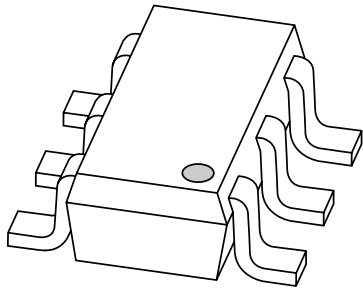


DATA SHEET



1PS74SB43 Schottky barrier diode

Product specification

1999 Dec 10

Schottky barrier diode

1PS74SB43

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

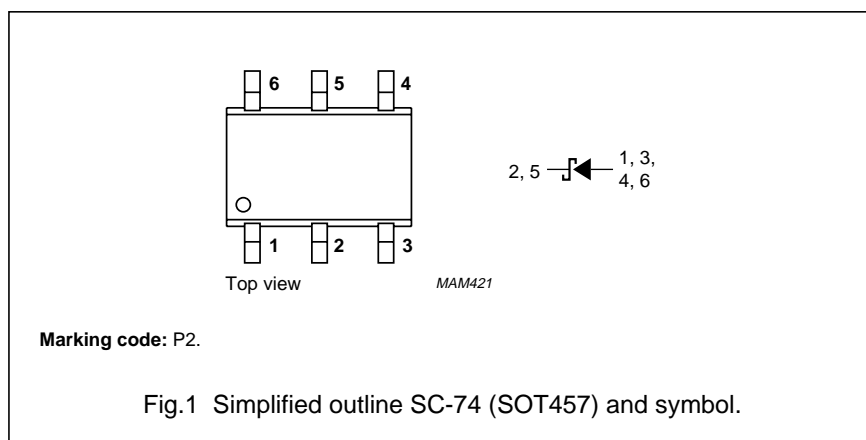
- Rectification
- Circuit protection
- Polarity protection
- Switched-mode power supplies.

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 134).

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|-----------|-------------------------------------|---|------|------|--------------|
| V_R | continuous reverse voltage | | – | 40 | 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 | – | 27 | 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 $T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified.

| SYMBOL | PARAMETER | CONDITIONS | TYP. | MAX. | UNIT |
|--------|----------------------------|---|------|------|---------------|
| V_F | continuous forward voltage | see Fig.2; note 1 | | | |
| | | $I_F = 0.1\text{ A}$ | 280 | 330 | mV |
| I_R | continuous reverse current | $V_R = 10\text{ V}$; note 1; see Fig.3 | 15 | 40 | μA |
| | | $V_R = 40\text{ V}$; note 1; see Fig.3 | 60 | 300 | μA |
| C_d | diode capacitance | $V_R = 4\text{ V}$; $f = 1\text{ MHz}$; see Fig.4 | 65 | 80 | pF |

Note

1. Pulsed 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 | 200 | K/W |

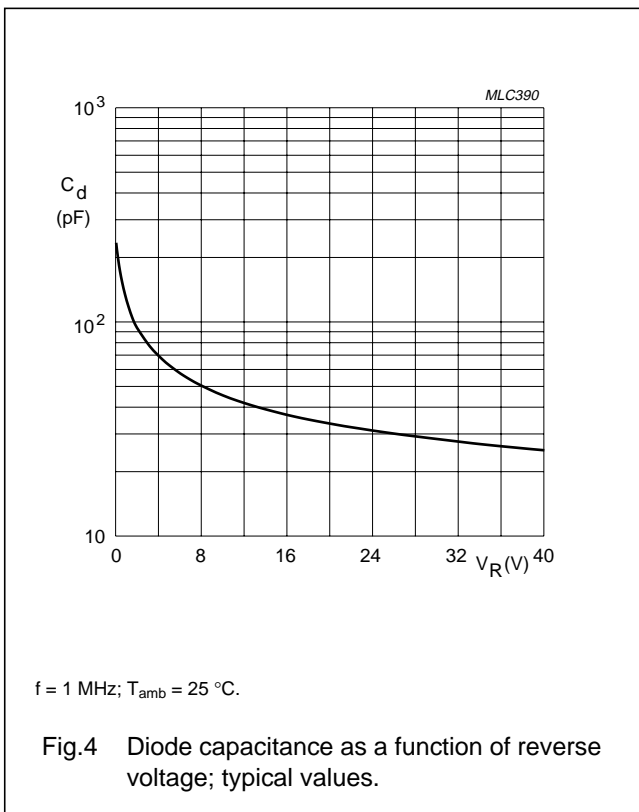
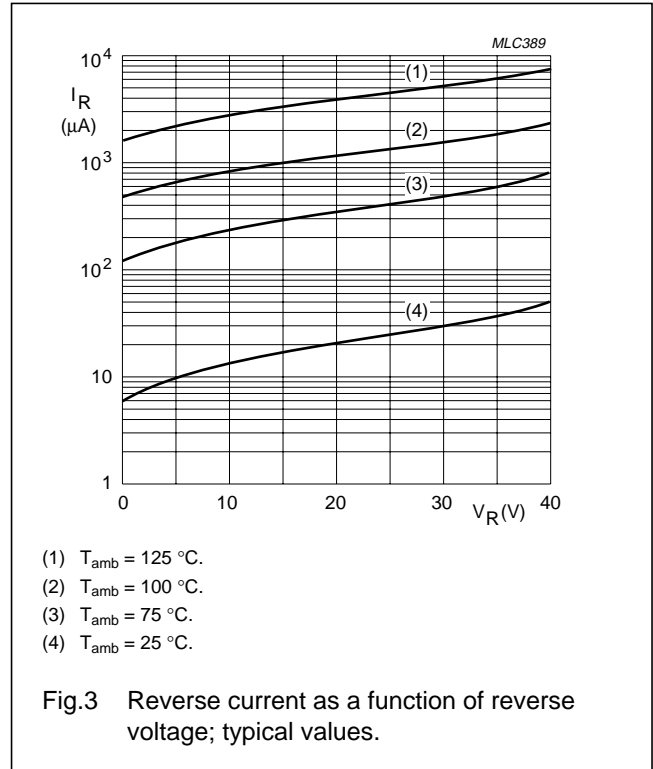
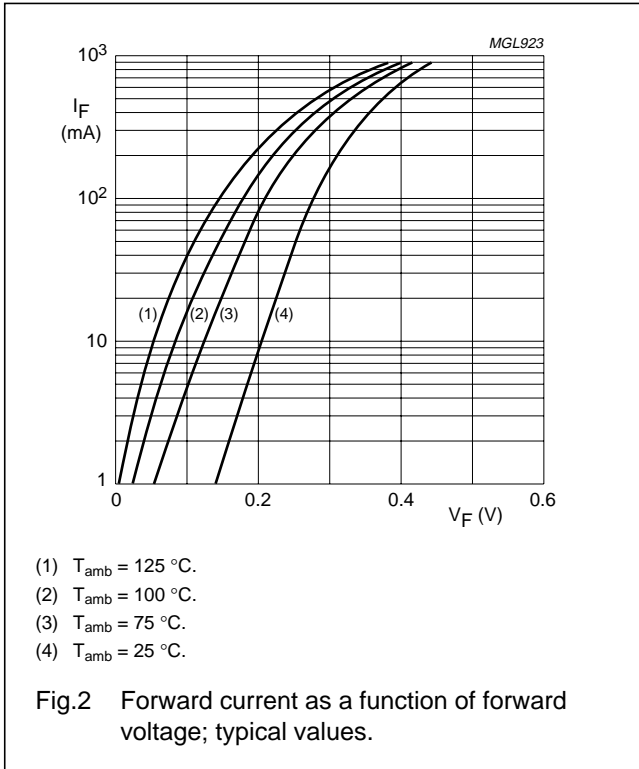
Note

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

Schottky barrier diode

1PS74SB43

GRAPHICAL DATA



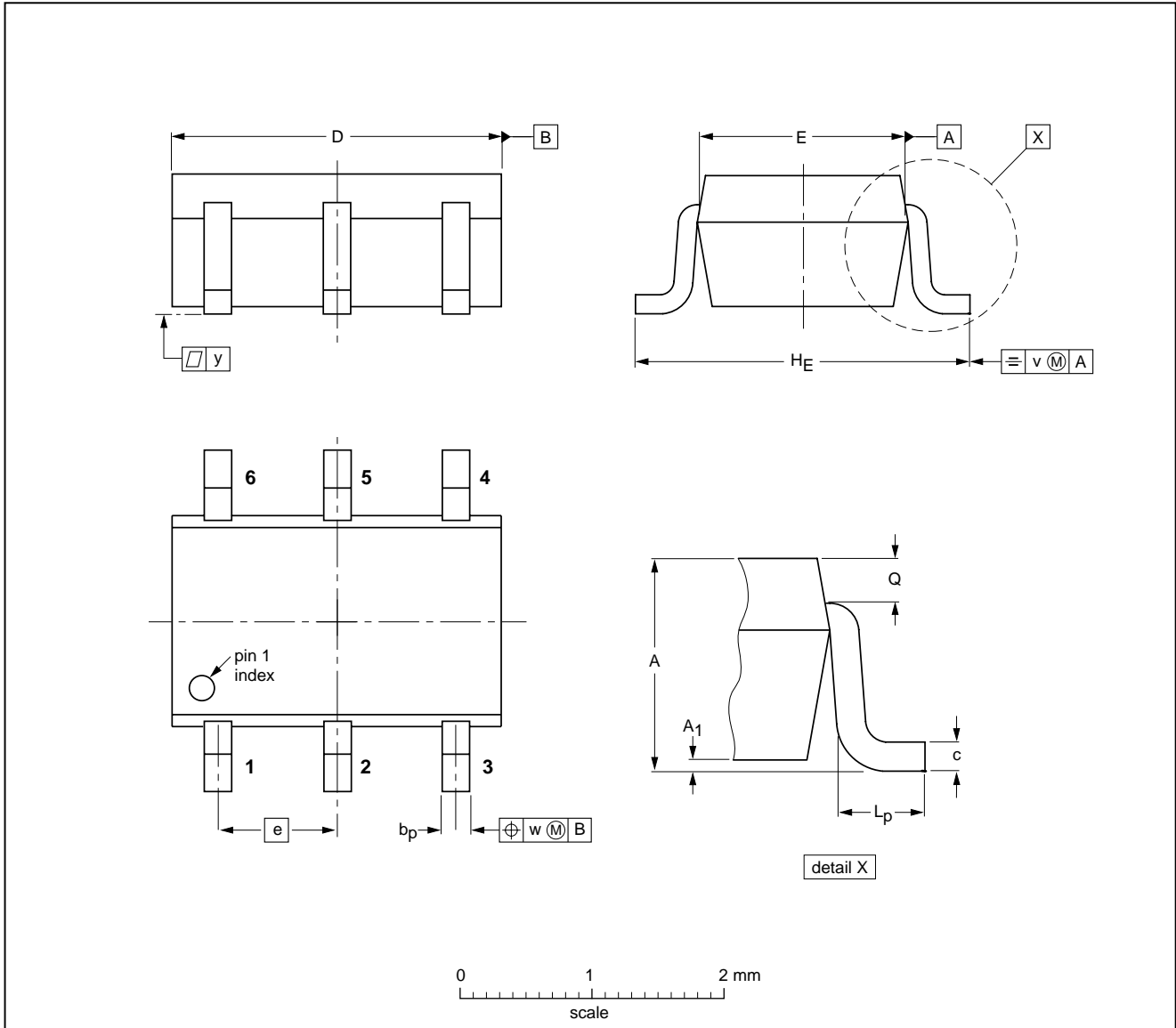
Schottky barrier diode

1PS74SB43

PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT457



DIMENSIONS (mm are the original dimensions)

| UNIT | A | A ₁ | bp | 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 |

Schottky barrier diode

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DEFINITIONS

| | |
|---|---|
| Data Sheet Status | |
| 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. |
| Limiting values | |
| 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. | |
| Application information | |
| Where application information is given, it is advisory and does not form part of the specification. | |

LIFE SUPPORT APPLICATIONS

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Schottky barrier diode

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