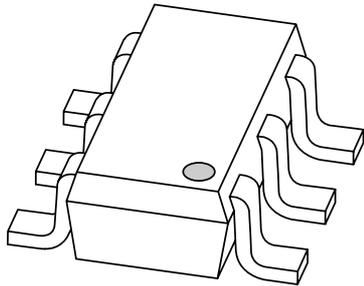


DATA SHEET



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

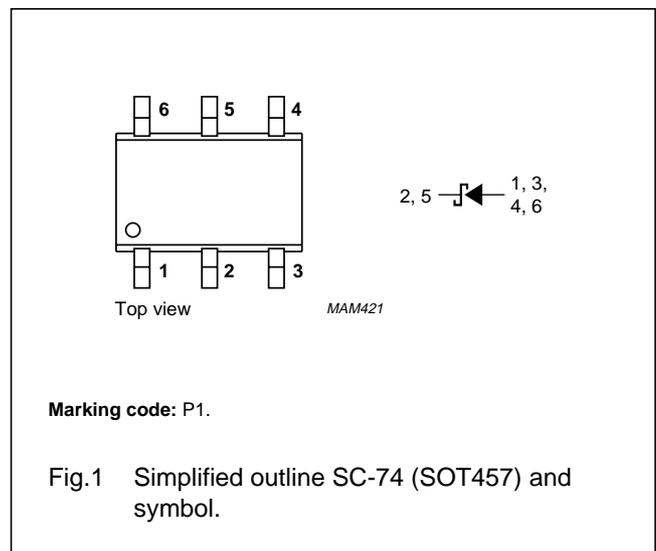
- Rectification
- Circuit protection
- Polarity protection
- Switched-mode power supplies.

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

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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 |

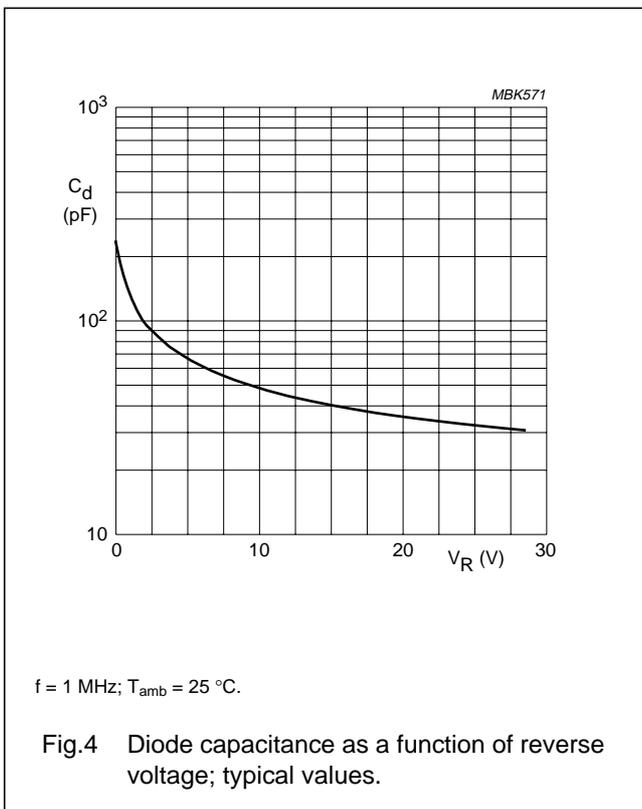
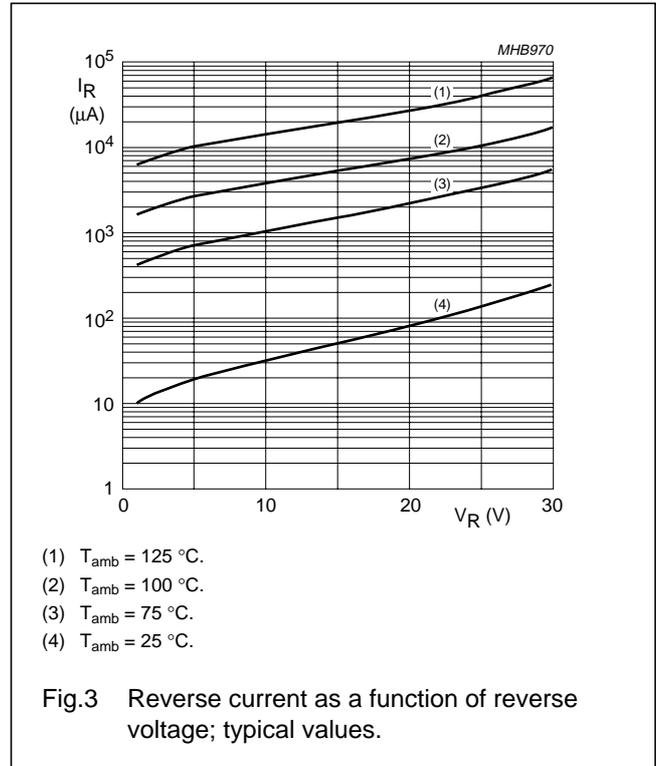
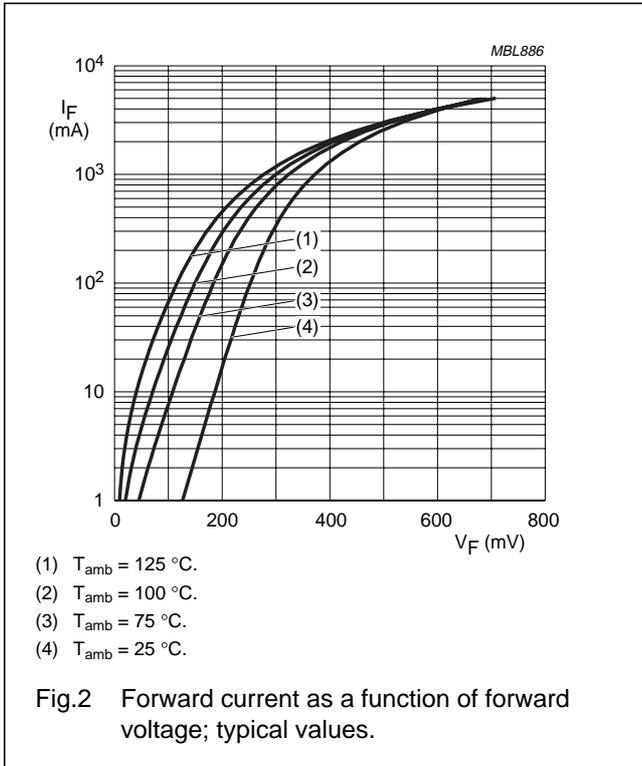
Note

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

Schottky barrier diode

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GRAPHICAL DATA



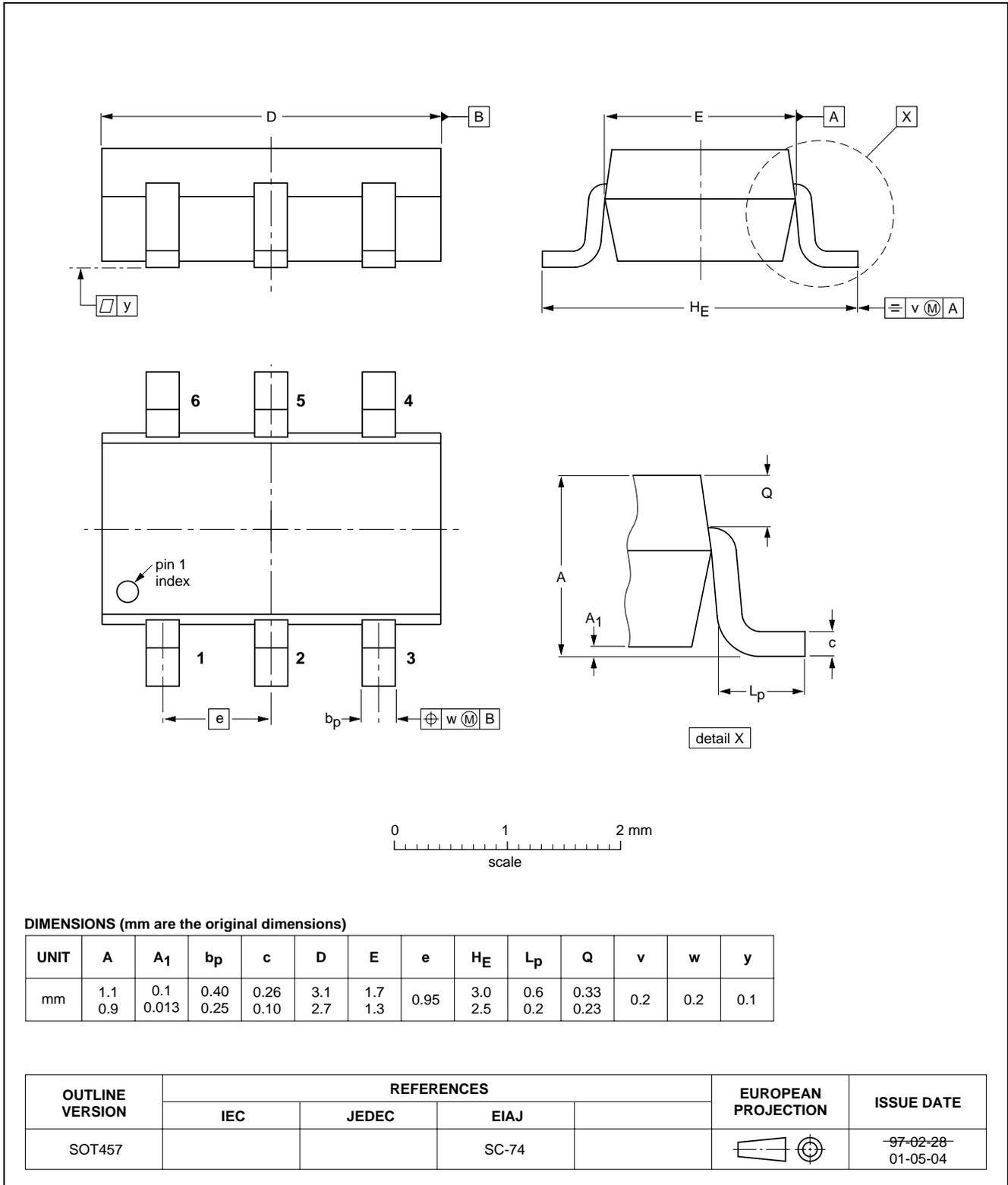
Schottky barrier diode

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PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT457



Schottky barrier diode

1PS74SB23

DATA SHEET STATUS

| LEVEL | DATA SHEET STATUS ⁽¹⁾ | PRODUCT STATUS ⁽²⁾⁽³⁾ | DEFINITION |
|-------|----------------------------------|----------------------------------|--|
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