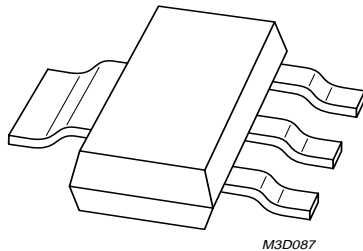


DATA SHEET



PBYR2150CT Schottky barrier double diode

Preliminary specification

1996 Oct 14

Schottky barrier double diode

PBYR2150CT

FEATURES

- Low switching losses
- Low forward voltage
- High breakdown voltage
- Fast recovery time
- Guard ring protected
- Plastic SMD package.

APPLICATIONS

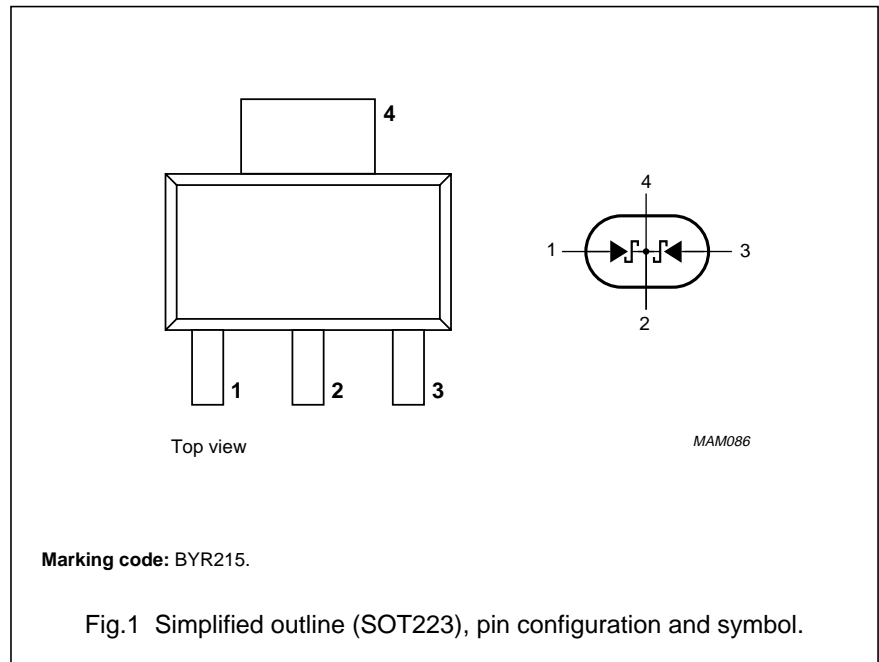
- Low power, switched-mode power supplies
- Rectification
- Polarity protection.

PINNING

| PIN | DESCRIPTION |
|-----|-------------------------|
| 1 | anode (a ₁) |
| 2 | common cathode |
| 3 | anode (a ₂) |
| 4 | common cathode |

DESCRIPTION

The PBYR2150CT is a Schottky barrier double diode, fabricated in planar technology, and encapsulated in a SOT223 plastic SMD package.



LIMITING VALUES

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

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|--------------------|-------------------------------------|--|------|------|------|
| Per diode | | | | | |
| V _R | continuous reverse voltage | | – | 150 | V |
| V _{R(RM)} | repetitive peak reverse voltage | | – | 150 | V |
| V _{R(WM)} | crest working reverse voltage | | – | 150 | V |
| I _{F(AV)} | average forward current | T _{amb} = 85 °C; R _{th j-a} = 70 K/W; note 1; V _{R(equiv)} = 0.2 V; note 2 | – | 1 | A |
| I _{F(SM)} | non-repetitive peak forward current | t = 8.3 ms half sinewave; JEDEC method | – | 10 | A |

Schottky barrier double diode

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| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|------------------|-------------------------------|------------|------|------|------|
| Per diode | | | | | |
| T _{stg} | storage temperature | | -65 | +150 | °C |
| T _j | junction temperature | | -65 | +150 | °C |
| T _{amb} | operating ambient temperature | | - | 80 | °C |

Notes

1. Refer to SOT223 standard mounting conditions.
2. For Schottky barrier diodes thermal run-away has to be considered, as in some applications, the reverse power losses P_R are a significant part of the total power losses. Nomograms for determination of the reverse power losses P_R and I_{F(AV)} rating will be available on request.

ELECTRICAL CHARACTERISTICS

T_{amb} = 25 °C unless otherwise specified.

| SYMBOL | PARAMETER | CONDITIONS | MAX. | UNIT |
|------------------|-------------------|--|--------------------------|----------------------|
| Per diode | | | | |
| V _F | forward voltage | see Fig.2 I _F = 0.1 A; note 1 I _F = 0.5 A; note 1 I _F = 1 A; note 1 I _F = 1 A; T _j = 100 °C; note 1 | 400 650 850 690 | mV mV mV mV |
| I _R | reverse current | V _R = V _{RRMmax} ; note 1; see Fig.3 V _R = V _{RRMmax} ; T _j = 100 °C; note 1; see Fig.3 | 1 10 | mA mA |
| C _d | diode capacitance | V _R = 4 V; f = 1 MHz; see Fig.4 | 100 | pF |

Note

1. Pulsed test: t_p = 300 μs; δ = 0.02.

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|---------------------|---|------------|-------|------|
| R _{th j-a} | thermal resistance from junction to ambient | note 1 | 70 | K/W |

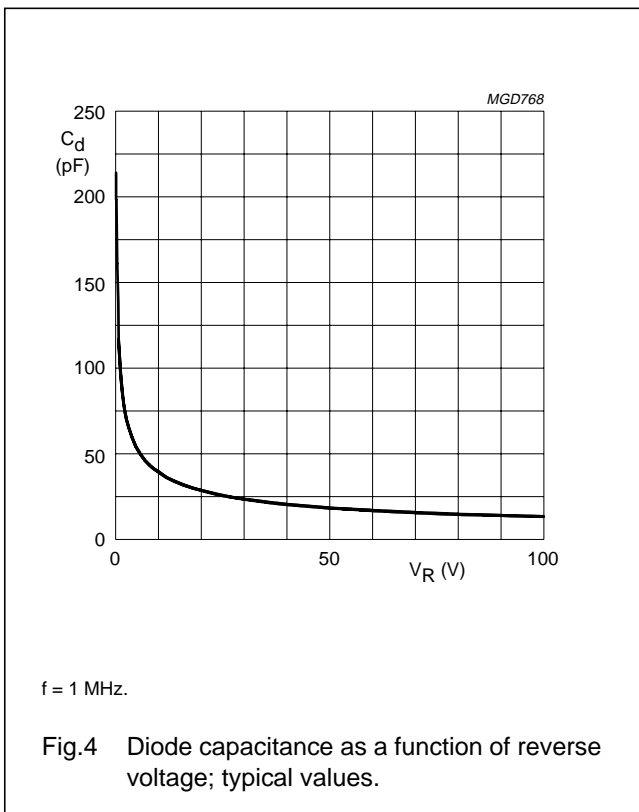
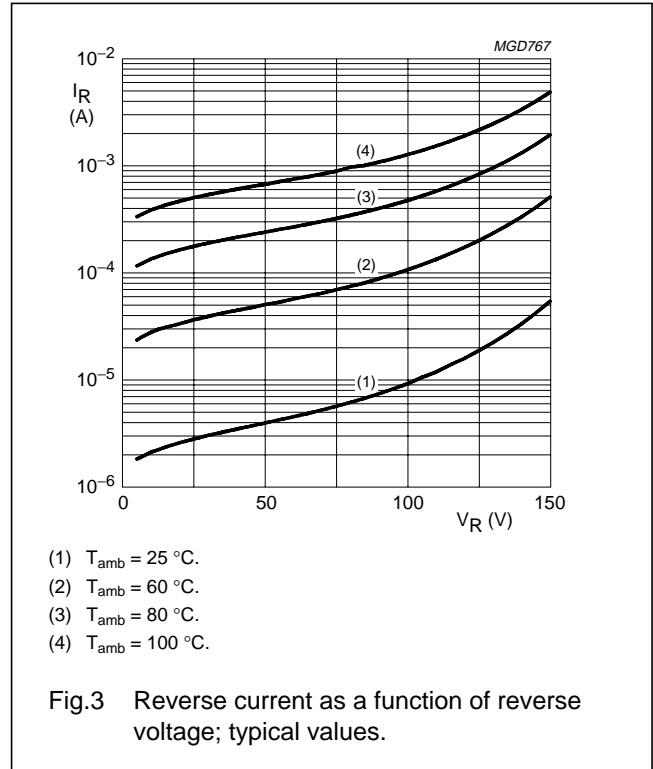
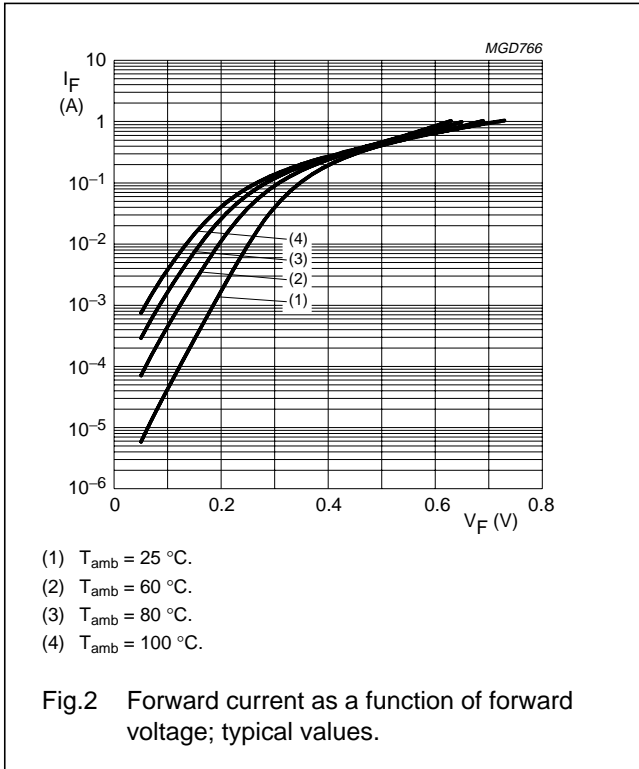
Note

1. Refer to SOT223 standard mounting conditions.

Schottky barrier double diode

PBYR2150CT

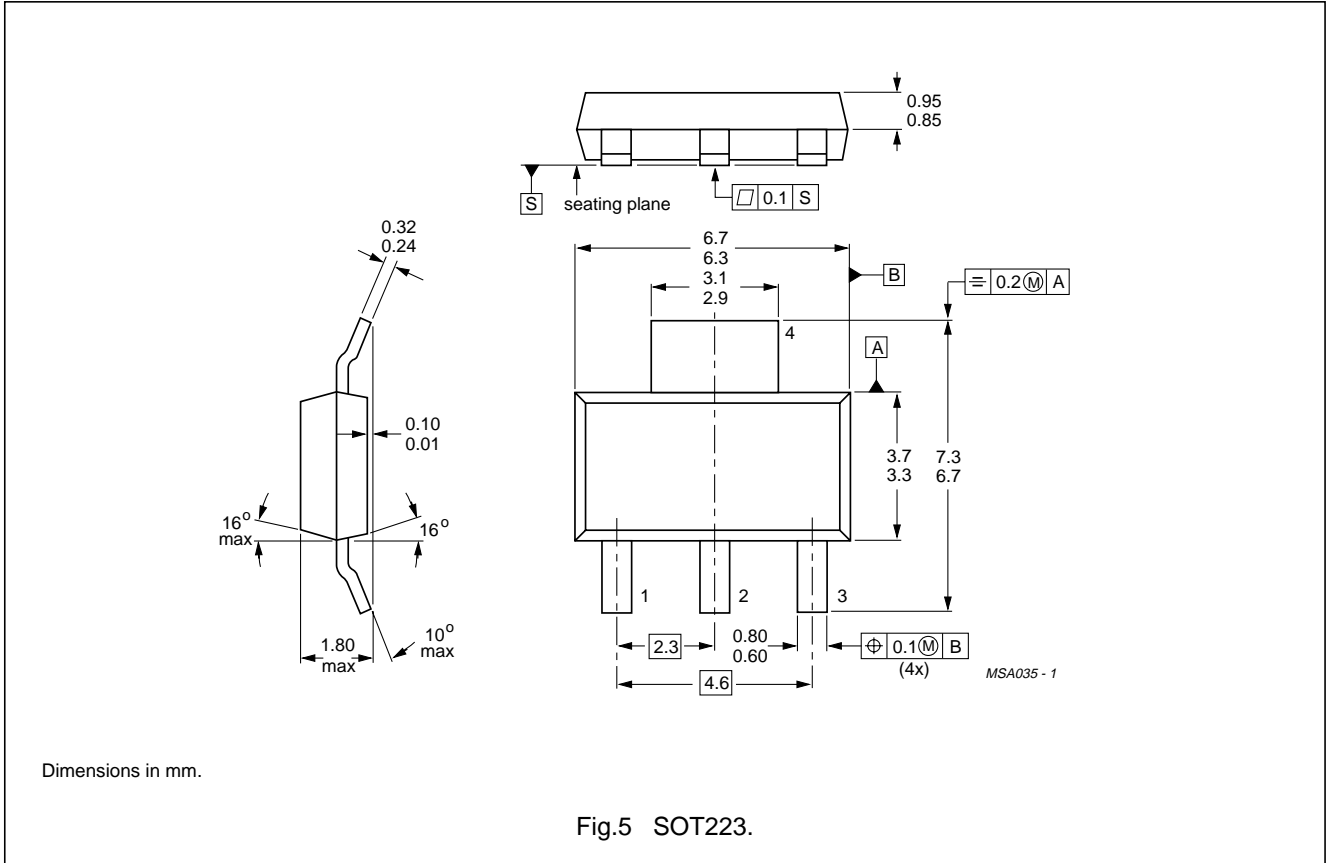
GRAPHICAL DATA



Schottky barrier double diode

PBYR2150CT

PACKAGE OUTLINE



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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