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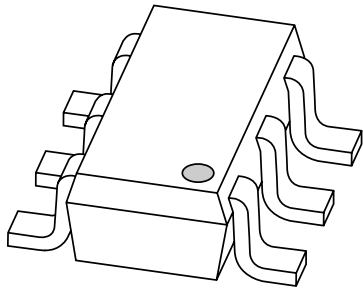
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If you have any questions related to the data sheet, please contact our nearest sales office via e-mail or telephone (details via salesaddresses@nexperia.com). Thank you for your cooperation and understanding,

Kind regards,

Team Nexperia

DATA SHEET



1PS74SB23 Schottky barrier diode

Product specification
Supersedes data of 2001 Aug 27

2003 Aug 04

Schottky barrier diode

1PS74SB23

FEATURES

- Ultra fast switching speed
- Low forward voltage
- Fast recovery time
- Guard ring protected
- Small plastic SMD package
- Capability of absorbing very high surge current.

APPLICATIONS

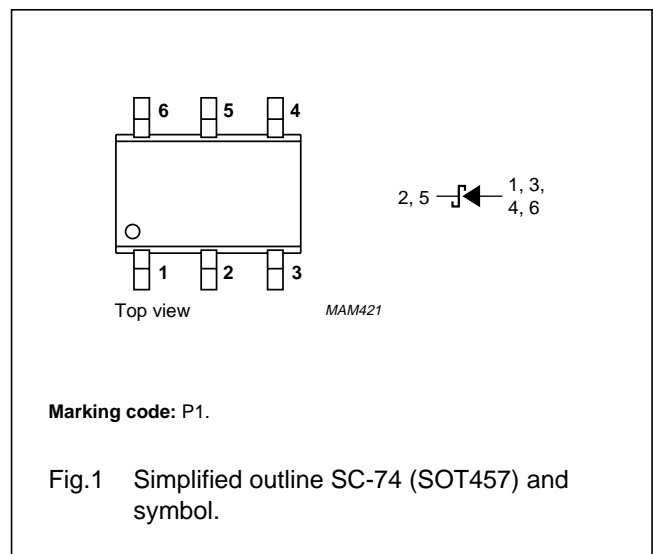
- Rectification
- Circuit protection
- Polarity protection
- Switched-mode power supplies.

DESCRIPTION

Planar Schottky barrier diode encapsulated in an SC-74 (SOT457) small plastic SMD package.

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | anode |
| 2 | cathode |
| 3 | anode |
| 4 | anode |
| 5 | cathode |
| 6 | anode |



LIMITING VALUES

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

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|-----------|-------------------------------------|---|------|------|--------------|
| V_R | continuous reverse voltage | | – | 25 | V |
| I_F | continuous forward current | | – | 1 | A |
| I_{FSM} | non-repetitive peak forward current | $t_p = 8.3$ ms; half sinewave; JEDEC method; note 1 | – | 25 | A |
| I_{RSM} | non-repetitive peak reverse current | $t_p = 100$ μ s | – | 0.5 | A |
| T_{stg} | storage temperature | | –65 | +150 | $^{\circ}$ C |
| T_j | junction temperature | | – | 125 | $^{\circ}$ C |

Note

1. Pins 1, 3, 4 and 6 are connected in parallel; pins 2 and 5 are connected in parallel.

Schottky barrier diode

1PS74SB23

ELECTRICAL CHARACTERISTICS $T_{amb} = 25\text{ °C}$ unless otherwise specified.

| SYMBOL | PARAMETER | CONDITIONS | TYP. | MAX. | UNIT |
|--------|-------------------|---|------|------|---------------|
| V_F | forward voltage | $I_F = 100\text{ mA}$ | 260 | 300 | mV |
| | | $I_F = 1\text{ A}$ | 400 | 450 | mV |
| I_R | reverse current | $V_R = 20\text{ V}$; note 1; see Fig.3 | 80 | 500 | μA |
| | | $V_R = 25\text{ V}$; note 1; see Fig.3 | – | 1 | mA |
| C_d | diode capacitance | $f = 1\text{ MHz}$; $V_R = 4\text{ V}$; see Fig.4 | 100 | – | 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 | 250 | K/W |

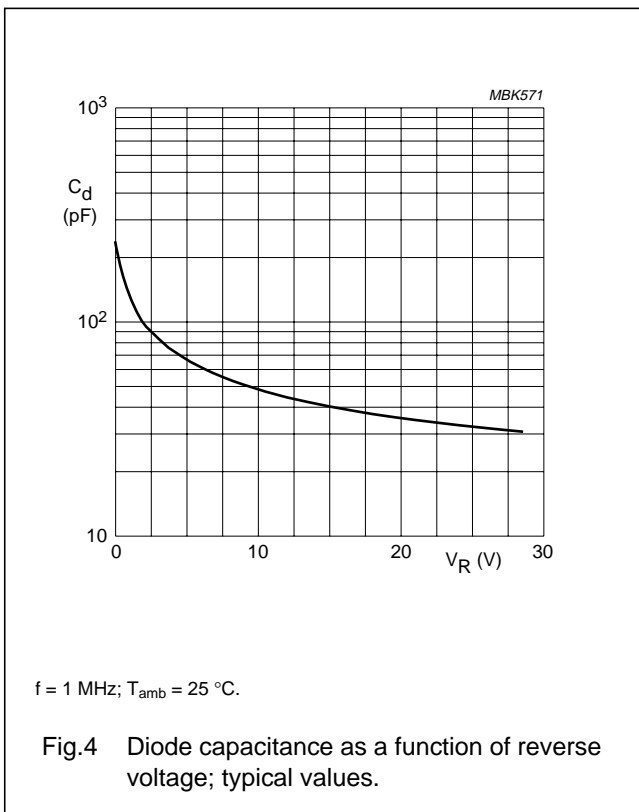
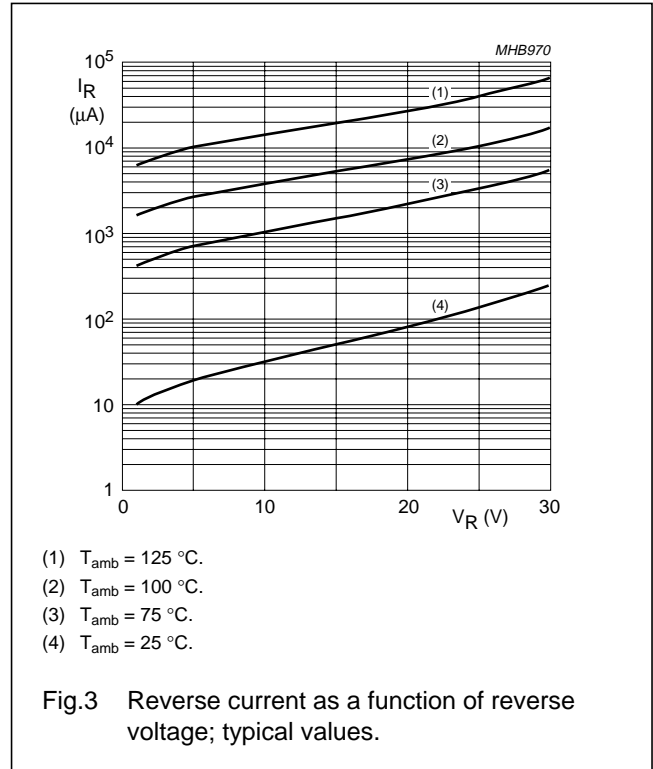
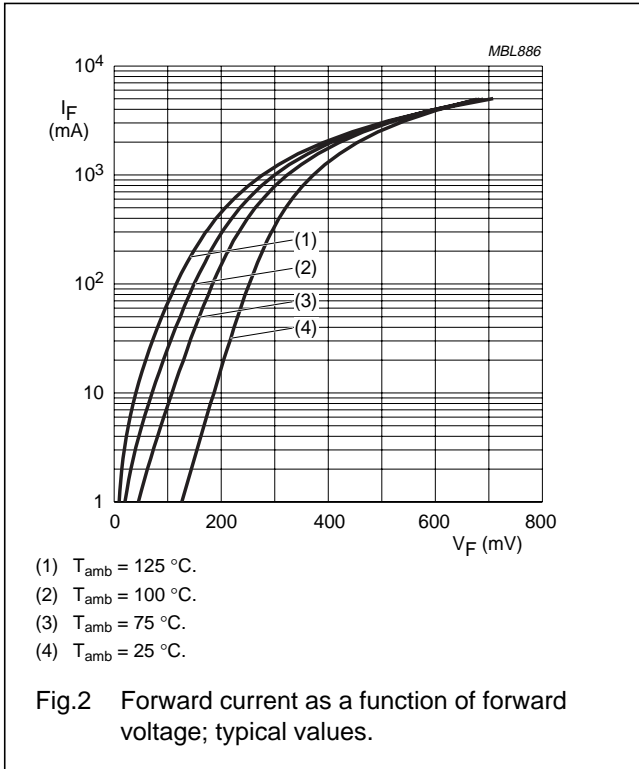
Note

1. Refer to SC-74 (SOT457) standard mounting conditions.

Schottky barrier diode

1PS74SB23

GRAPHICAL DATA



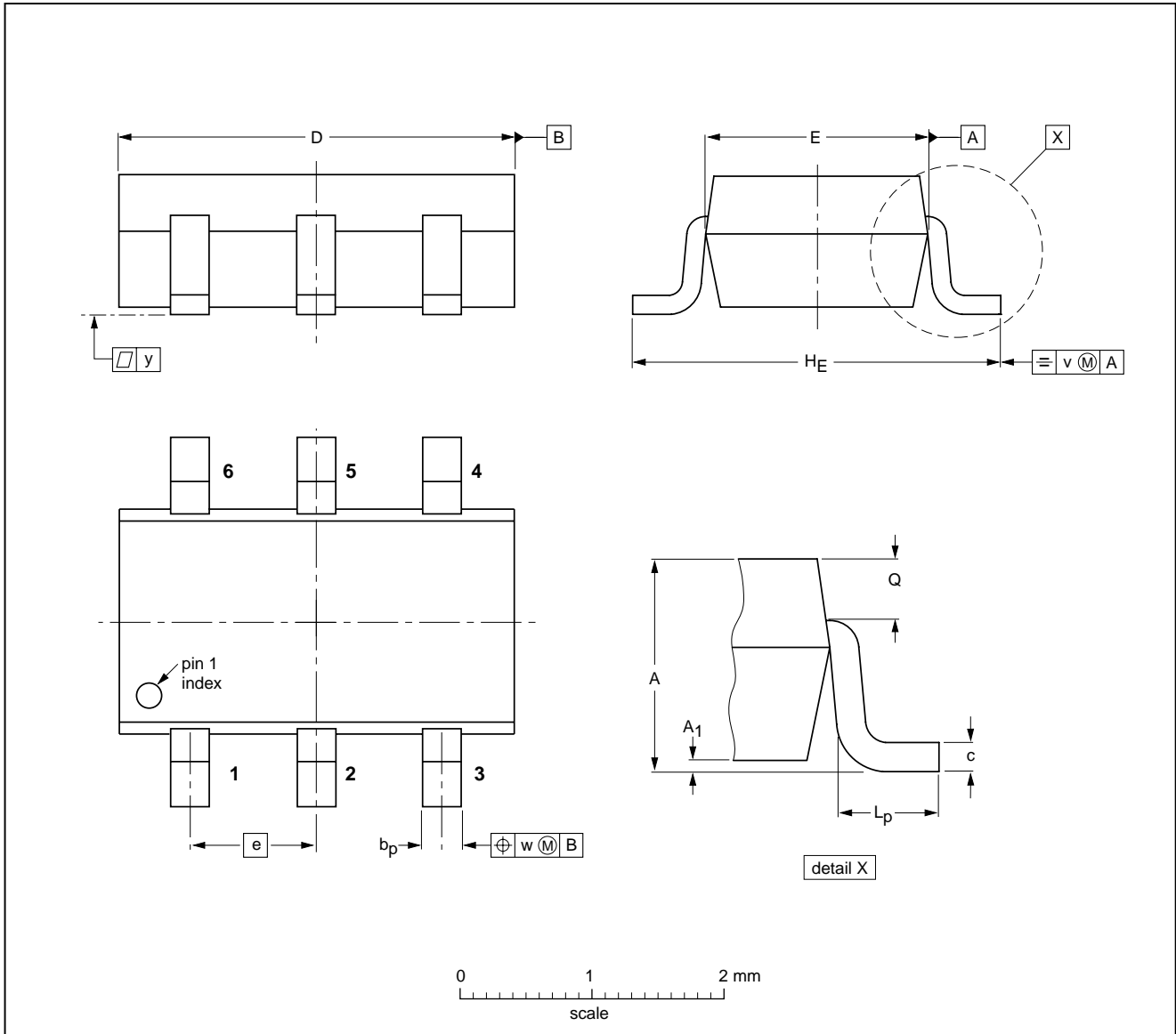
Schottky barrier diode

1PS74SB23

PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT457



DIMENSIONS (mm are the original dimensions)

| UNIT | A | A ₁ | b _p | c | D | E | e | H _E | L _p | Q | v | w | y |
|------|------------|----------------|----------------|--------------|------------|------------|------|----------------|----------------|--------------|-----|-----|-----|
| mm | 1.1 0.9 | 0.1 0.013 | 0.40 0.25 | 0.26 0.10 | 3.1 2.7 | 1.7 1.3 | 0.95 | 3.0 2.5 | 0.6 0.2 | 0.33 0.23 | 0.2 | 0.2 | 0.1 |

| OUTLINE VERSION | REFERENCES | | | | EUROPEAN PROJECTION | ISSUE DATE |
|-----------------|------------|-------|-------|--|---------------------|----------------------|
| | IEC | JEDEC | EIAJ | | | |
| SOT457 | | | SC-74 | | | 97-02-28 01-05-04 |

Schottky barrier diode

1PS74SB23

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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