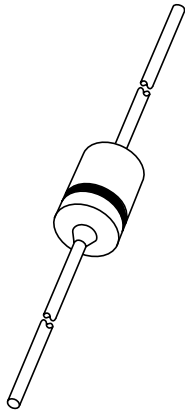


DATA SHEET



1N914; 1N914A; 1N914B High-speed diodes

Product specification
Supersedes data of 1999 May 26

2003 Jun 06

High-speed diodes

1N914; 1N914A; 1N914B

FEATURES

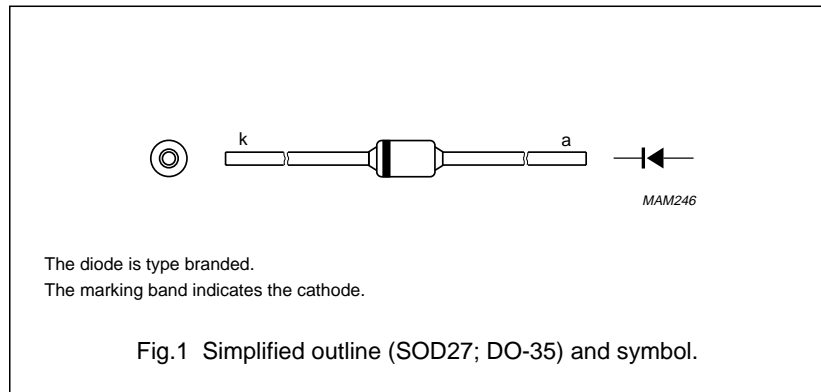
- Hermetically sealed leaded glass SOD27 (DO-35) package
- High switching speed: max. 4 ns
- Continuous reverse voltage: max. 75 V
- Repetitive peak reverse voltage: max. 100 V
- Repetitive peak forward current: max. 225 mA.

APPLICATIONS

- High-speed switching.

DESCRIPTION

The 1N914, 1N914A and 1N914B are high-speed switching diodes fabricated in planar technology, and encapsulated in a hermetically sealed leaded glass SOD27 (DO-35) 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	–	75	mA
I_{FRM}	repetitive peak forward current		–	225	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	–	250	mW
T_{stg}	storage temperature		–65	+200	°C
T_j	junction temperature		–	175	°C

Note

1. Device mounted on an FR4 printed-circuit board; lead length 10 mm.

High-speed diodes

1N914; 1N914A; 1N914B

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_F	forward voltage	see Fig.3			
	1N914; 1N914A	$I_F = 10\text{ mA}$	–	1	V
	1N914B	$I_F = 5\text{ mA}$	0.62	0.72	V
	1N914B	$I_F = 100\text{ mA}$	–	1	V
I_R	reverse current	see Fig.5			
		$V_R = 20\text{ V}$	–	25	nA
		$V_R = 75\text{ V}$	–	5	μA
		$V_R = 20\text{ V}; T_j = 150\text{ °C}$	–	50	μA
C_d	diode capacitance	$f = 1\text{ MHz}; V_R = 0$; see Fig.6	–	4	pF
t_{rr}	reverse recovery time	when switched from $I_F = 10\text{ mA}$ to $I_R = 10\text{ mA}$; $R_L = 100\ \Omega$; measured at $I_R = 1\text{ mA}$; see Fig.7	–	8	ns
		when switched from $I_F = 10\text{ mA}$ to $I_R = 60\text{ mA}$; $R_L = 100\ \Omega$; 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	lead length 10 mm	240	K/W
$R_{th\ j-a}$	thermal resistance from junction to ambient	lead length 10 mm; note 1	500	K/W

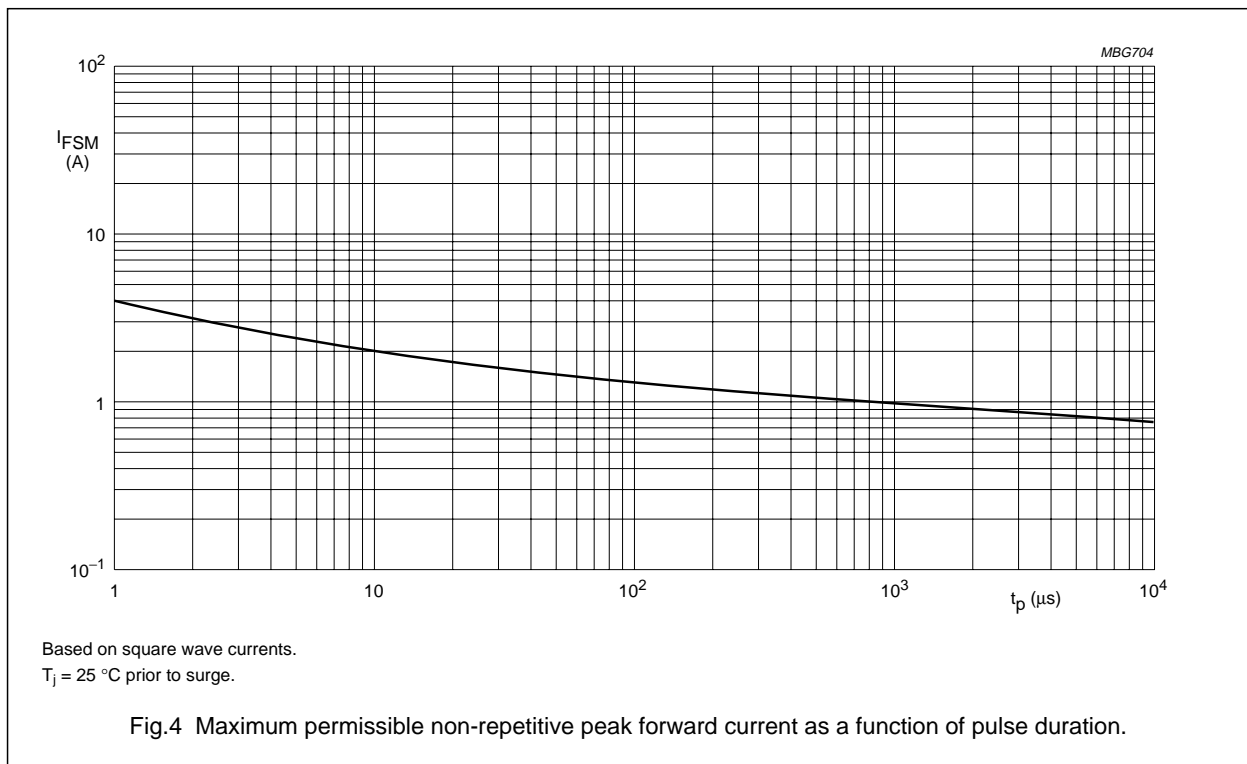
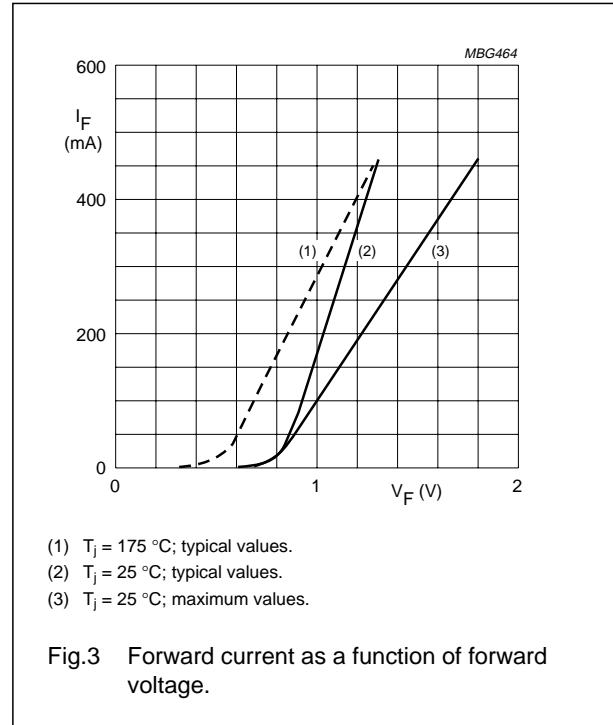
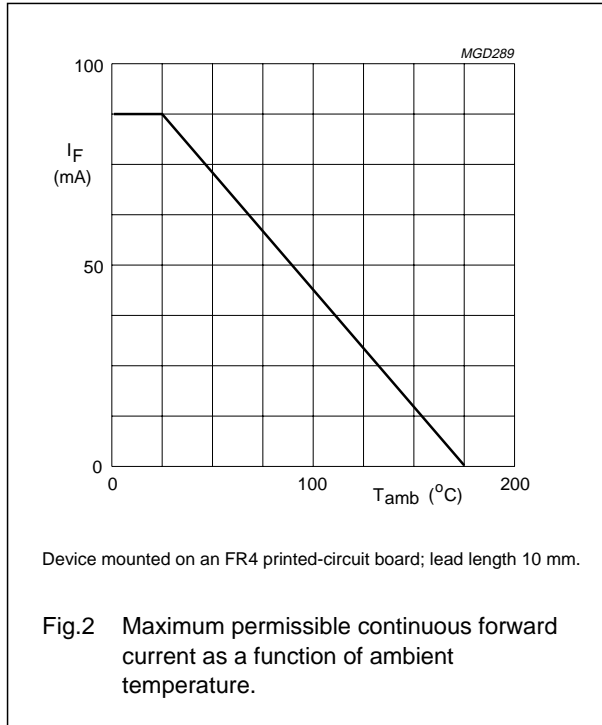
Note

1. Device mounted on a printed-circuit board without metallization pad.

High-speed diodes

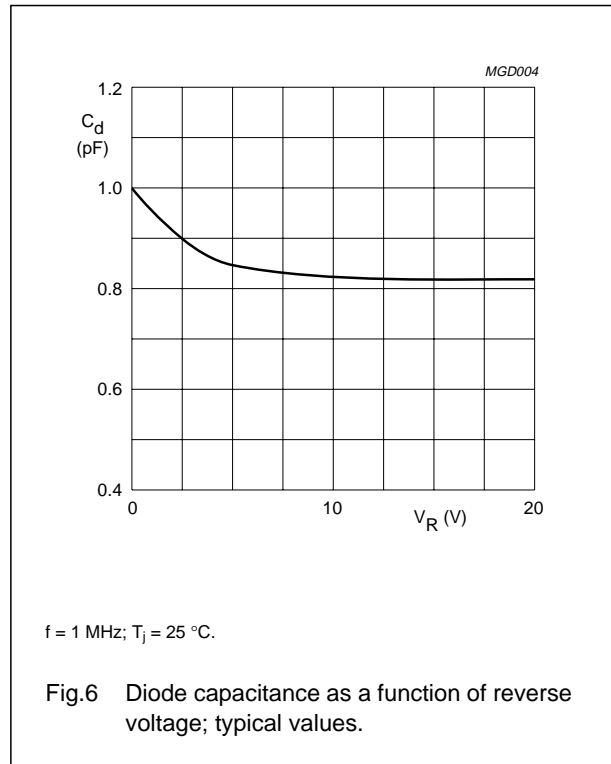
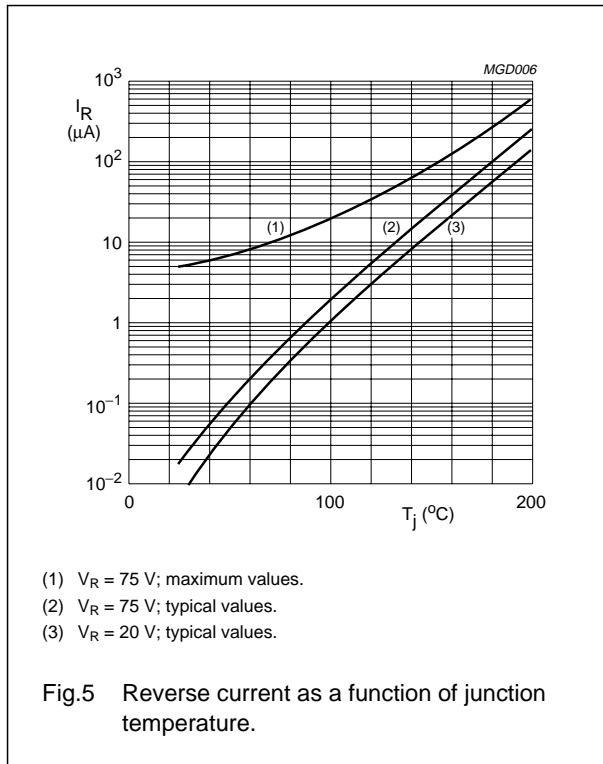
1N914; 1N914A; 1N914B

GRAPHICAL DATA



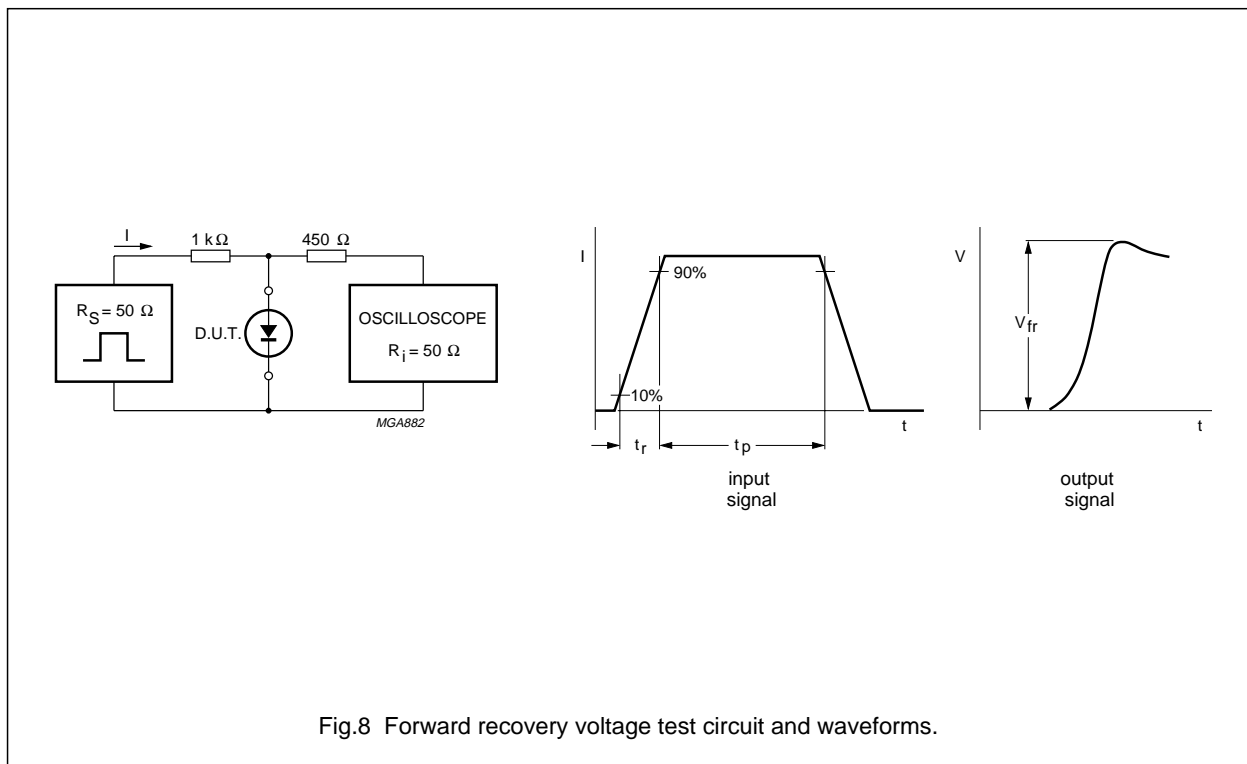
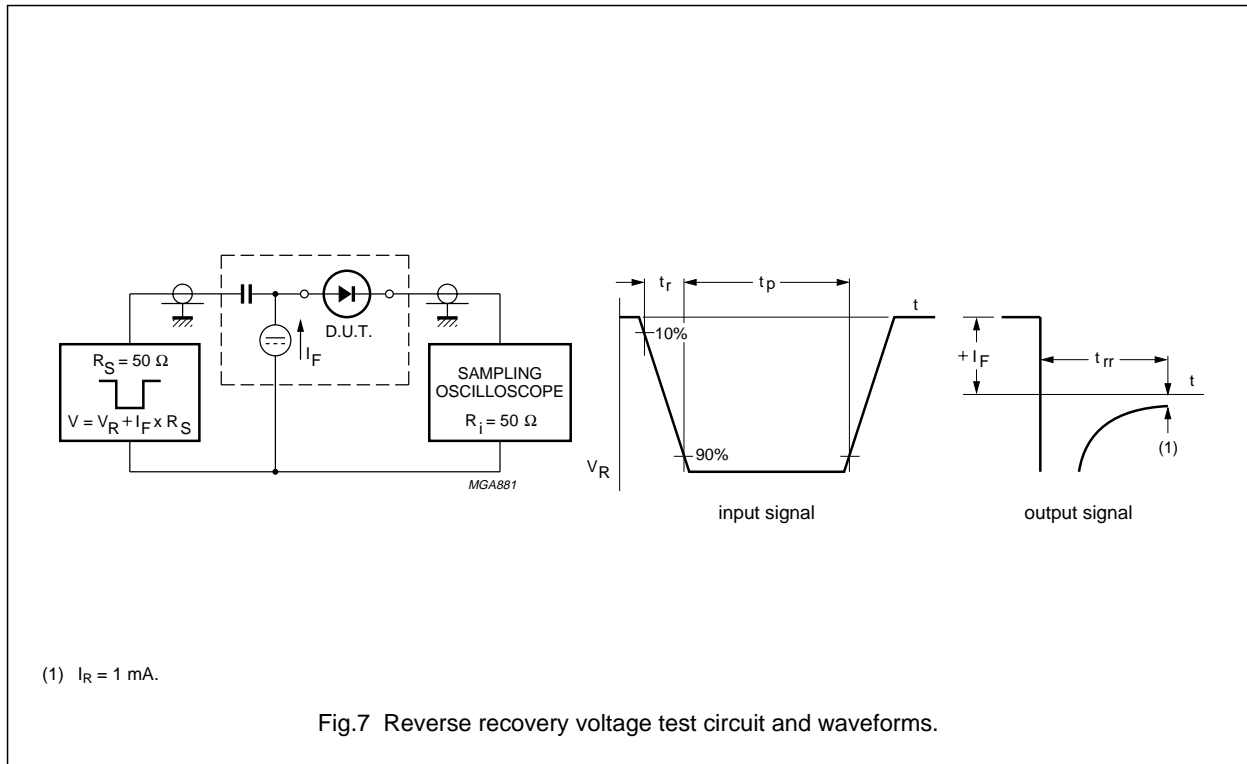
High-speed diodes

1N914; 1N914A; 1N914B



High-speed diodes

1N914; 1N914A; 1N914B



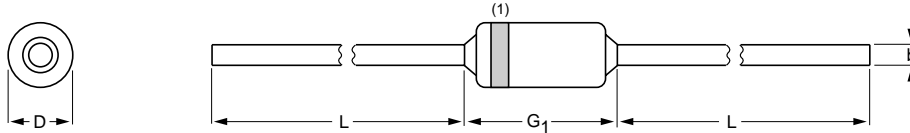
High-speed diodes

1N914; 1N914A; 1N914B

PACKAGE OUTLINE

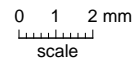
Hermetically sealed glass package; axial leaded; 2 leads

SOD27



DIMENSIONS (mm are the original dimensions)

UNIT	b max.	D max.	G ₁ max.	L min.
mm	0.56	1.85	4.25	25.4



Note

1. The marking band indicates the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOD27	A24	DO-35	SC-40			97-06-09

High-speed diodes

1N914; 1N914A; 1N914B

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.
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Notes

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3. For data sheets describing multiple type numbers, the highest-level product status determines the data sheet status.

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High-speed diodes

1N914; 1N914A; 1N914B

NOTES

High-speed diodes

1N914; 1N914A; 1N914B

NOTES

High-speed diodes

1N914; 1N914A; 1N914B

NOTES

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