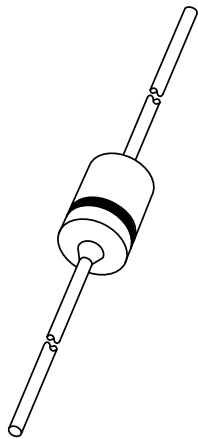


# DATA SHEET



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

Product specification  
Supersedes data of 1999 May 26

2003 Jun 06

# High-speed diodes

# 1N914; 1N914A; 1N914B

## FEATURES

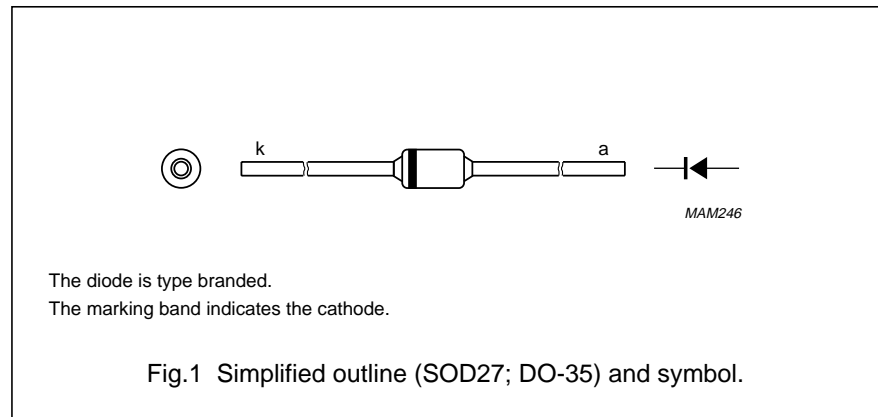
- Hermetically sealed leaded glass SOD27 (DO-35) package
- High switching speed: max. 4 ns
- Continuous reverse voltage: max. 75 V
- Repetitive peak reverse voltage: max. 100 V
- Repetitive peak forward current: max. 225 mA.

## 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<sub>j</sub> = 25 °C; unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>F</sub>	forward voltage	see Fig.3			
	1N914; 1N914A	I <sub>F</sub> = 10 mA	–	1	V
	1N914B	I <sub>F</sub> = 5 mA	0.62	0.72	V
	1N914B	I <sub>F</sub> = 100 mA	–	1	V
I <sub>R</sub>	reverse current	see Fig.5			
		V <sub>R</sub> = 20 V	–	25	nA
		V <sub>R</sub> = 75 V	–	5	μA
		V <sub>R</sub> = 20 V; T <sub>j</sub> = 150 °C	–	50	μA
C <sub>d</sub>	diode capacitance	f = 1 MHz; V <sub>R</sub> = 0; see Fig.6	–	4	pF
t <sub>rr</sub>	reverse recovery time	when switched from I <sub>F</sub> = 10 mA to I <sub>R</sub> = 10 mA; R <sub>L</sub> = 100 Ω; measured at I <sub>R</sub> = 1 mA; see Fig.7	–	8	ns
		when switched from I <sub>F</sub> = 10 mA to I <sub>R</sub> = 60 mA; R <sub>L</sub> = 100 Ω; measured at I <sub>R</sub> = 1 mA; see Fig.7	–	4	ns
V <sub>fr</sub>	forward recovery voltage	when switched from I <sub>F</sub> = 50 mA; t <sub>r</sub> = 20 ns; see Fig.8	–	2.5	V

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R <sub>th j-tp</sub>	thermal resistance from junction to tie-point	lead length 10 mm	240	K/W
R <sub>th j-a</sub>	thermal resistance from junction to ambient	lead length 10 mm; note 1	500	K/W

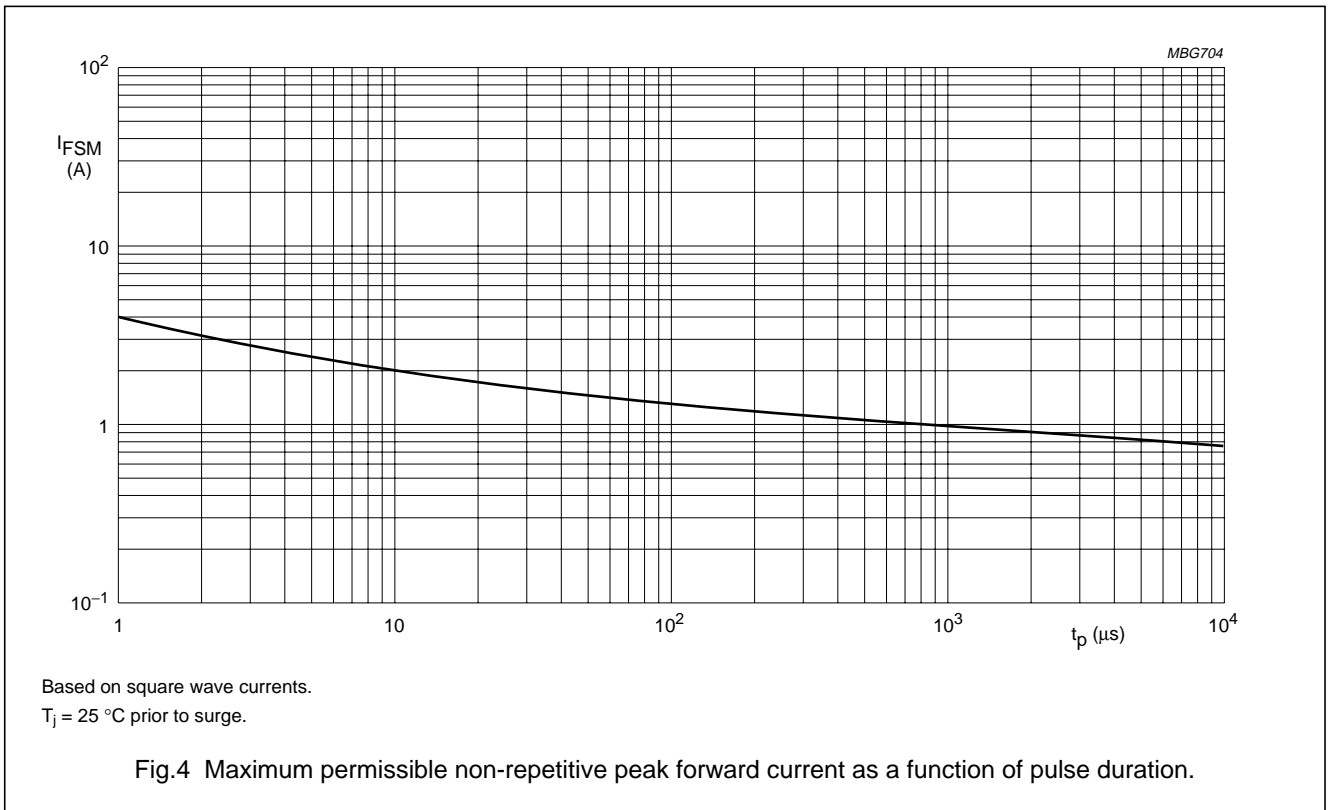
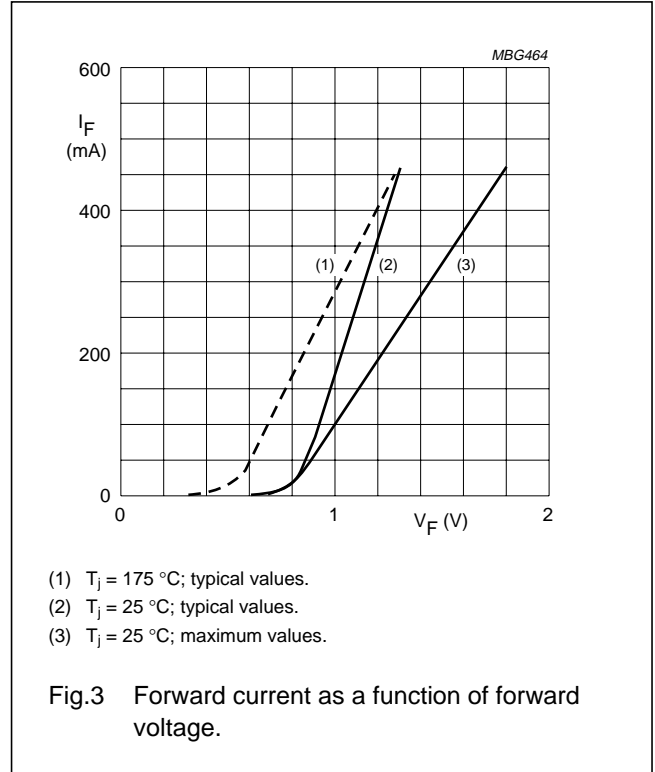
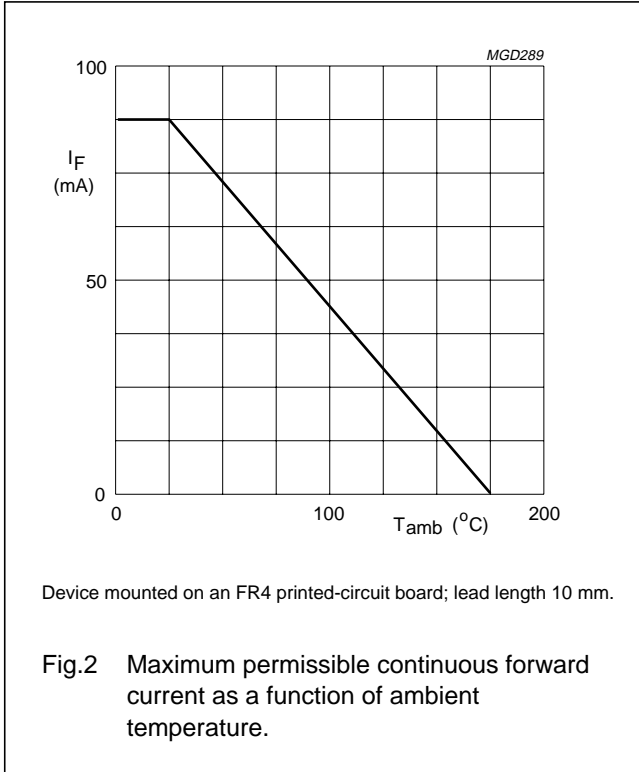
**Note**

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

High-speed diodes

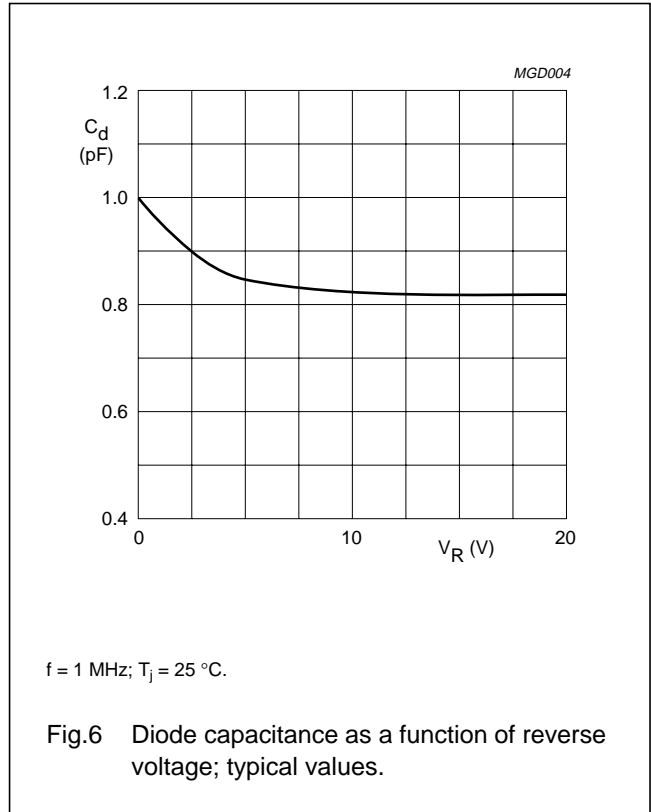
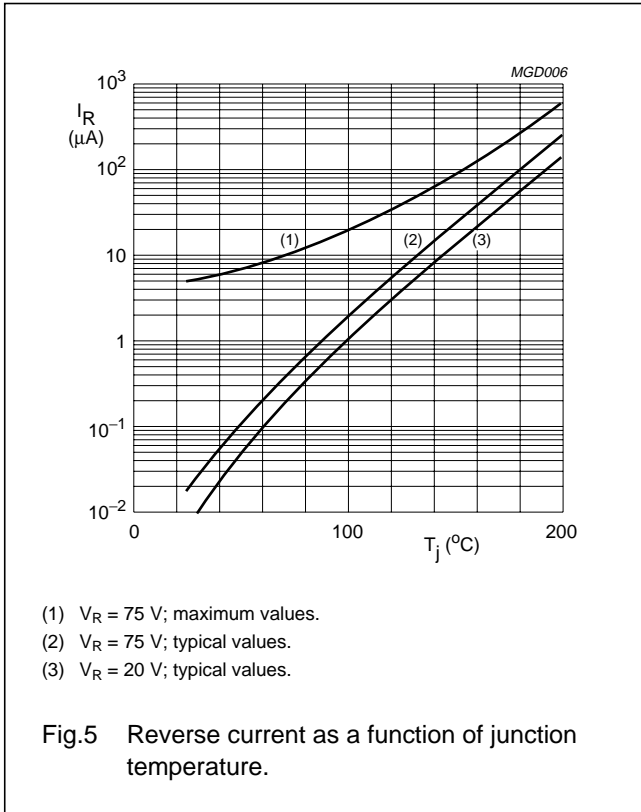
1N914; 1N914A; 1N914B

GRAPHICAL DATA



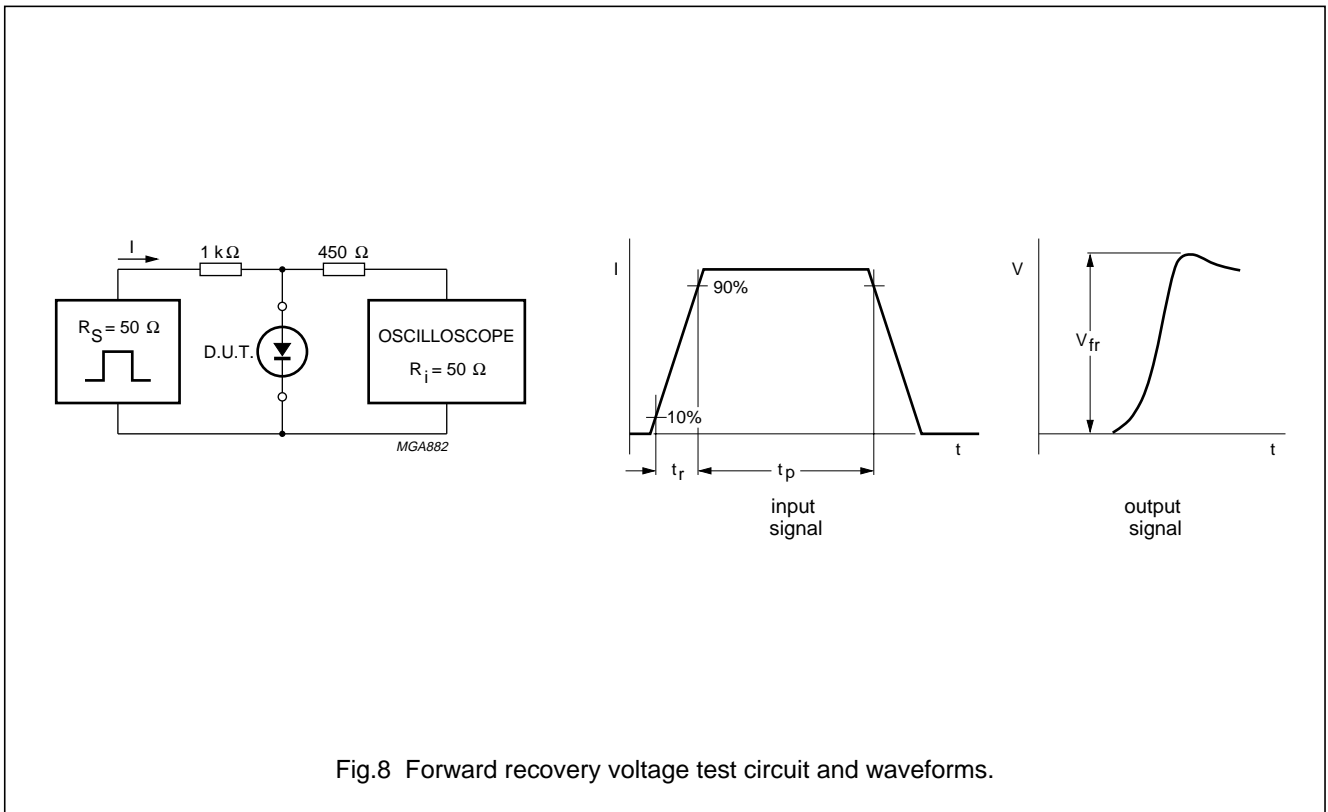
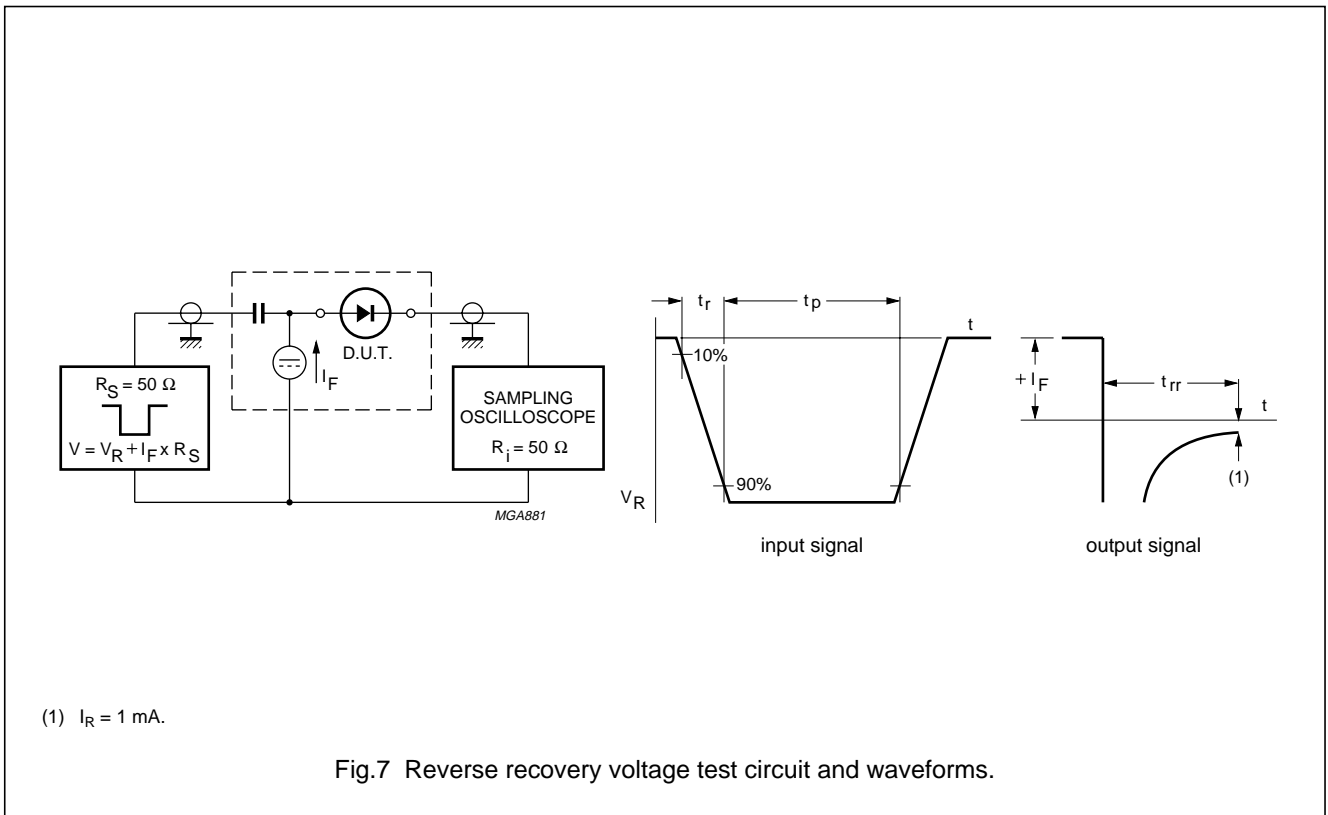
High-speed diodes

1N914; 1N914A; 1N914B



High-speed diodes

1N914; 1N914A; 1N914B



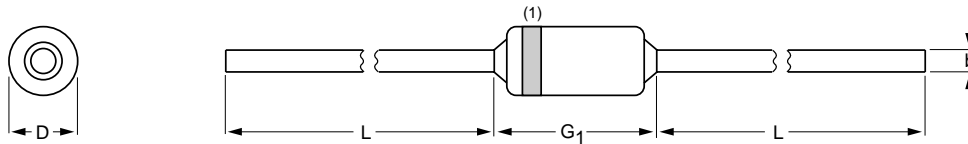
High-speed diodes

1N914; 1N914A; 1N914B

PACKAGE OUTLINE

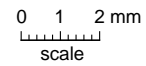
Hermetically sealed glass package; axial leaded; 2 leads

SOD27



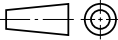
DIMENSIONS (mm are the original dimensions)

UNIT	b max.	D max.	G <sub>1</sub> 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 <sup>(1)</sup>	PRODUCT STATUS <sup>(2)(3)</sup>	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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High-speed diodes

1N914; 1N914A; 1N914B

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**NOTES**

High-speed diodes

1N914; 1N914A; 1N914B

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**NOTES**

High-speed diodes

1N914; 1N914A; 1N914B

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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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Printed in The Netherlands

613514/04/pp12

Date of release: 2003 Jun 06

Document order number: 9397 750 11511

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