PIN	DESCRIPTION
1	cathode
2	anode



## LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

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	$^\circ\text{C}$

## ELECTRICAL CHARACTERISTICS

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

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

## Note

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

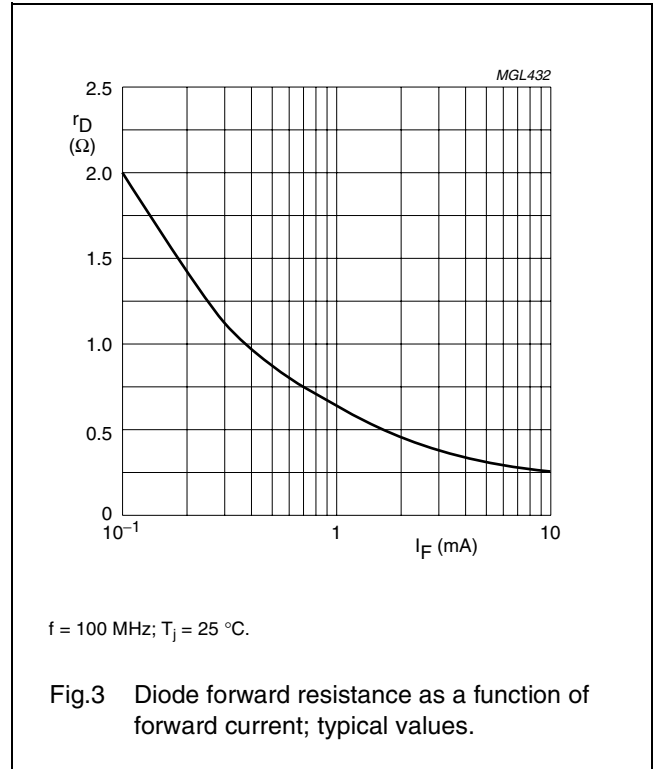
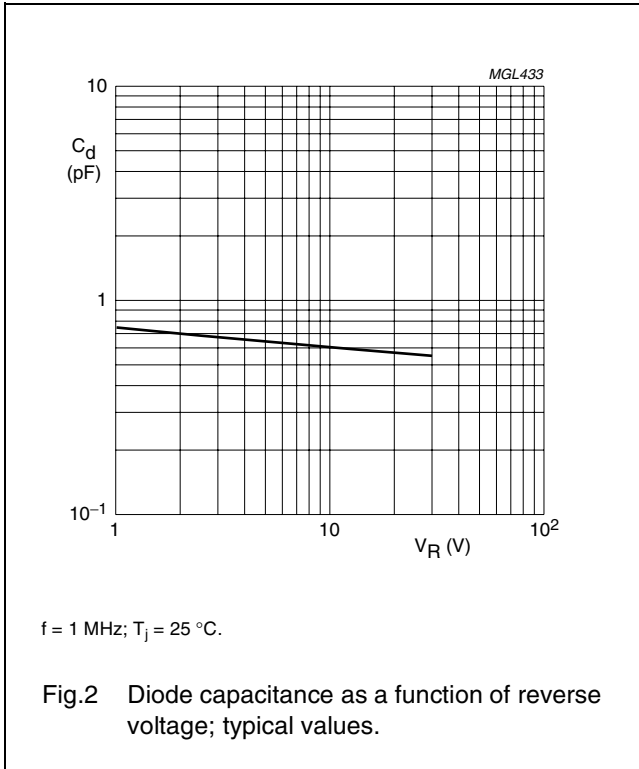
## THERMAL CHARACTERISTICS

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

# Band-switching diode

BA278

## GRAPHICAL DATA



## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD523V

**Package under development**

Philips Semiconductors reserves the right to make changes without notice.

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	EIAJ		
SOD523V			SC-79		00-12-07

## Band-switching diode

BA278

## DATA SHEET STATUS

DATA SHEET STATUS	PRODUCT STATUS	DEFINITIONS <sup>(1)</sup>
Objective specification	Development	This data sheet contains the design target or goal specifications for product development. Specification may change in any manner without notice.
Preliminary specification	Qualification	This data sheet contains preliminary data, and supplementary data will be published at a later date. Philips Semiconductors reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.
Product specification	Production	This data sheet contains final specifications. Philips Semiconductors reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.

## Note

1. Please consult the most recently issued data sheet before initiating or completing a design.

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**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.

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