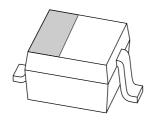
DISCRETE SEMICONDUCTORS

DATA SHEET



BAS321 General purpose diode

Product specification Supersedes data of 1999 Feb 09 2004 Jan 26





General purpose diode

BAS321

FEATURES

• Small plastic SMD package

• Switching speed: max. 50 ns

· General application

• Continuous reverse voltage: max. 200 V

• Repetitive peak reverse voltage: max. 250 V

• Repetitive peak forward current: max. 625 mA.

APPLICATIONS

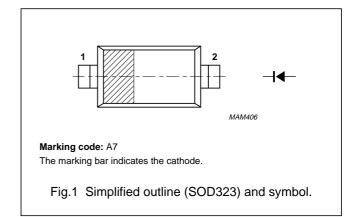
General purpose switching in e.g. surface mounted circuits.

DESCRIPTION

The BAS321 is a general purpose diode fabricated in planar technology and encapsulated in a plastic SOD323 package.

PINNING

PIN	DESCRIPTION
1	cathode
2	anode



ORDERING INFORMATION

TYPE		PACKAGE					
NUMBER	NAME	DESCRIPTION VER					
BAS321	_	plastic surface mounted package; 2 leads S					

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _{RRM}	repetitive peak reverse voltage		_	250	V
V _R	continuous reverse voltage		_	200	V
I _F	continuous forward current	see Fig.2; note 1	_	250	mA
I _{FRM}	repetitive peak forward current	$t_p < 0.5 \text{ ms}; \delta \le 0.25$	_	625	mA
I _{FSM}	non-repetitive peak forward current	square wave; T _j = 25 °C prior to surge; see Fig.4			
		t = 1 μs	_	9	A
		t = 100 μs	_	3	A
		t = 10 ms	_	1.7	A
P _{tot}	total power dissipation	T _{amb} = 25 °C; note 1	_	300	mW
T _{stg}	storage temperature		-65	+150	°C
Tj	junction temperature		_	150	°C

Note

1. Device mounted on an FR4 printed circuit-board.

General purpose diode

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CHARACTERISTICS

 T_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
V _F	forward voltage	see Fig.3		
		I _F = 100 mA	1	V
		I _F = 200 mA	1.25	V
I _R	reverse current	see Fig.5		
		V _R = 200 V	100	nA
		V _R = 200 V; T _j = 150 °C	100	μΑ
C _d	diode capacitance	f = 1 MHz; V _R = 0; see Fig.6	2	pF
t _{rr}	reverse recovery time	when switched from I_F = 30 mA to I_R = 30 mA; R_L = 100 Ω ; measured at I_R = 3 mA; see Fig.8	50	ns

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R _{th(j-s)}	thermal resistance from junction to soldering point	T _s = 90°C; note 1	130	K/W
R _{th(j-a)}	thermal resistance from junction to ambient	note 2	366	K/W

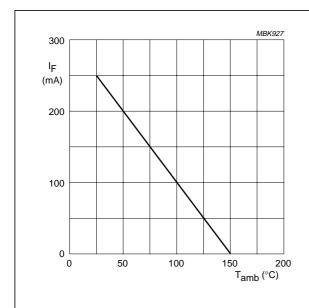
Notes

- 1. Soldering point of cathode tab.
- 2. Device mounted on an FR4 printed circuit board.

General purpose diode

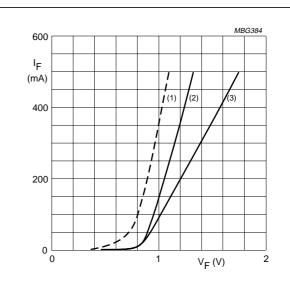
BAS321

GRAPHICAL DATA



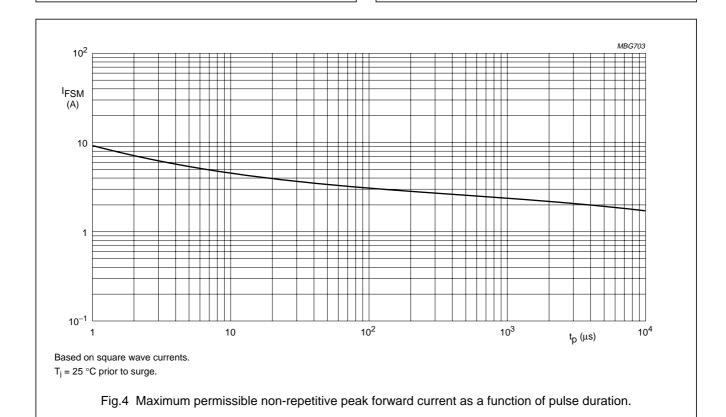
Device mounted on an FR4 printed-circuit board.

Fig.2 Maximum permissible continuous forward current as a function of ambient temperature.



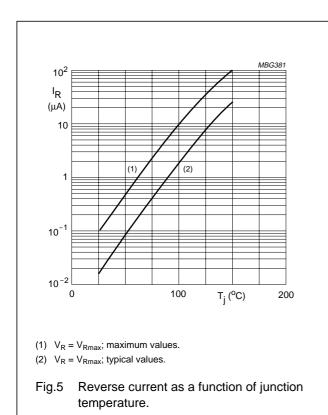
- (1) $T_i = 150$ °C; typical values.
- (2) $T_i = 25$ °C; typical values.
- (3) T_i = 25 °C; maximum values.

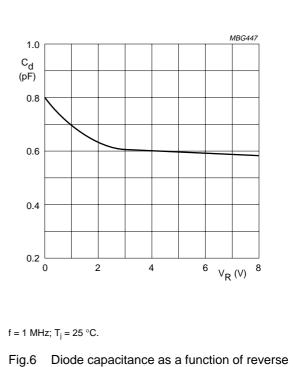
Fig.3 Forward current as a function of forward voltage.

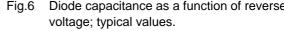


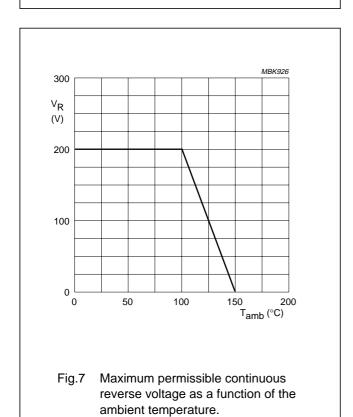
General purpose diode

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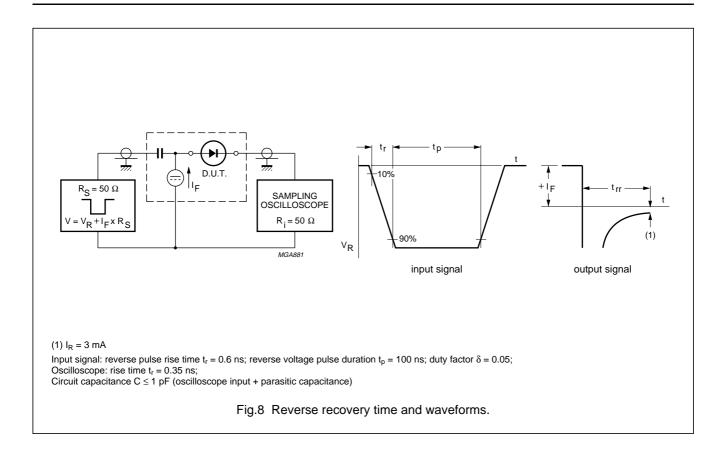






General purpose diode

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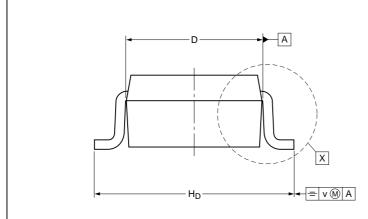
General purpose diode

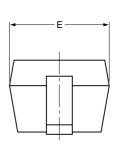
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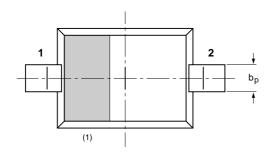
PACKAGE OUTLINE

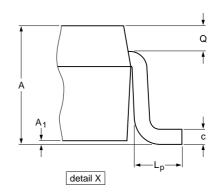


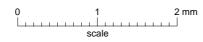
SOD323











DIMENSIONS (mm are the original dimensions)

UNIT	Α	A ₁ max	bp	С	D	E	H _D	Lp	Q	v
mm	1.1 0.8	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 bar indicates the cathode

OUTLINE	REFERENCES				EUROPEAN	ISSUE DATE
VERSION	IEC	JEDEC	JEITA		PROJECTION	ISSUE DATE
SOD323			SC-76			-99-09-13- 03-12-17

7 2004 Jan 26

General purpose diode

BAS321

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

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- 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

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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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