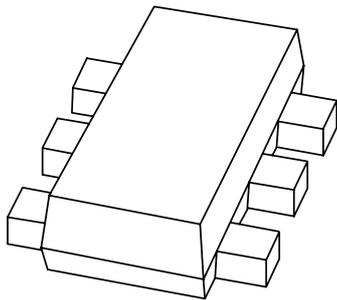


DATA SHEET



BAS40-07V Schottky barrier double diode

Product specification

2002 Mar 27

Schottky barrier double diode

BAS40-07V

FEATURES

- Low forward voltage
- Low capacitance
- Ultra small plastic SMD package
- Flat leads: excellent coplanarity and improved thermal behaviour

APPLICATIONS

- Ultra high-speed switching
- Voltage clamping
- Line termination
- Inverse-polarity protection.

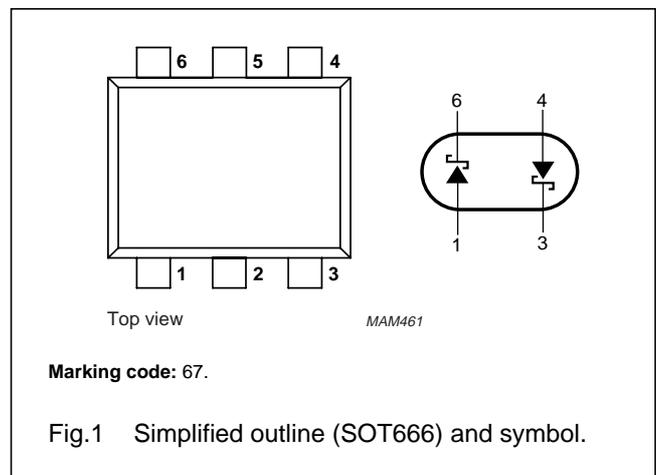
DESCRIPTION

Planar Schottky barrier double diode with an integrated guard ring for stress protection.

Two separate dies encapsulated in a SOT666 ultra small SMD plastic package.

PINNING

| PIN | DESCRIPTION |
|-----|---------------|
| 1 | anode 1 |
| 2 | not connected |
| 3 | cathode 2 |
| 4 | anode 2 |
| 5 | not connected |
| 6 | cathode 1 |



LIMITING VALUES

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

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|------------------|-------------------------------------|---------------|------|------|------|
| Per diode | | | | | |
| V_R | continuous reverse voltage | | – | 40 | V |
| I_F | continuous forward current | | – | 120 | mA |
| I_{FRM} | repetitive peak forward current | | – | 120 | mA |
| I_{FSM} | non-repetitive peak forward current | $t_p < 10$ ms | – | 200 | mA |
| T_{stg} | storage temperature | | –65 | +150 | °C |
| T_j | junction temperature | | – | 150 | °C |
| T_{amb} | operating ambient temperature | | –65 | +150 | °C |

Schottky barrier double diode

BAS40-07V

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

| SYMBOL | PARAMETER | CONDITIONS | MAX. | UNIT |
|------------------|----------------------------|---|------|---------------|
| Per diode | | | | |
| V_F | continuous forward voltage | see Fig.2 | | |
| | | $I_F = 1\text{ mA}$ | 380 | mV |
| | | $I_F = 10\text{ mA}$ | 500 | mV |
| | | $I_F = 40\text{ mA}$ | 1 | V |
| I_R | continuous reverse current | $V_R = 30\text{ V}$; see Fig.3; note 1 | 1 | μA |
| | | $V_R = 40\text{ V}$; see Fig.3; note 1 | 10 | μA |
| C_d | diode capacitance | $V_R = 0\text{ V}$; $f = 1\text{ MHz}$; see Fig.5 | 5 | 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 | 416 | K/W |

Notes

1. Refer to SOT666 standard mounting conditions.

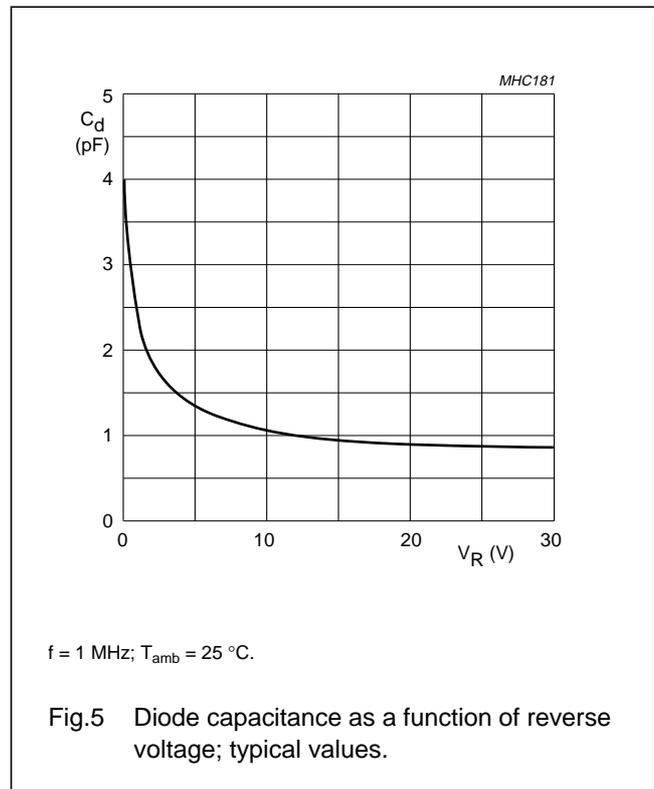
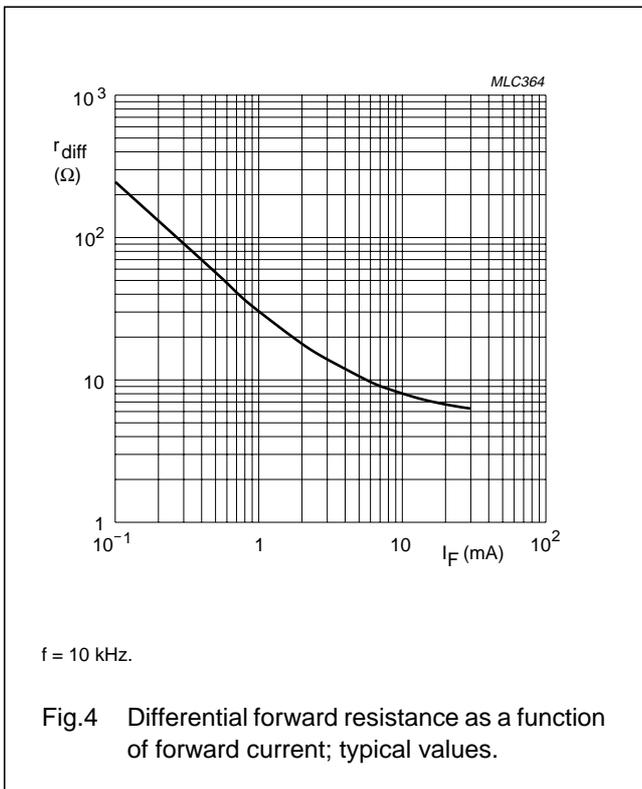
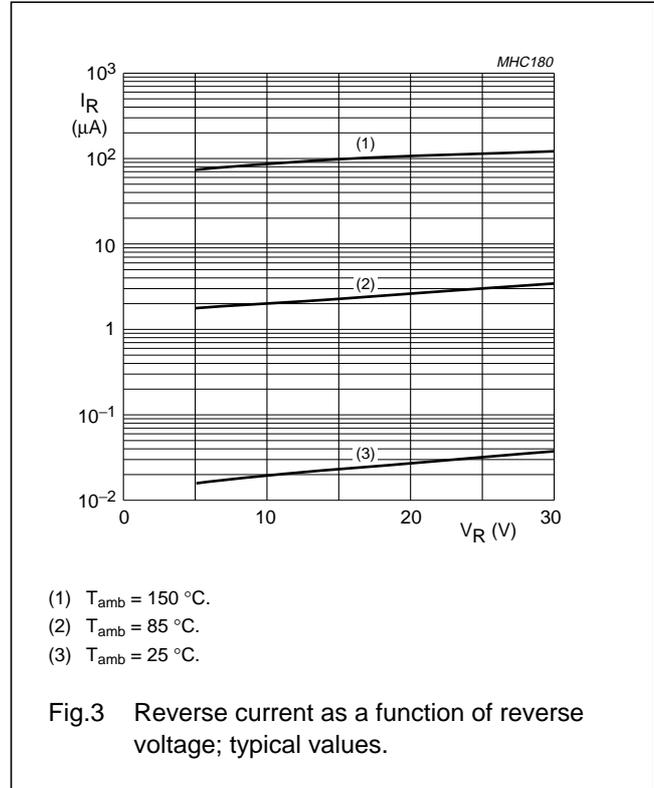
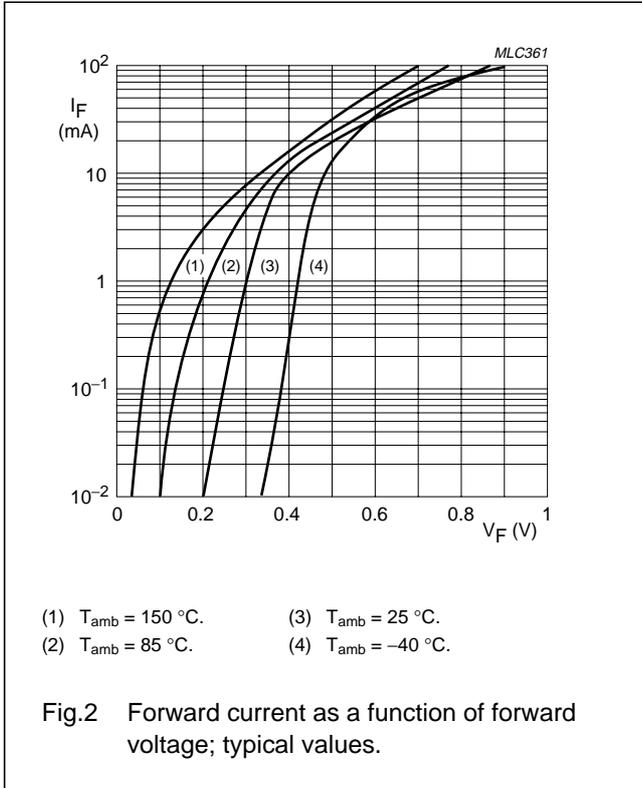
Soldering

The only recommended soldering is reflow soldering.

Schottky barrier double diode

BAS40-07V

GRAPHICAL DATA



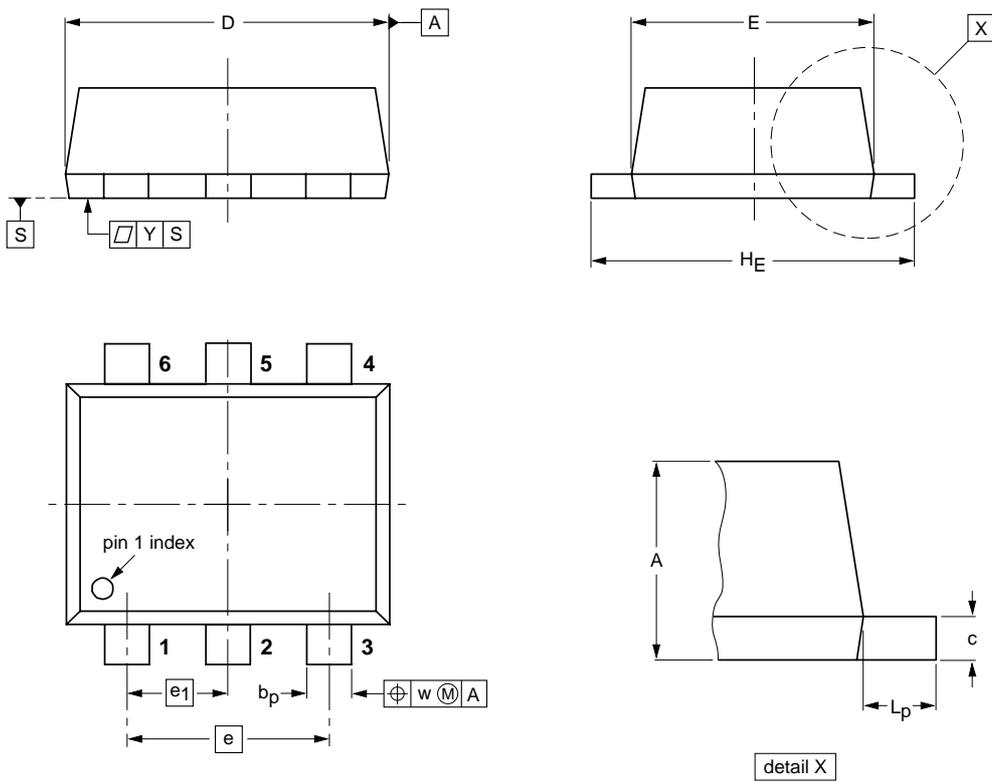
Schottky barrier double diode

BAS40-07V

PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT666



DIMENSIONS (mm are the original dimensions)

| UNIT | A | b_p | c | D | E | e | e_1 | H_E | L_p | w | y |
|------|------------|--------------|--------------|------------|------------|-----|-------|------------|------------|-----|-----|
| mm | 0.6 0.5 | 0.27 0.17 | 0.18 0.08 | 1.7 1.5 | 1.3 1.1 | 1.0 | 0.5 | 1.7 1.5 | 0.3 0.1 | 0.1 | 0.1 |

| OUTLINE VERSION | REFERENCES | | | | EUROPEAN PROJECTION | ISSUE DATE |
|-----------------|------------|-------|------|--|---------------------|----------------------|
| | IEC | JEDEC | EIAJ | | | |
| SOT666 | | | | | | 01-01-04 01-08-27 |

Schottky barrier double diode

BAS40-07V

DATA SHEET STATUS

| DATA SHEET STATUS ⁽¹⁾ | PRODUCT STATUS ⁽²⁾ | DEFINITIONS |
|----------------------------------|-------------------------------|--|
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BAS40-07V

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Printed in The Netherlands

613514/01/pp8

Date of release: 2002 Mar 27

Document order number: 9397 750 09377

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