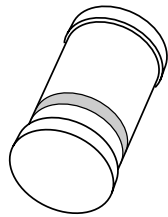


# DATA SHEET



## **BAS32L** High-speed diode

Product specification  
Supersedes data of 1996 Sep 10

2002 Jan 23

## High-speed diode

## BAS32L

## FEATURES

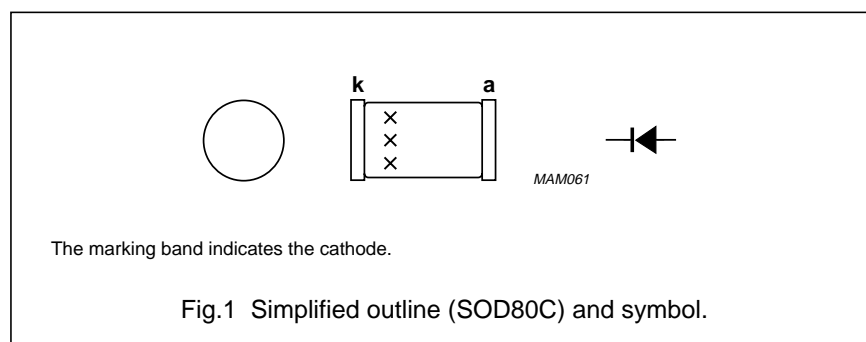
- Small hermetically sealed glass SMD package
- High switching speed: max. 4 ns
- Continuous reverse voltage: max. 75 V
- Repetitive peak reverse voltage: max. 100 V
- Repetitive peak forward current: max. 450 mA.

## APPLICATIONS

- High-speed switching
- Fast logic applications.

## DESCRIPTION

The BAS32L is a high-speed switching diode fabricated in planar technology, and encapsulated in the small hermetically sealed glass SOD80C SMD package.



## LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{RRM}$	repetitive peak reverse voltage		–	100	V
$V_R$	continuous reverse voltage		–	75	V
$I_F$	continuous forward current	see Fig.2; note 1	–	200	mA
$I_{FRM}$	repetitive peak forward current		–	450	mA
$I_{FSM}$	non-repetitive peak forward current	square wave; $T_j = 25\text{ °C}$ prior to surge; see Fig.4 $t = 1\ \mu\text{s}$ $t = 1\ \text{ms}$ $t = 1\ \text{s}$	–	4 1 0.5	A A A
$P_{tot}$	total power dissipation	$T_{amb} = 25\text{ °C}$ ; note 1	–	500	mW
$T_{stg}$	storage temperature		–65	+200	°C
$T_j$	junction temperature		–	200	°C

## Note

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

## High-speed diode

## BAS32L

**ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_F$	forward voltage	see Fig.3			
		$I_F = 5\text{ mA}$	620	750	mV
		$I_F = 100\text{ mA}$	–	1000	mV
		$I_F = 100\text{ mA}; T_j = 100\text{ °C}$	–	930	mV
$I_R$	reverse current	see Fig.5			
		$V_R = 20\text{ V}$	–	25	nA
		$V_R = 75\text{ V}$	–	5	$\mu\text{A}$
		$V_R = 20\text{ V}; T_j = 150\text{ °C}$	–	50	$\mu\text{A}$
		$V_R = 75\text{ V}; T_j = 150\text{ °C}$	–	100	$\mu\text{A}$
$V_{(BR)R}$	reverse breakdown voltage	$I_R = 100\text{ }\mu\text{A}$	100	–	V
$C_d$	diode capacitance	$f = 1\text{ MHz}; V_R = 0$ ; see Fig.6		2	pF
$t_{rr}$	reverse recovery time	when switched from $I_F = 10\text{ mA}$ to $I_R = 10\text{ mA}; R_L = 100\text{ }\Omega$ ; measured at $I_R = 1\text{ mA}$ ; see Fig.7		4	ns
$V_{fr}$	forward recovery voltage	when switched from $I_F = 50\text{ mA}$ ; $t_r = 20\text{ ns}$ ; see Fig.8	–	2.5	V

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-tp}$	thermal resistance from junction to tie-point		300	K/W
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	350	K/W

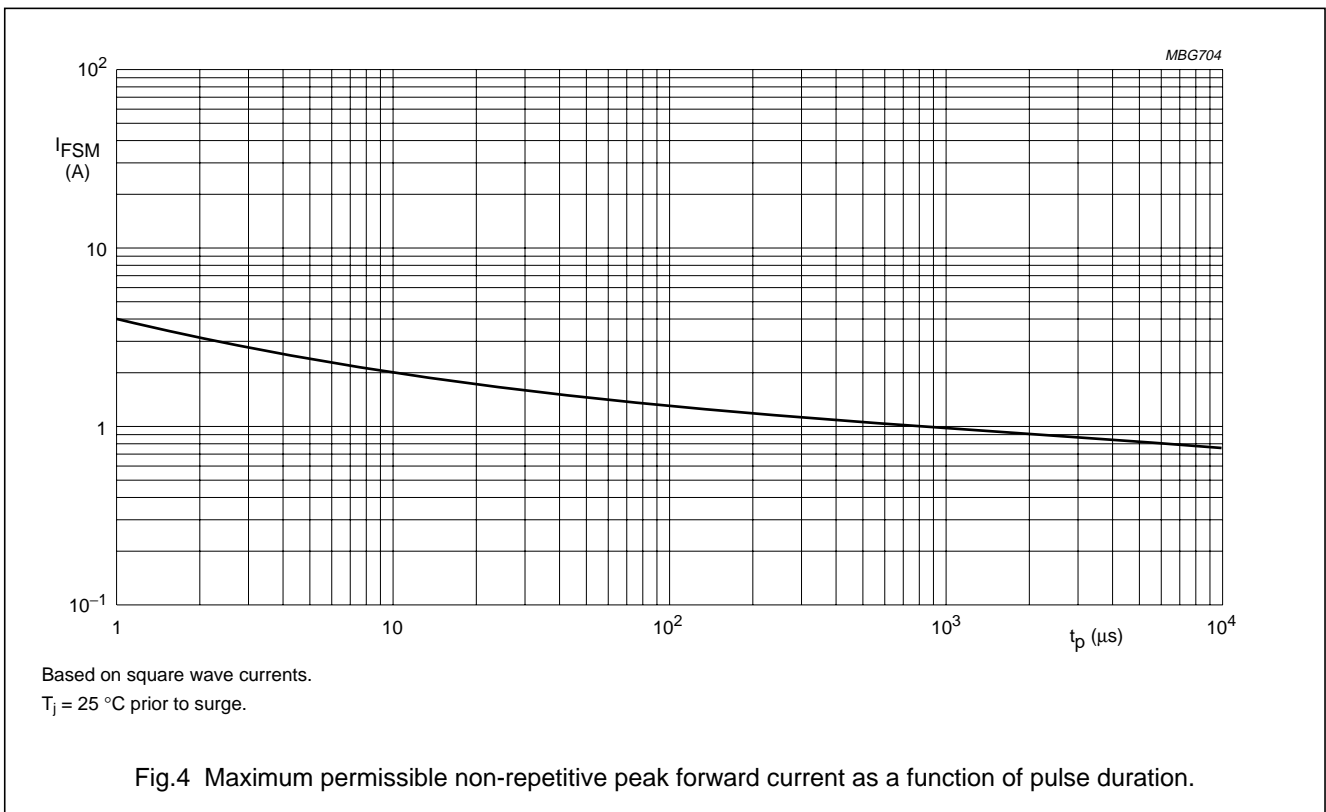
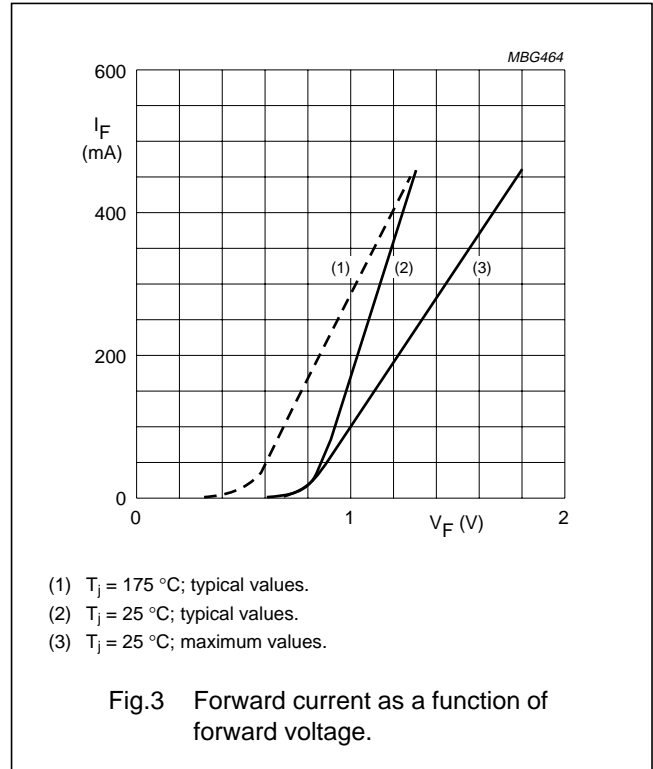
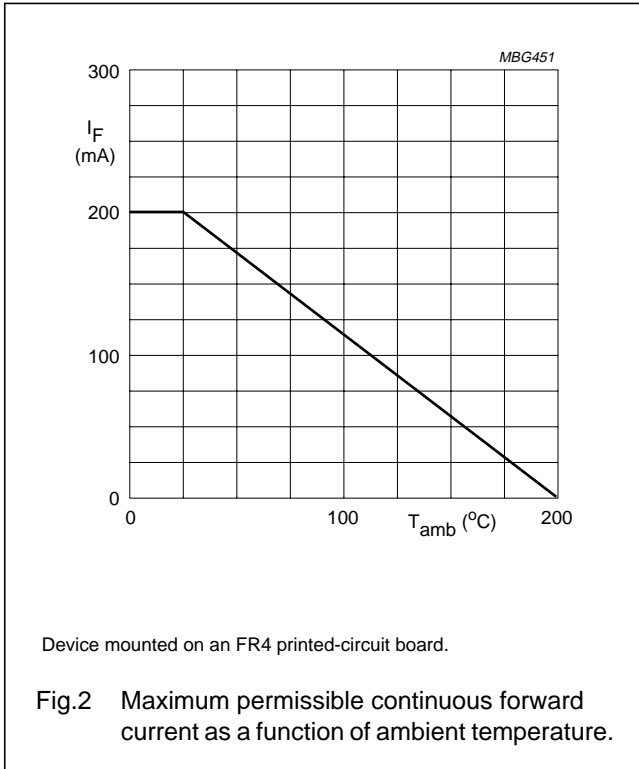
**Note**

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

High-speed diode

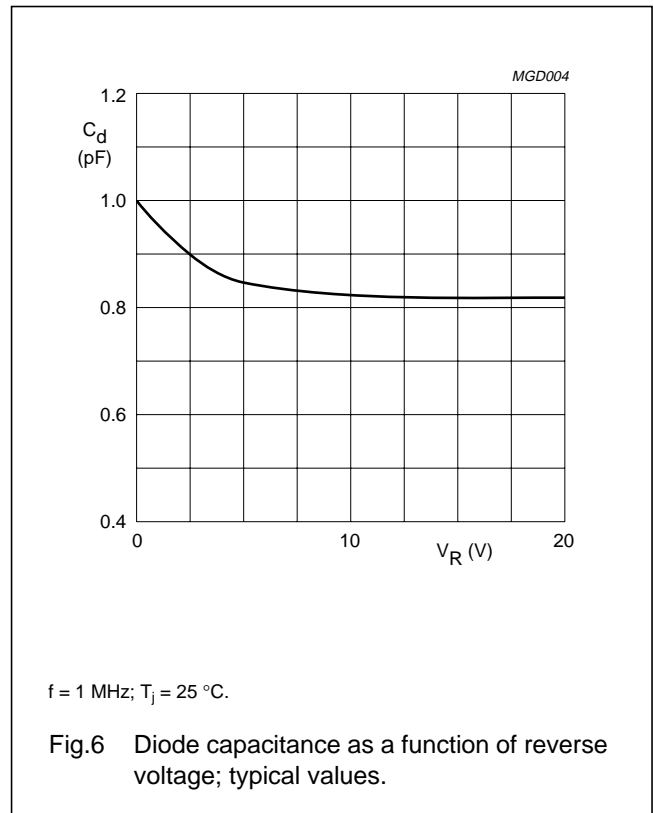
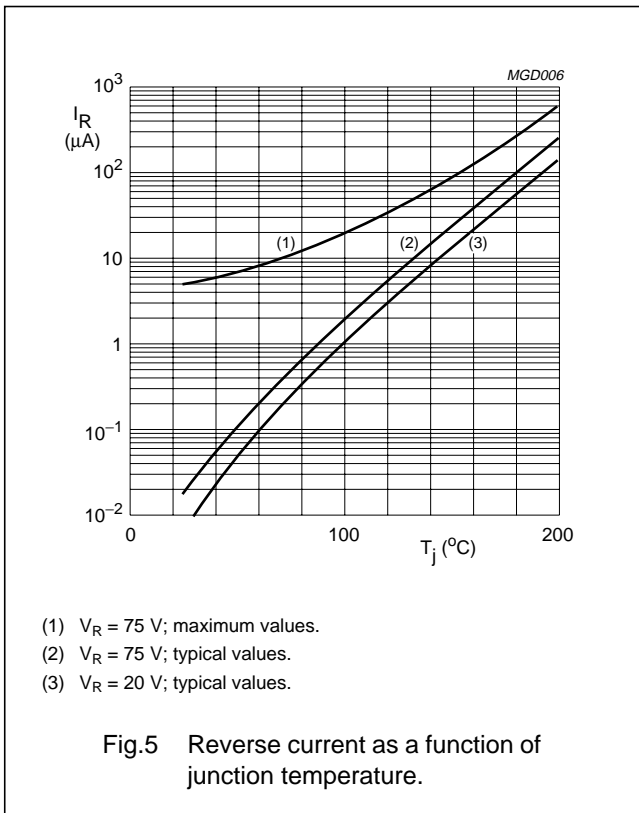
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GRAPHICAL DATA



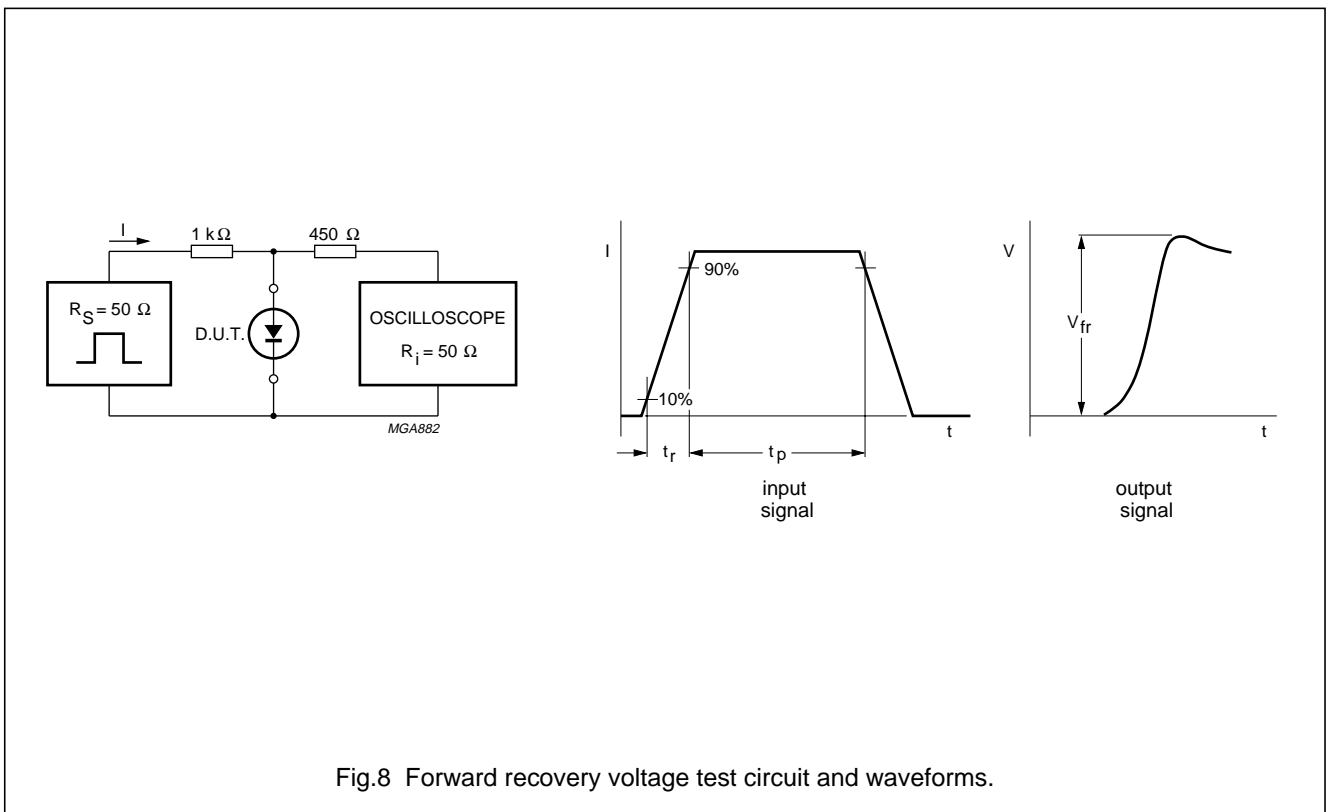
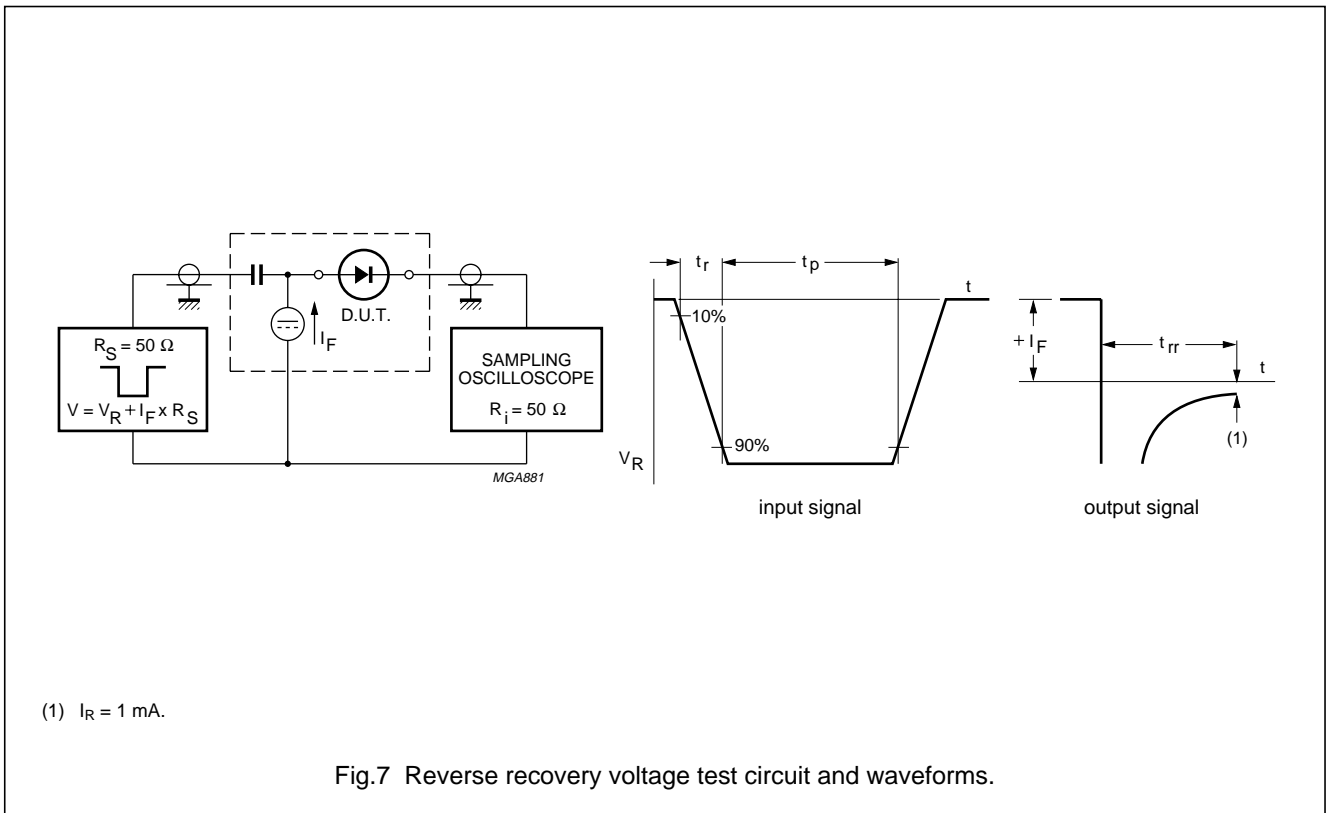
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High-speed diode

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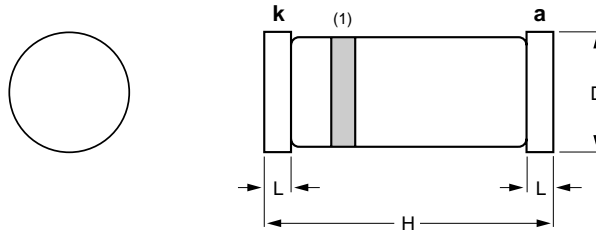
High-speed diode

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PACKAGE OUTLINE

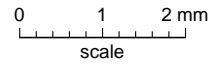
Hermetically sealed glass surface mounted package; 2 connectors

SOD80C



DIMENSIONS (mm are the original dimensions)

UNIT	D	H	L
mm	1.60 1.45	3.7 3.3	0.3



Note

1. The marking band indicates the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOD80C	100H01					97-06-20

## High-speed diode

BAS32L

## DATA SHEET STATUS

DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	DEFINITIONS
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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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**NOTES**

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## **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](mailto:sales.addresses@www.semiconductors.philips.com).

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