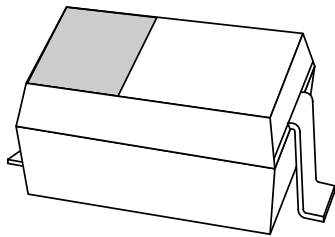


# DATA SHEET



## **BA592** Band-switching diode

Preliminary specification  
File under Discrete Semiconductors, SC01

1998 May 07

# Band-switching diode

**BA592**

**FEATURES**

- Small plastic SMD package
- Low diode capacitance
- Low diode forward resistance
- Small inductance.

**APPLICATIONS**

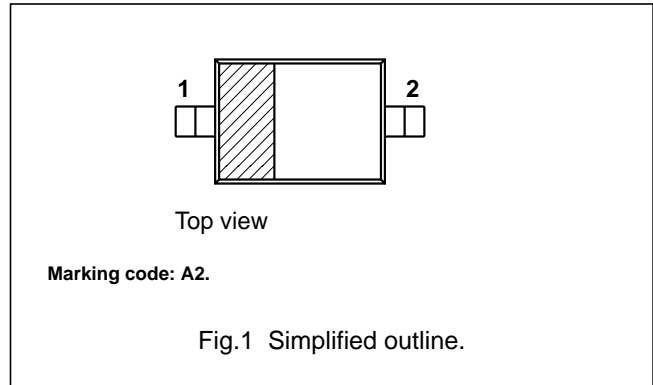
- Low loss band-switching in VHF television tuners
- Surface mount band-switching circuits.

**DESCRIPTION**

Planar, high performance band-switch diode in a small SMD plastic package (SOD323).

**PINNING SOD323**

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	$T_S = 90\text{ }^\circ\text{C}$	–	500	mW
$T_{stg}$	storage temperature		–65	+150	$^\circ\text{C}$
$T_j$	junction temperature		–65	+150	$^\circ\text{C}$

Band-switching diode

BA592

**ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$V_F$	forward voltage	$I_F = 10\text{ mA}$	–	–	1	V
$I_R$	reverse current	$V_R = 20\text{ V}$	–	–	20	nA
$C_d$	diode capacitance	$V_R = 1\text{ V}; f = 1\text{ MHz}; \text{note 1}$	–	0.92	1.4	pF
		$V_R = 3\text{ V}; f = 1\text{ MHz}; \text{note 1}$	0.6	0.85	1.1	pF
$r_D$	diode forward resistance	$I_F = 3\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	–	0.45	0.7	$\Omega$
		$I_F = 10\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	–	0.36	0.5	$\Omega$
$1/g_p$	reverse resistance	$V_R = 1\text{ V}; f = 100\text{ MHz}; \text{note 1}$	–	100	–	k $\Omega$
$L_S$	series inductance		–	2	–	nH

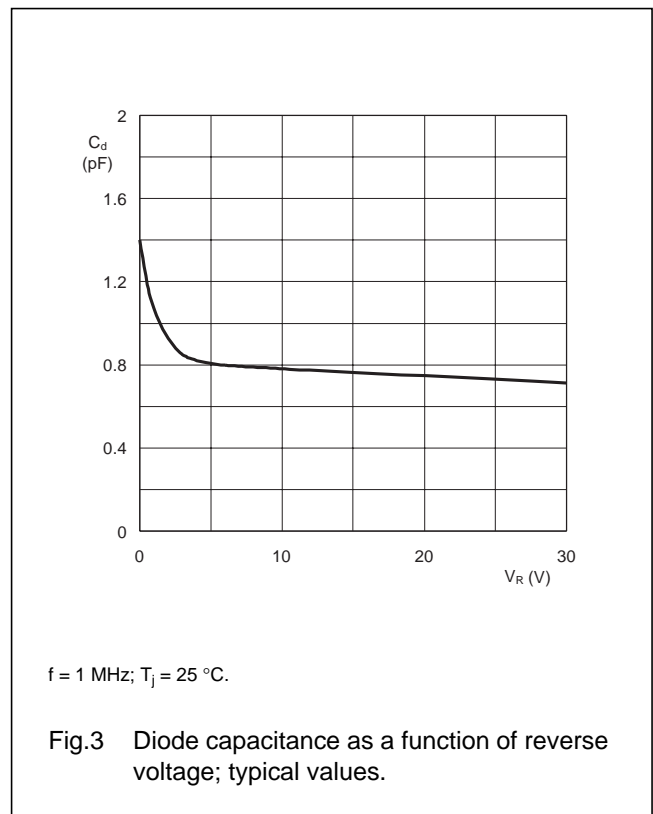
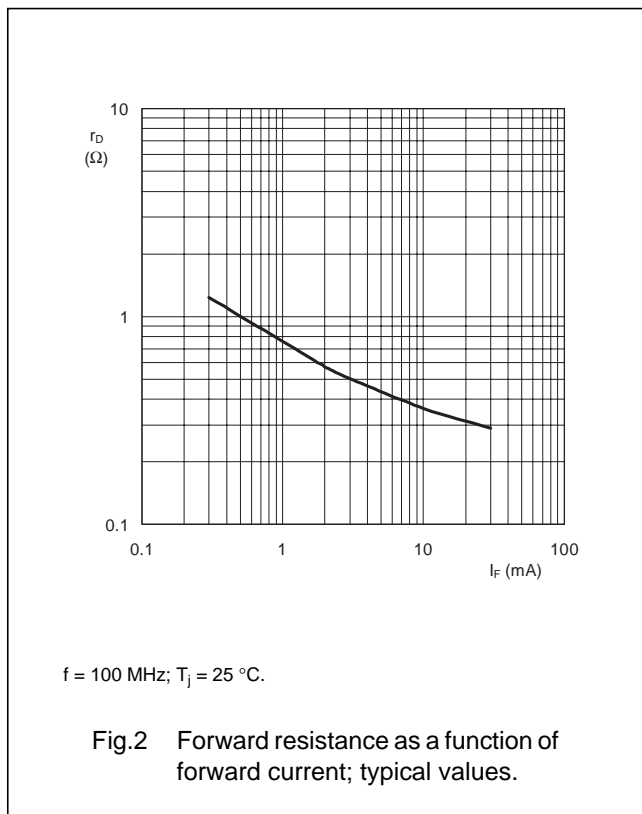
**Note**

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

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-s}$	thermal resistance from junction to soldering point		120	K/W

**GRAPHICAL DATA**



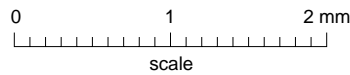
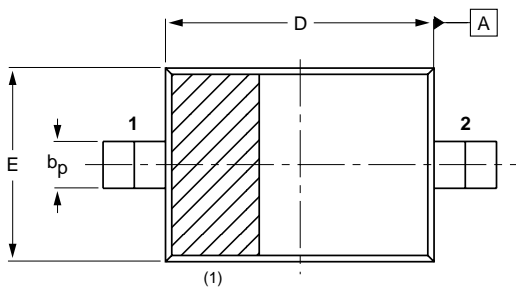
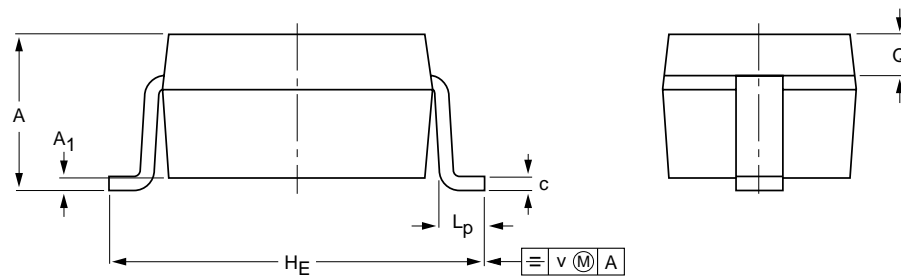
Band-switching diode

BA592

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub> max.	b <sub>p</sub>	c	D	E	H <sub>E</sub>	L <sub>p</sub>	Q	v
mm	1.1 0.8	+0.05 -0.05	0.40 0.25	0.25 0.10	1.8 1.6	1.35 1.15	2.7 2.3	0.45 0.15	0.25 0.15	0.2

Note

1. The marking band indicate the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOD323						97-12-10

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**Band-switching diode**
**BA592**


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**DEFINITIONS**

<b>Data sheet status</b>	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
<b>Limiting values</b>	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). 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.	
<b>Application information</b>	
Where application information is given, it is advisory and does not form part of the specification.	

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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 customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.

Band-switching diode

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**NOTES**

Band-switching diode

BA592

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**NOTES**

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