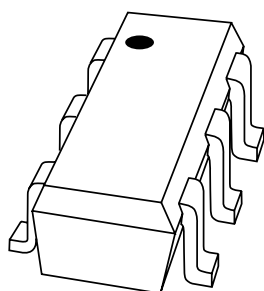


# DATA SHEET



## **1PS88SB48** Schottky barrier diodes

Product specification  
Supersedes data of 1999 Apr 26

2002 Nov 07

Schottky barrier diodes

1PS88SB48

FEATURES

- Ultra fast switching speed
- Low forward voltage
- Small SMD package
- Guard ring protected
- Low capacitance.

APPLICATIONS

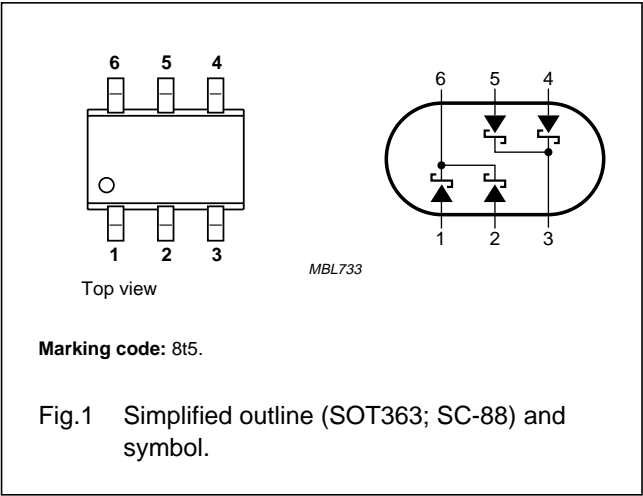
- High speed switching
- Circuit protection
- Voltage clamping.

DESCRIPTION

The 1PS88SB48 consists of two dual Schottky barrier diodes with common cathodes, fabricated in planar technology and encapsulated in the small SOT363 SMD plastic package.

PINNING

| PIN | DESCRIPTION         |
|-----|---------------------|
| 1   | anode (a1)          |
| 2   | anode (a2)          |
| 3   | common cathode (k1) |
| 4   | anode (a3)          |
| 5   | anode (a4)          |
| 6   | common cathode (k2) |



LIMITING VALUES

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

| SYMBOL    | PARAMETER                           | CONDITIONS                             | MIN. | MAX. | UNIT |
|-----------|-------------------------------------|--|------|------|------|
| Per diode |                                     |  |      |      |      |
| $V_R$     | continuous reverse voltage          |  | –    | 40   | V    |
| $I_F$     | continuous forward current          |  | –    | 120  | mA   |
| $I_{FRM}$ | repetitive peak forward current     | $t_p \leq 1\text{ s}; \delta \leq 0.5$ | –    | 120  | mA   |
| $I_{FSM}$ | non-repetitive peak forward current | $t_p < 10\text{ ms}$                   | –    | 200  | mA   |
| $T_{stg}$ | storage temperature                 |  | –65  | +150 | °C   |
| $T_j$     | junction temperature                |  | –    | 150  | °C   |
| $T_{amb}$ | operating ambient temperature       |  | –65  | +150 | °C   |

## Schottky barrier diodes

## 1PS88SB48

**ELECTRICAL CHARACTERISTICS**

$T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified.

| SYMBOL           | PARAMETER                  | CONDITIONS                                 | MAX. | UNIT          |
|------------------|----------------------------|--|------|---------------|
| <b>Per diode</b> |                            |  |      |               |
| $V_F$            | continuous forward voltage | see Fig.2                                  |      |               |
|                  |                            | $I_F = 1\text{ mA}$                        | 380  | mV            |
|                  |                            | $I_F = 10\text{ mA}$                       | 500  | mV            |
|                  |                            | $I_F = 40\text{ mA}$                       | 1    | V             |
| $I_R$            | continuous reverse current | $V_R = 30\text{ V}$ ; note 1; see Fig.3    | 1    | $\mu\text{A}$ |
|                  |                            | $V_R = 40\text{ V}$ ; note 1; see Fig.3    | 10   | $\mu\text{A}$ |
| $C_d$            | diode capacitance          | $V_R = 0$ ; $f = 1\text{ MHz}$ ; see Fig.5 | 5    | pF            |

**Note**

1. Pulse test:  $t_p = 300\text{ }\mu\text{s}$ ;  $\delta = 0.02$ .

**THERMAL CHARACTERISTICS**

| SYMBOL        | PARAMETER                                   | CONDITIONS | VALUE | UNIT |
|---------------|---|------------|-------|------|
| $R_{th\ j-a}$ | thermal resistance from junction to ambient | note 1     | 416   | K/W  |

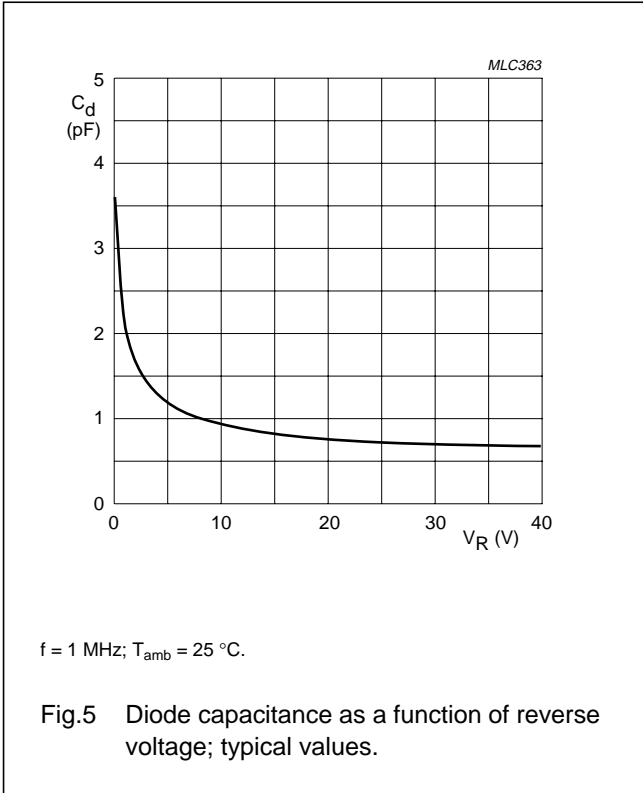
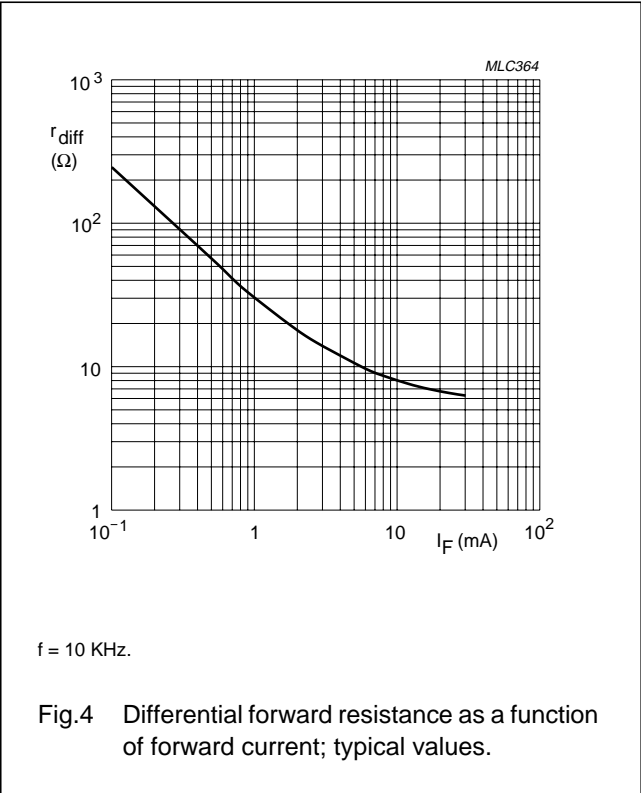
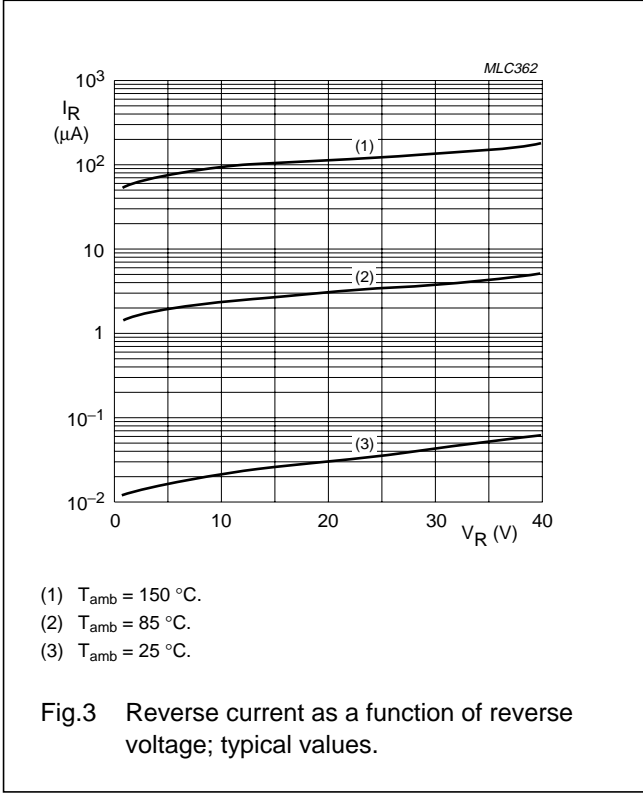
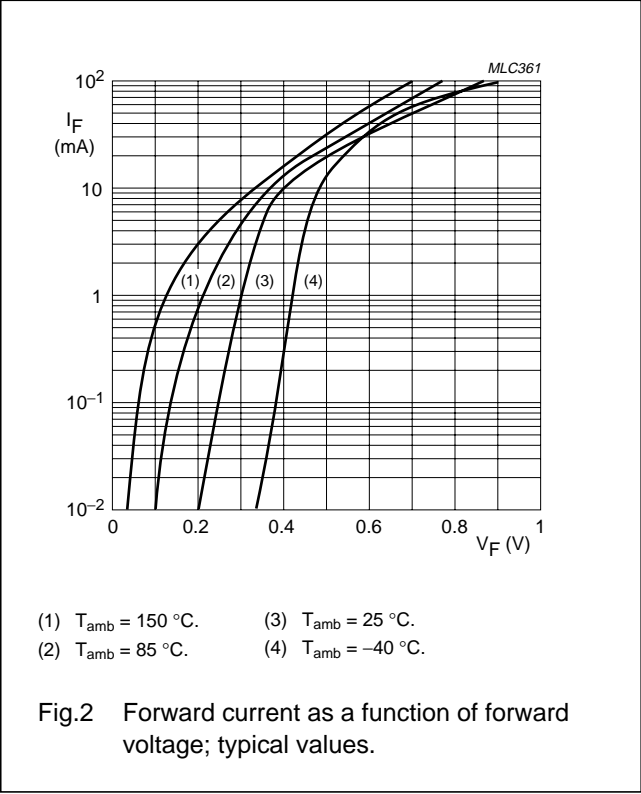
**Note**

1. Refer to SOT363 (SC-88) standard mounting conditions.

Schottky barrier diodes

1PS88SB48

GRAPHICAL DATA



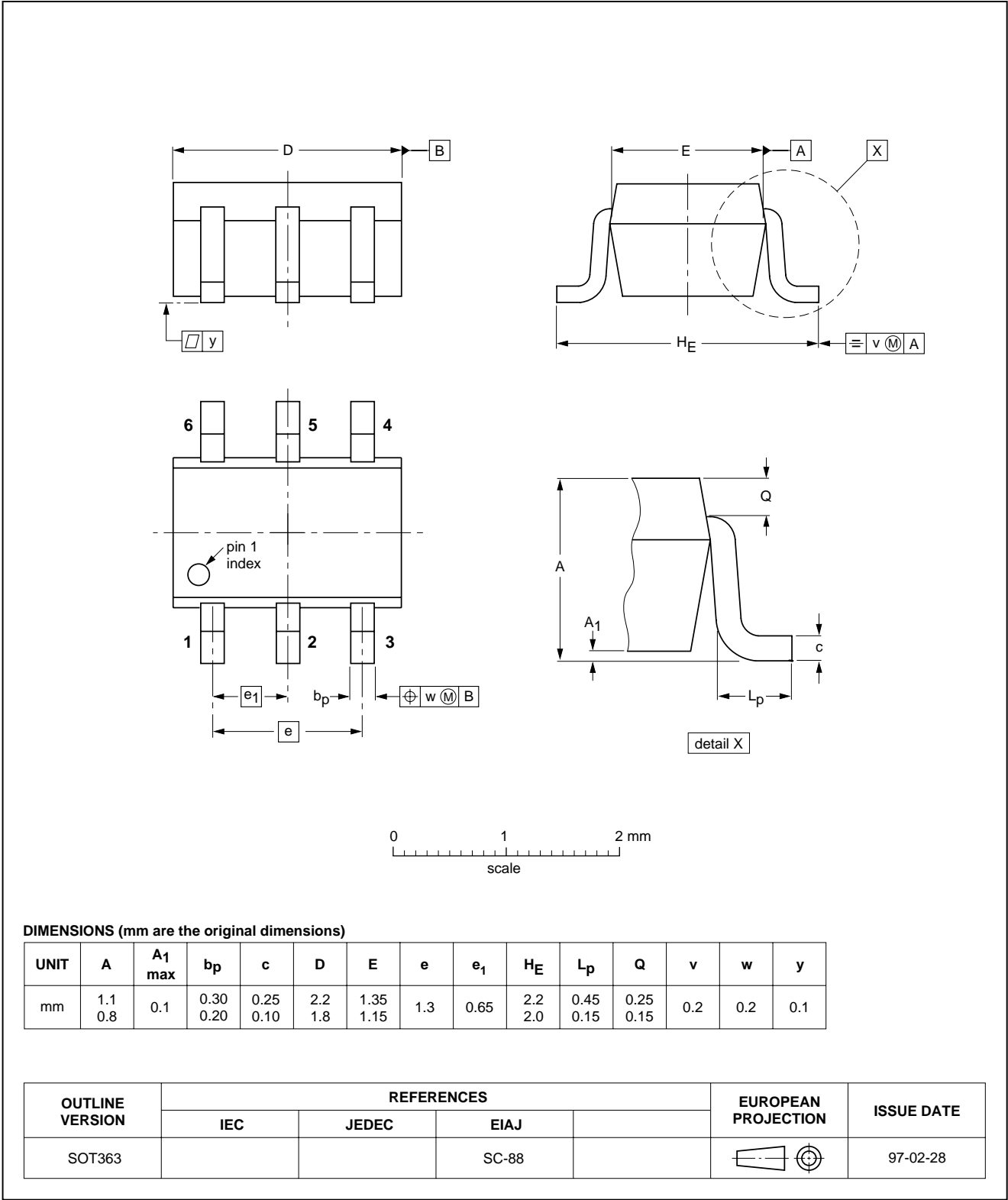
Schottky barrier diodes

1PS88SB48

PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT363



## Schottky barrier diodes

## 1PS88SB48

## 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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Schottky barrier diodes

1PS88SB48

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**NOTES**

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