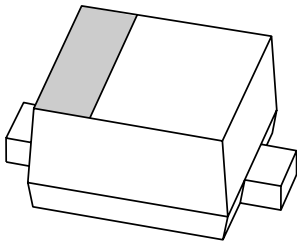


DATA SHEET



1PS79SB31 Schottky barrier diode

Product data sheet

2002 Jan 11

Schottky barrier diode

1PS79SB31

FEATURES

- Very low forward voltage
- Guard ring protected
- Ultra small SMD package.

APPLICATIONS

- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Low current rectification
- Low power consumption applications (e.g. hand-held devices).

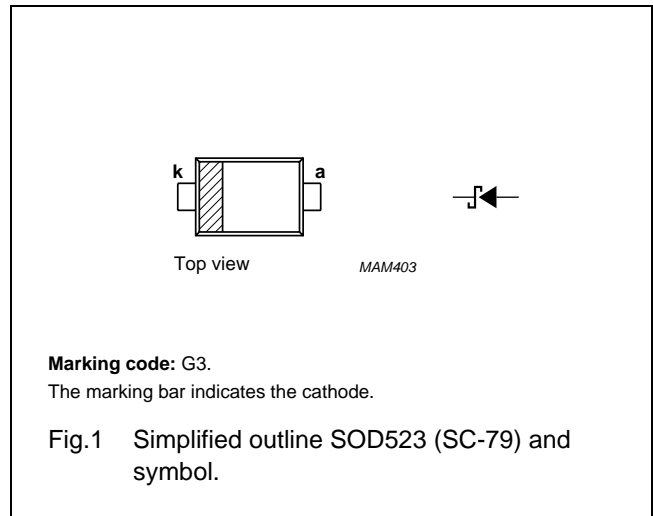
DESCRIPTION

Planar Schottky barrier diode in a SOD523 (SC-79) ultra small SMD plastic package.

LIMITING VALUES

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

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|-----------|-------------------------------------|---|------|-------|------|
| V_R | continuous reverse voltage | | – | 30 | V |
| I_F | continuous forward current | | – | 200 | mA |
| I_{FRM} | repetitive peak forward current | $t_p \leq 1 \text{ s}; \delta \leq 0.5$ | – | 300 | mA |
| I_{FSM} | non-repetitive peak forward current | $t = 8.3 \text{ ms}$ half sine wave; JEDEC method | – | 1 000 | mA |
| T_{stg} | storage temperature | | –65 | +150 | °C |
| T_j | junction temperature | | – | 125 | °C |
| T_{amb} | operating ambient temperature | | –65 | +125 | °C |



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

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|--------|----------------------------|---|------|------|---------------|
| V_F | forward voltage | see Fig.2; | | | |
| | | $I_F = 0.1\text{ mA}$ | 130 | 190 | mV |
| | | $I_F = 1\text{ mA}$ | 190 | 250 | mV |
| | | $I_F = 10\text{ mA}$ | 255 | 300 | mV |
| | | $I_F = 100\text{ mA}$ | 355 | 410 | mV |
| | | $I_F = 200\text{ mA}$ | 420 | 500 | mV |
| I_R | continuous reverse current | $V_R = 10\text{ V}$; note 1; see Fig.3 | 2.5 | 30 | μA |
| C_d | diode capacitance | $V_R = 1\text{ V}$; $f = 1\text{ MHz}$; see Fig.4 | 20 | 25 | 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 | 450 | K/W |

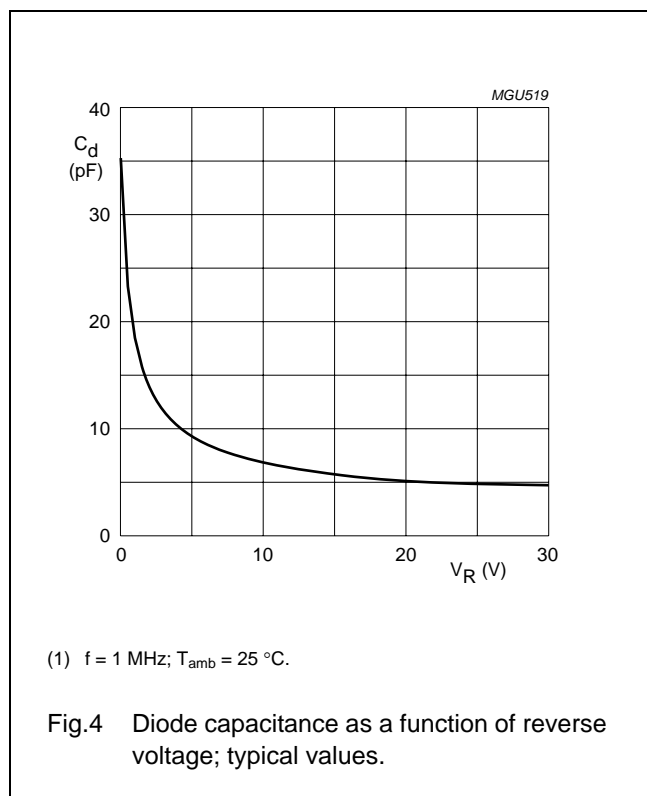
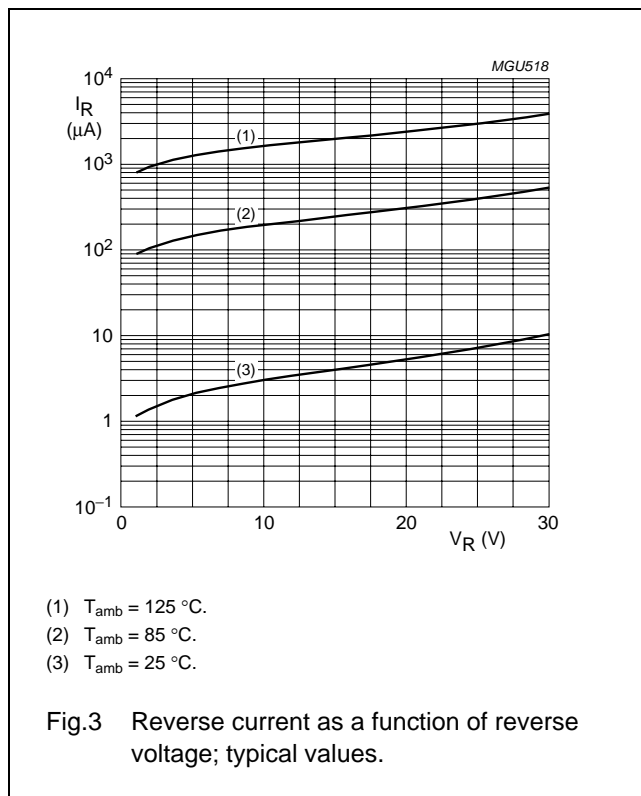
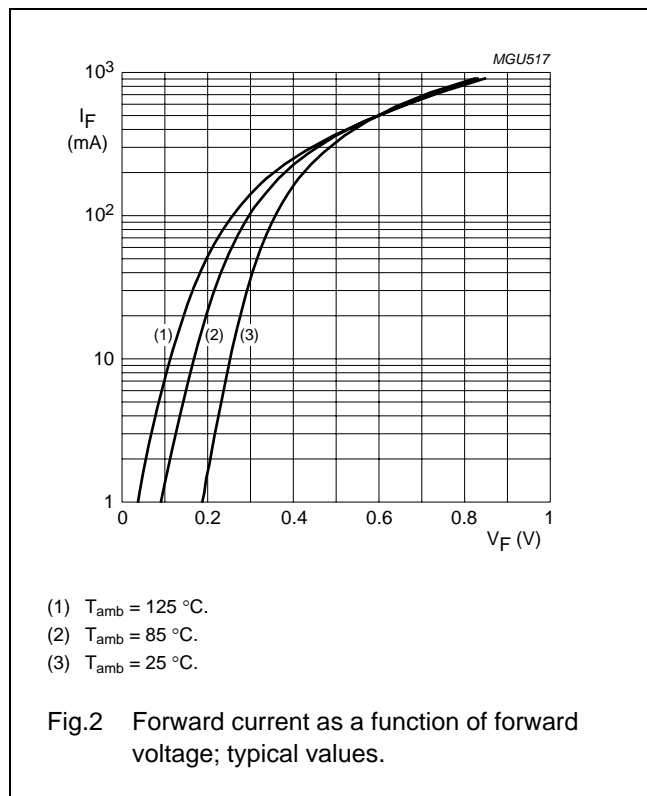
Note

1. Refer to SC-79 (SOD523) standard mounting conditions.

Schottky barrier diode

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GRAPHICAL DATA



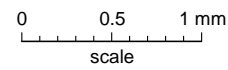
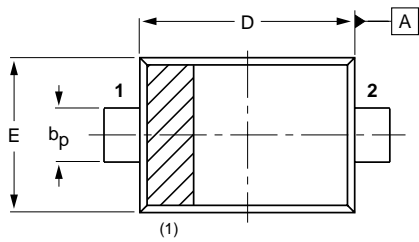
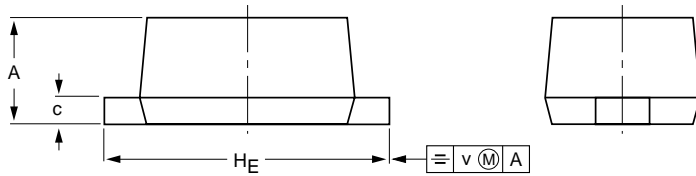
Schottky barrier diode

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PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD523



DIMENSIONS (mm are the original dimensions)

| UNIT | A | b _p | c | D | E | H _E | v |
|------|------|----------------|------|------|------|----------------|-----|
| mm | 0.65 | 0.34 | 0.17 | 1.25 | 0.85 | 1.65 | 0.1 |
| | 0.58 | 0.26 | 0.11 | 1.15 | 0.75 | 1.55 | |

Note

1. The marking bar indicates the cathode.

| OUTLINE VERSION | REFERENCES | | | | EUROPEAN PROJECTION | ISSUE DATE |
|-----------------|------------|-------|-------|--|---------------------|----------------------|
| | IEC | JEDEC | JEITA | | | |
| SOD523 | | | SC-79 | | | 98-11-25 02-12-13 |

Schottky barrier diode

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DATA SHEET STATUS

| DOCUMENT STATUS ⁽¹⁾ | PRODUCT STATUS ⁽²⁾ | DEFINITION |
|--------------------------------|-------------------------------|---|
| Objective data sheet | Development | This document contains data from the objective specification for product development. |
| Preliminary data sheet | Qualification | This document contains data from the preliminary specification. |
| Product data sheet | Production | This document contains the product specification. |

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2. The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL <http://www.nxp.com>.

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Customer notification

This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

Contact information

For additional information please visit: <http://www.nxp.com>

For sales offices addresses send e-mail to: salesaddresses@nxp.com

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