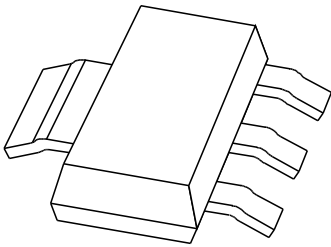


# DATA SHEET



## **PBYR2150CT** Schottky barrier double diode

Preliminary specification  
File under Discrete Semiconductors, SC01

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

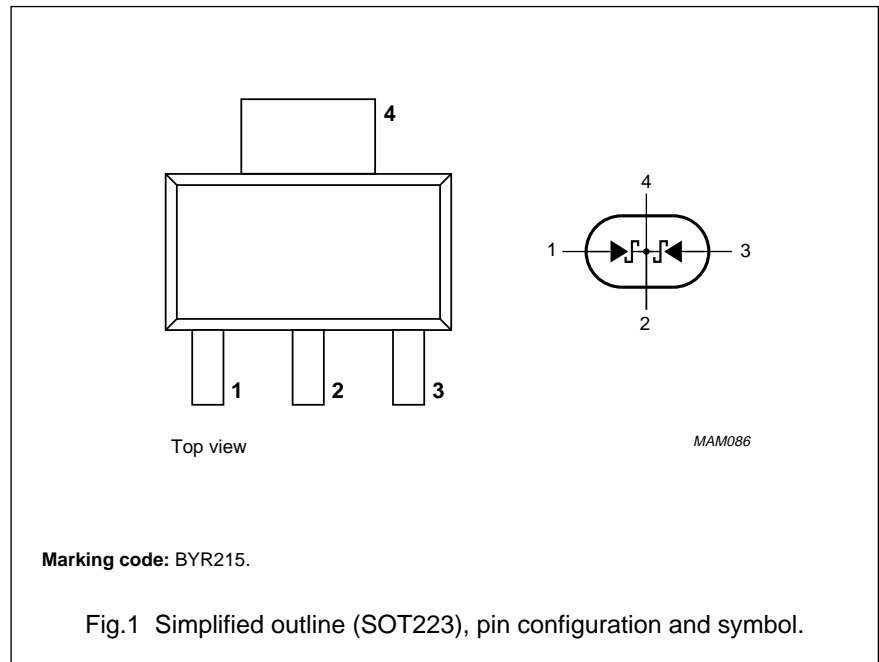
- Low power, switched-mode power supplies
- Rectification
- Polarity protection.

### PINNING

PIN	DESCRIPTION
1	anode (a <sub>1</sub> )
2	common cathode
3	anode (a <sub>2</sub> )
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
<b>Per diode</b>					
V <sub>R</sub>	continuous reverse voltage		–	150	V
V <sub>R(RM)</sub>	repetitive peak reverse voltage		–	150	V
V <sub>R(WM)</sub>	crest working reverse voltage		–	150	V
I <sub>F(AV)</sub>	average forward current	T <sub>amb</sub> = 85 °C; R <sub>th j-a</sub> = 70 K/W; note 1; V <sub>R(equiv)</sub> = 0.2 V; note 2	–	1	A
I <sub>F(SM)</sub>	non-repetitive peak forward current	t = 8.3 ms half sinewave; JEDEC method	–	10	A

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SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
<b>Per diode</b>					
T <sub>stg</sub>	storage temperature		-65	+150	°C
T <sub>j</sub>	junction temperature		-65	+150	°C
T <sub>amb</sub>	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<sub>R</sub> are a significant part of the total power losses. Nomograms for determination of the reverse power losses P<sub>R</sub> and I<sub>F(AV)</sub> rating will be available on request.

**ELECTRICAL CHARACTERISTICS**

T<sub>amb</sub> = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
<b>Per diode</b>				
V <sub>F</sub>	forward voltage	see Fig.2 I <sub>F</sub> = 0.1 A; note 1 I <sub>F</sub> = 0.5 A; note 1 I <sub>F</sub> = 1 A; note 1 I <sub>F</sub> = 1 A; T <sub>j</sub> = 100 °C; note 1	400 650 850 690	mV mV mV mV
I <sub>R</sub>	reverse current	V <sub>R</sub> = V <sub>RRMmax</sub> ; note 1; see Fig.3 V <sub>R</sub> = V <sub>RRMmax</sub> ; T <sub>j</sub> = 100 °C; note 1; see Fig.3	1 10	mA mA
C <sub>d</sub>	diode capacitance	V <sub>R</sub> = 4 V; f = 1 MHz; see Fig.4	100	pF

**Note**

1. Pulsed test: t<sub>p</sub> = 300 μs; δ = 0.02.

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R <sub>th j-a</sub>	thermal resistance from junction to ambient	note 1	70	K/W

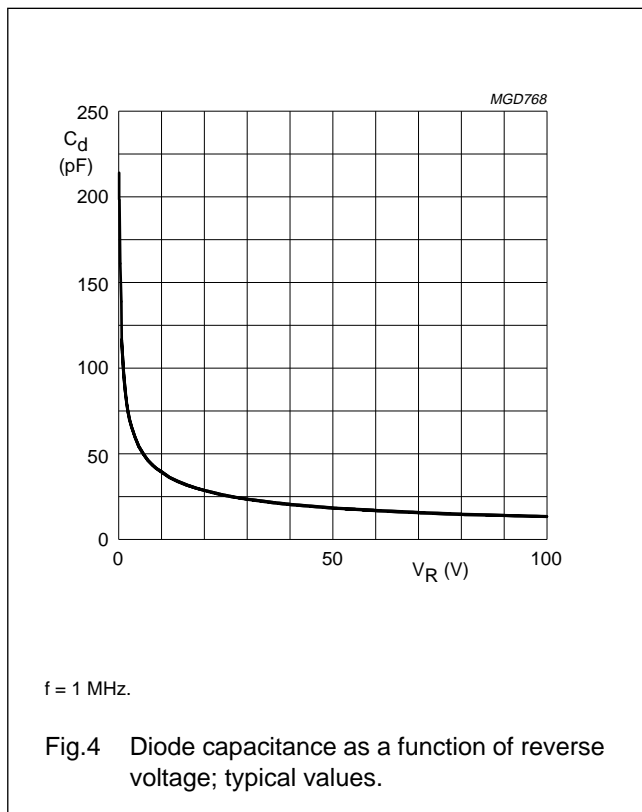
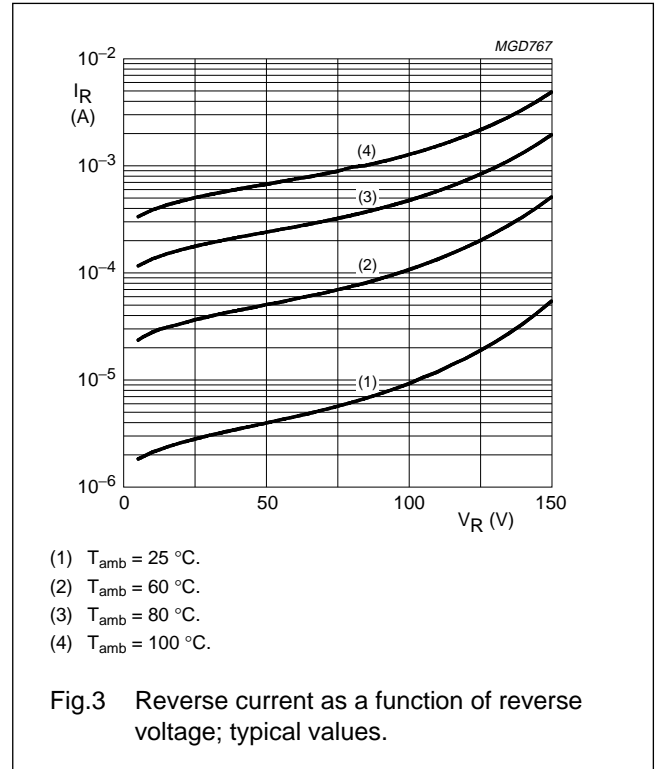
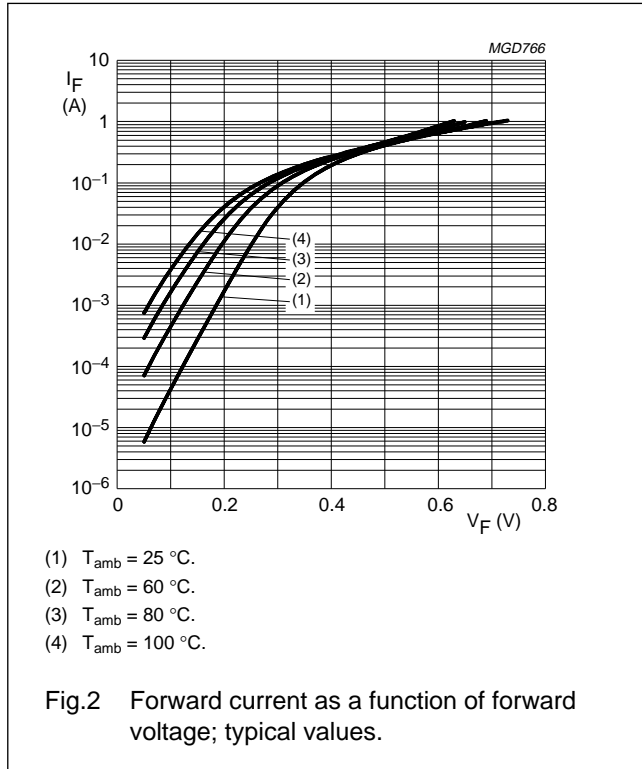
**Note**

1. Refer to SOT223 standard mounting conditions.

Schottky barrier double diode

PBYR2150CT

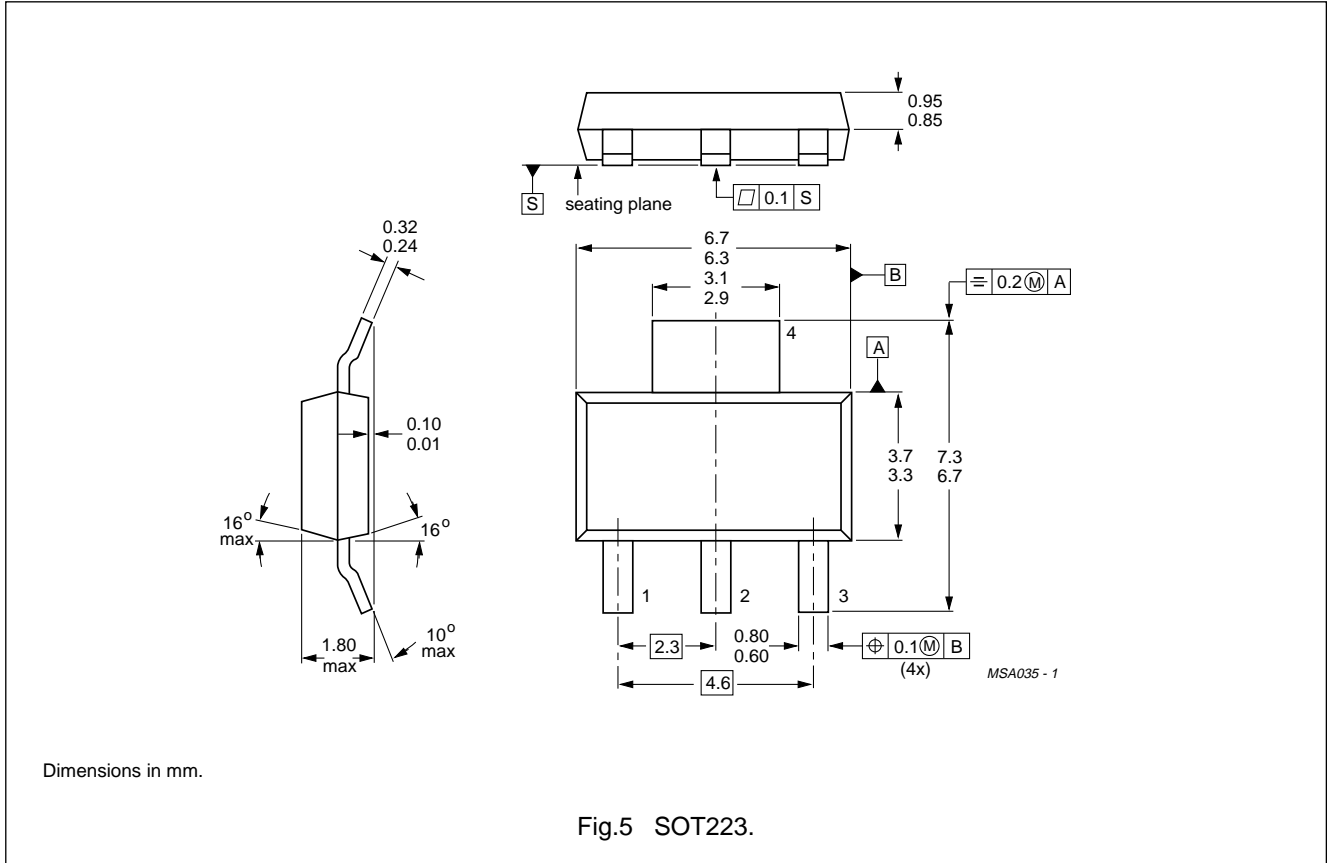
GRAPHICAL DATA



Schottky barrier double diode

PBYR2150CT

PACKAGE OUTLINE



DEFINITIONS

<b>Data sheet status</b>	
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.
<b>Limiting values</b>	
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.	
<b>Application information</b>	
Where application information is given, it is advisory and does not form part of the specification.	

LIFE SUPPORT APPLICATIONS

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.