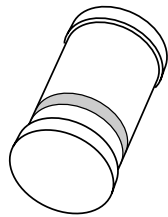


# DATA SHEET



## **PRL4001; PRL4002** **Rectifiers**

Product specification  
Supersedes data of November 1993

1996 Jun 10

**Rectifiers**

**PRL4001; PRL4002**

**FEATURES**

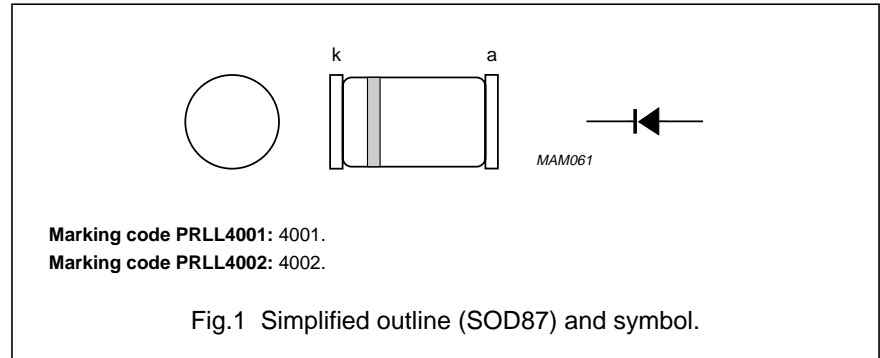
- Glass passivated
- High maximum operating temperature
- Low leakage current
- Excellent stability
- Shipped in 8 mm embossed tape
- Smallest surface mount rectifier outline.

**DESCRIPTION**

Cavity free cylindrical glass package through Implotec™(1) technology.

(1) Implotec is a trademark of Philips.

This package is hermetically sealed and fatigue free as coefficients of expansion of all used parts are matched.



**LIMITING VALUES**

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>RRM</sub>	repetitive peak reverse voltage				
	PRL4001		–	50	V
	PRL4002		–	100	V
V <sub>R</sub>	continuous reverse voltage				
	PRL4001		–	50	V
	PRL4002		–	100	V
I <sub>F(AV)</sub>	average forward current	averaged over any 20 ms period; T <sub>tp</sub> = 105 °C	–	1.60	A
		averaged over any 20 ms period; T <sub>amb</sub> = 65 °C; see Fig.2	–	0.68	A
I <sub>FRM</sub>	repetitive peak forward current		–	10	A
I <sub>FSM</sub>	non-repetitive peak forward current	half sinewave; 60 Hz	–	20	A
T <sub>stg</sub>	storage temperature		–65	+175	°C
T <sub>j</sub>	junction temperature		–65	+175	°C

## Rectifiers

## PRL4001; PRL4002

**ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
$V_F$	forward voltage	$I_F = 1\text{ A}$ ; see Fig.3	1.1	V
$V_{F(AV)}$	full-cycle average forward voltage	$I_{F(AV)} = 1\text{ A}$	0.8	V
$I_R$	reverse current	$V_R = V_{Rmax}$	10	$\mu\text{A}$
		$V_R = V_{Rmax}$ ; $T_{amb} = 100\text{ °C}$	50	$\mu\text{A}$
$I_{R(AV)}$	full-cycle average reverse current	$V_R = V_{RRMmax}$ ; $T_{amb} = 75\text{ °C}$	30	$\mu\text{A}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-tp}$	thermal resistance from junction to tie-point		30	K/W
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	150	K/W

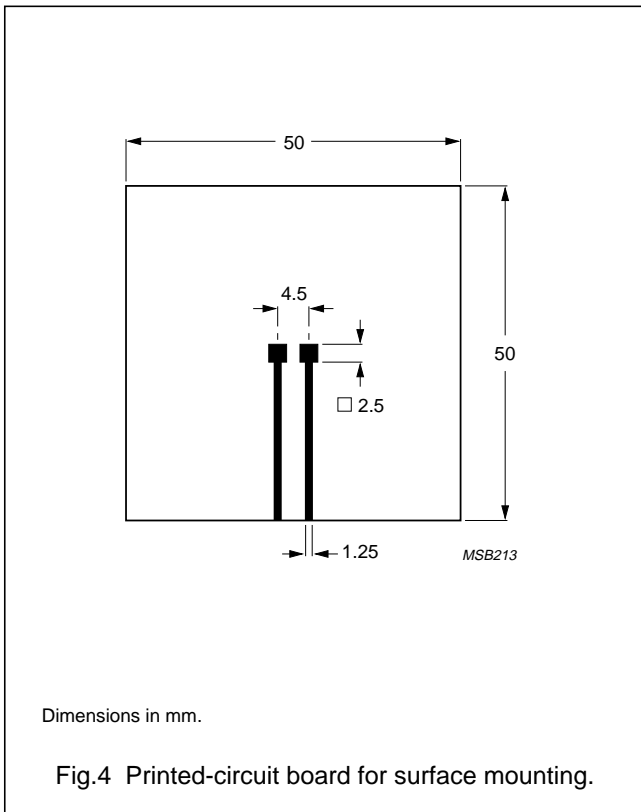
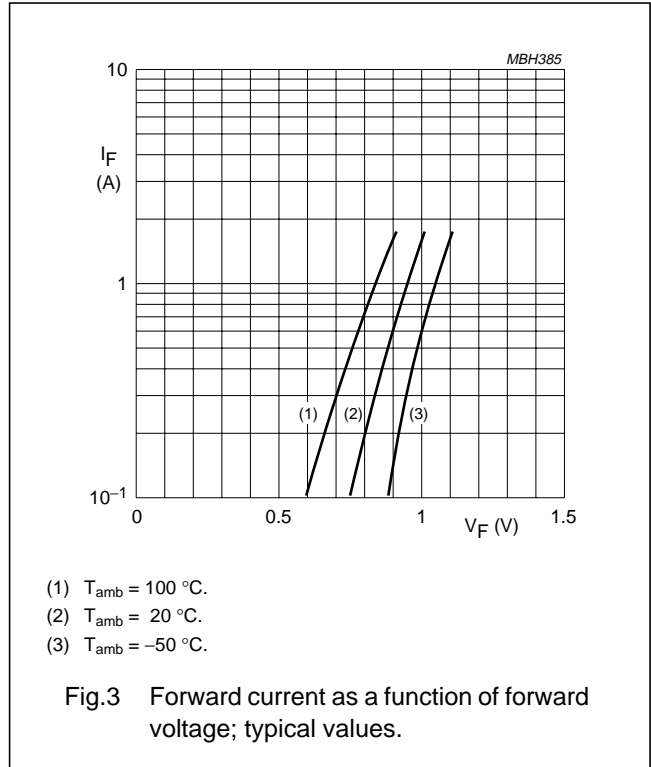
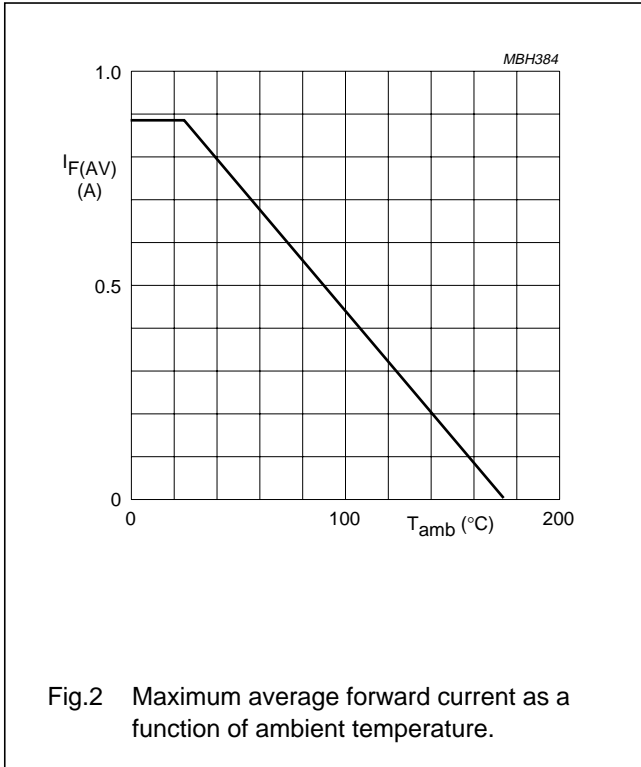
**Note**

1. Device mounted on epoxy-glass printed-circuit board, 1.5 mm thick; thickness of copper  $\geq 40\ \mu\text{m}$ , see Fig.4. For more information please refer to the "General Part of associated Handbook".

Rectifiers

PRL4001; PRL4002

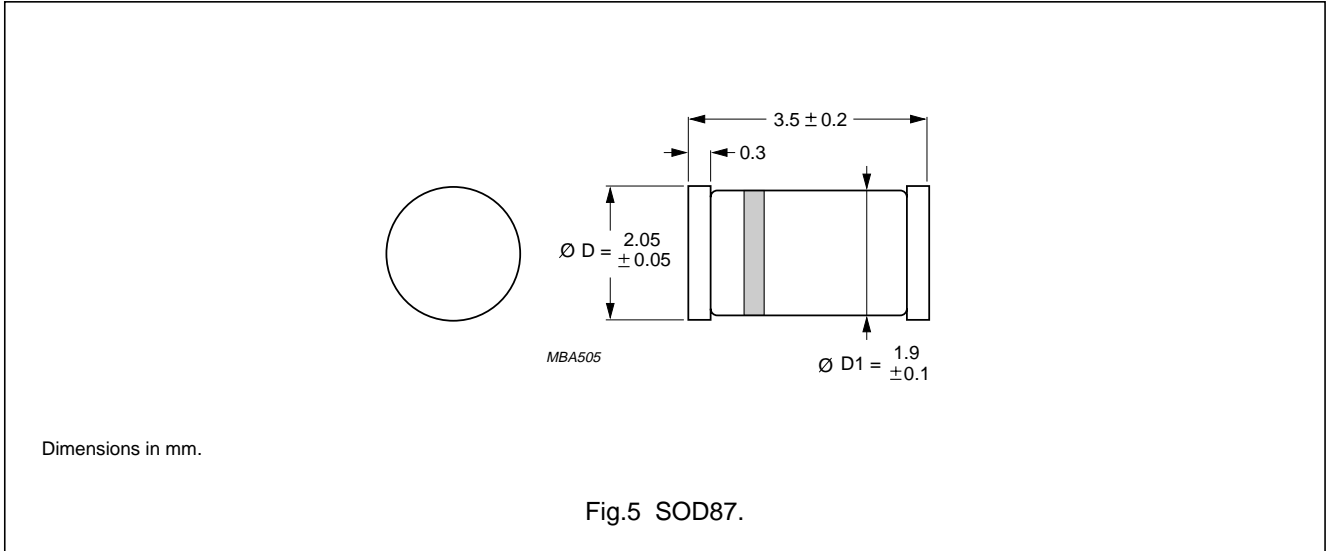
GRAPHICAL DATA



Rectifiers

PRL4001; PRL4002

PACKAGE OUTLINE



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.	

LIFE SUPPORT APPLICATIONS

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.