

BA277

Band-switching diode

Rev. 02 — 7 January 2008

Product data sheet

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NXP Semiconductors

Band-switching diode

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FEATURES

- Small plastic SMD package
- Continuous reverse voltage: max. 35 V
- Continuous forward current: max. 100 mA
- Low diode capacitance: max. 1.2 pF
- Low diode forward resistance: max. 0.7 Ω .

APPLICATIONS

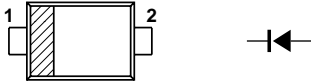
- Low loss band switching in VHF television tuners.
- Surface mount band-switching circuits.

DESCRIPTION

Planar high performance band-switching diode in a small plastic SOD523 (SC-79) SMD package.

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | cathode |
| 2 | anode |



Top view

MAM399

Marking code: 1.

Fig.1 Simplified outline (SOD523; SC-79) and symbol.

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|-----------|----------------------------|------------------------------------|------|------|--------------------|
| V_R | continuous reverse voltage | | – | 35 | V |
| I_F | continuous forward current | | – | 100 | mA |
| P_{tot} | total power dissipation | $T_s = 90\text{ }^{\circ}\text{C}$ | – | 715 | mW |
| T_{stg} | storage temperature | | –65 | +150 | $^{\circ}\text{C}$ |
| T_j | junction temperature | | –65 | +150 | $^{\circ}\text{C}$ |

ELECTRICAL CHARACTERISTICS

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

| SYMBOL | PARAMETER | CONDITIONS | MAX. | UNIT |
|--------|--------------------------|---|------|---------------|
| V_F | forward voltage | $I_F = 10\text{ mA}$ | 1 | V |
| I_R | reverse current | $V_R = 25\text{ V}$ | 50 | nA |
| | | $V_R = 20\text{ V}; T_{amb} = 75\text{ }^{\circ}\text{C}$ | 1 | μA |
| C_d | diode capacitance | $f = 1\text{ MHz}; V_R = 6\text{ V}$; note 1; see Fig.2 | 1.2 | pF |
| r_D | diode forward resistance | $I_F = 2\text{ mA}; f = 100\text{ MHz}$; note 1; see Fig.3 | 0.7 | Ω |

Note

1. Guaranteed on AQL basis: inspection level S4, AQL 1.0.

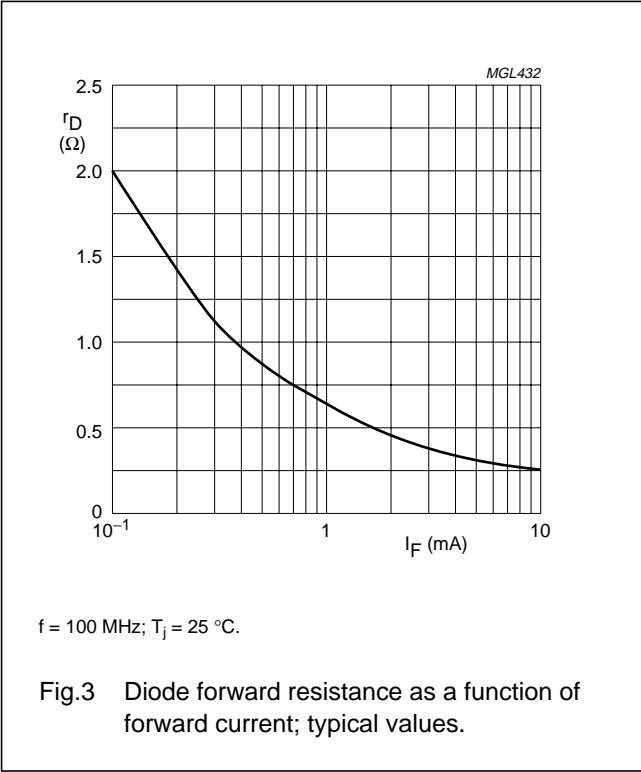
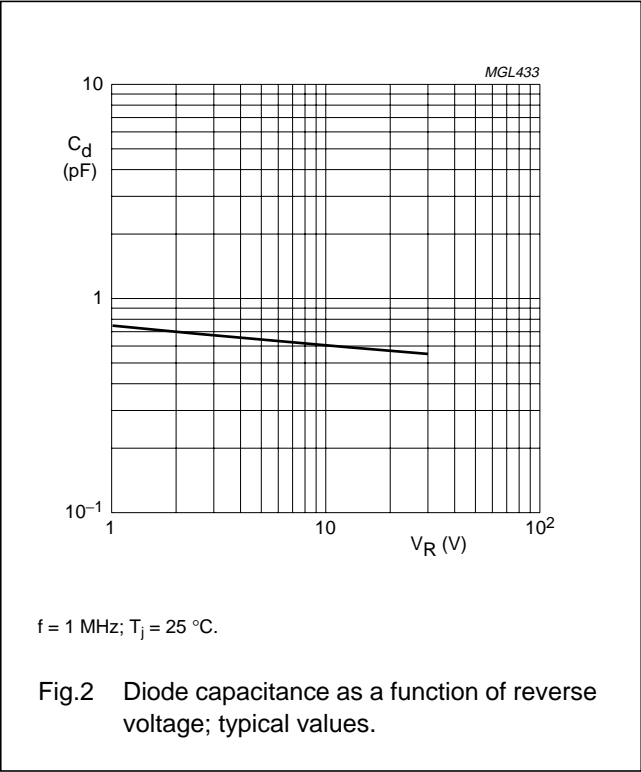
THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | VALUE | UNIT |
|---------------|---|-------|------|
| $R_{th\ j-s}$ | thermal resistance from junction to soldering-point | 85 | K/W |

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GRAPHICAL DATA



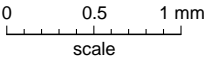
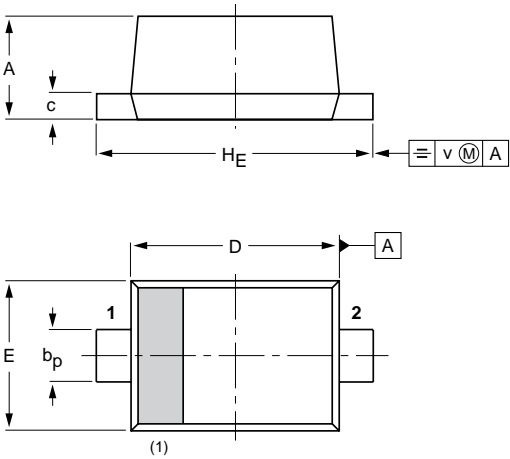
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PACKAGE OUTLINE

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 0.58 | 0.34 0.26 | 0.17 0.11 | 1.25 1.15 | 0.85 0.75 | 1.65 1.55 | 0.1 |

Note
1. The marking bar indicates the cathode.

| OUTLINE VERSION | REFERENCES | | | | EUROPEAN PROJECTION | ISSUE DATE |
|--------------------|------------|-------|-------|--|------------------------|------------------------|
| | IEC | JEDEC | JEITA | | | |
| SOD523 | | | SC-79 | | | -02-12-13- 06-03-16 |

Legal information

Data sheet status

| Document status ^{[1][2]} | Product status ^[3] | Definition |
|-----------------------------------|-------------------------------|---|
| Objective [short] data sheet | Development | This document contains data from the objective specification for product development. |
| Preliminary [short] data sheet | Qualification | This document contains data from the preliminary specification. |
| Product [short] data sheet | Production | This document contains the product specification. |

[1] Please consult the most recently issued document before initiating or completing a design.

[2] The term 'short data sheet' is explained in section "Definitions".

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Revision history

Revision history

| Document ID | Release date | Data sheet status | Change notice | Supersedes |
|-----------------------------|---|-----------------------|---------------|------------|
| BA277_N_2 | 20080107 | Product data sheet | - | BA277_1 |
| Modifications: | <ul style="list-style-type: none"> Package outline on page 4 changed | | | |
| BA277_1 (9397 750 03793) | 19980506 | Product specification | - | - |

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