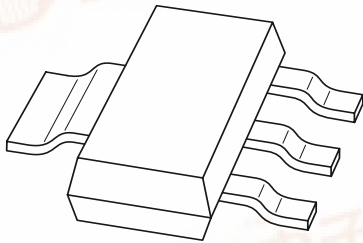


DISCRETE SEMICONDUCTORS

DATA SHEET



PBYR2100CT Schottky barrier double diode

Product specification
Supersedes data of 1996 Oct 14

1999 May 25

Schottky barrier double diode

PBYR2100CT

FEATURES

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

APPLICATIONS

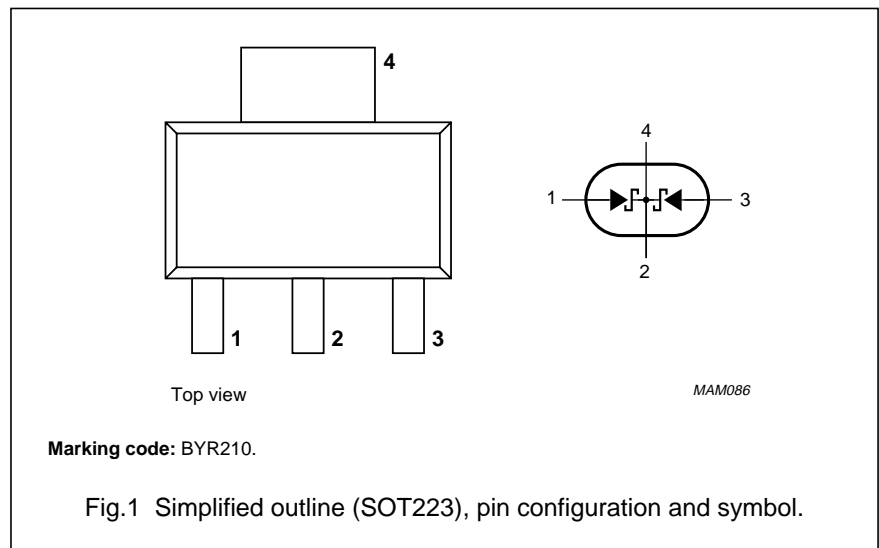
- Low power, switched-mode power supplies
- Rectification
- Polarity protection.

DESCRIPTION

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

PINNING

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



Schottky barrier double diode

PBYR2100CT

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		–	100	V
V_{RRM}	repetitive peak reverse voltage		–	100	V
V_{RWM}	crest working reverse voltage		–	100	V
$I_{F(AV)}$	average forward current	$T_{amb} = 85\text{ °C}$; see Fig.2; $R_{th\ j-a} = 70\text{ K/W}$; note 1; $V_{R(equiv)} = 0.2\text{ V}$; note 2	–	1	A
I_{FSM}	non-repetitive peak forward current	$t = 8.3\text{ ms}$ half sine wave; JEDEC method	–	10	A
I_{RSM}	non-repetitive peak reverse current	$t_p = 100\text{ }\mu\text{s}$	–	0.5	A
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–65	+150	°C
T_{amb}	operating ambient temperature		–	85	°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

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

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
Per diode				
V_F	forward voltage	$I_F = 1\text{ A}$; note 1; see Fig.3	790	mV
		$I_F = 1\text{ A}$; $T_j = 100\text{ °C}$; note 1; see Fig.3	690	mV
I_R	reverse current	$V_R = V_{RRMmax}$; note 1; see Fig.4	0.5	mA
		$V_R = V_{RRMmax}$; $T_j = 100\text{ °C}$; note 1; see Fig.4	5	mA
C_d	diode capacitance	$V_R = 4\text{ V}$; $f = 1\text{ MHz}$; see Fig.5	100	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	70	K/W

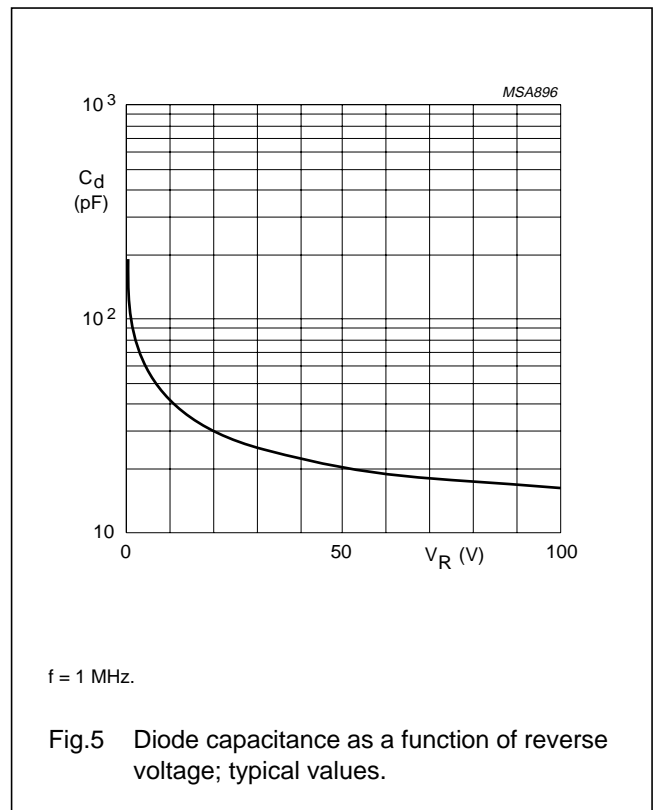
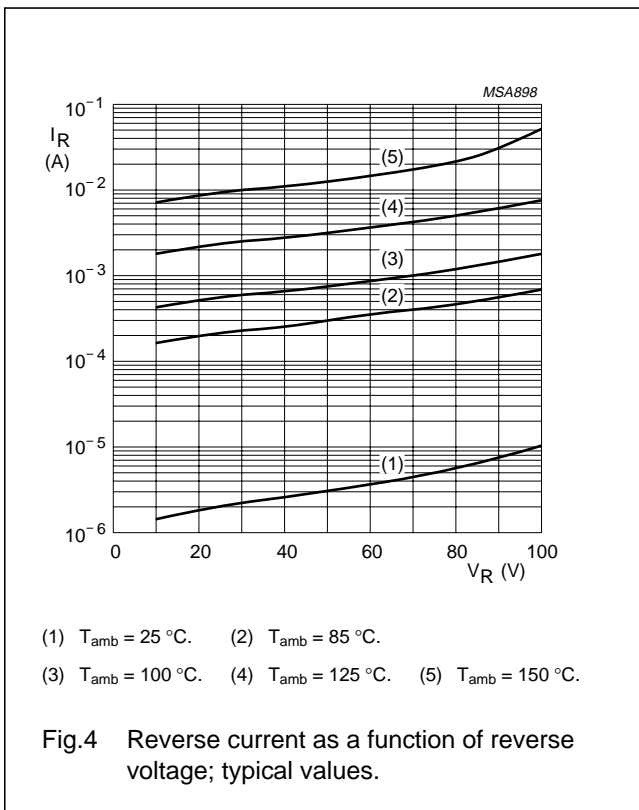
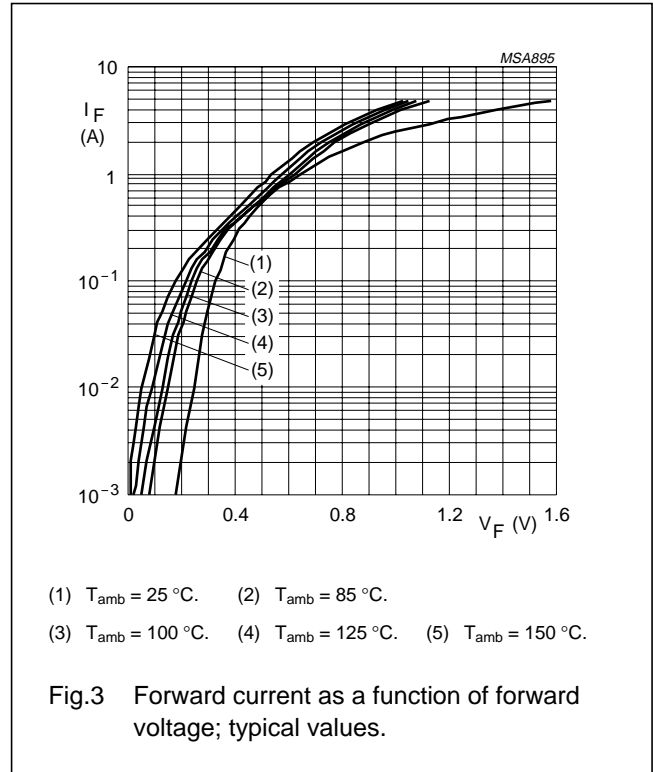
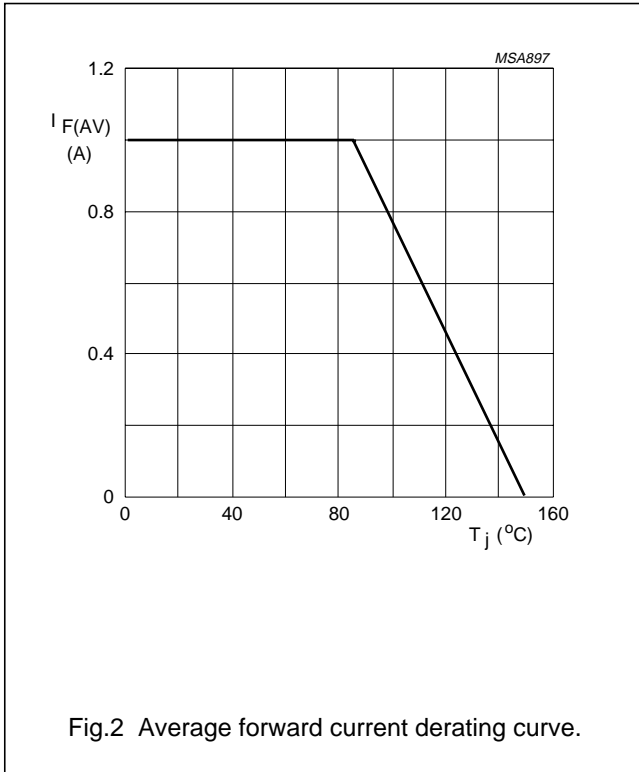
Note

1. Refer to SOT223 standard mounting conditions.

Schottky barrier double diode

PBYR2100CT

GRAPHICAL DATA



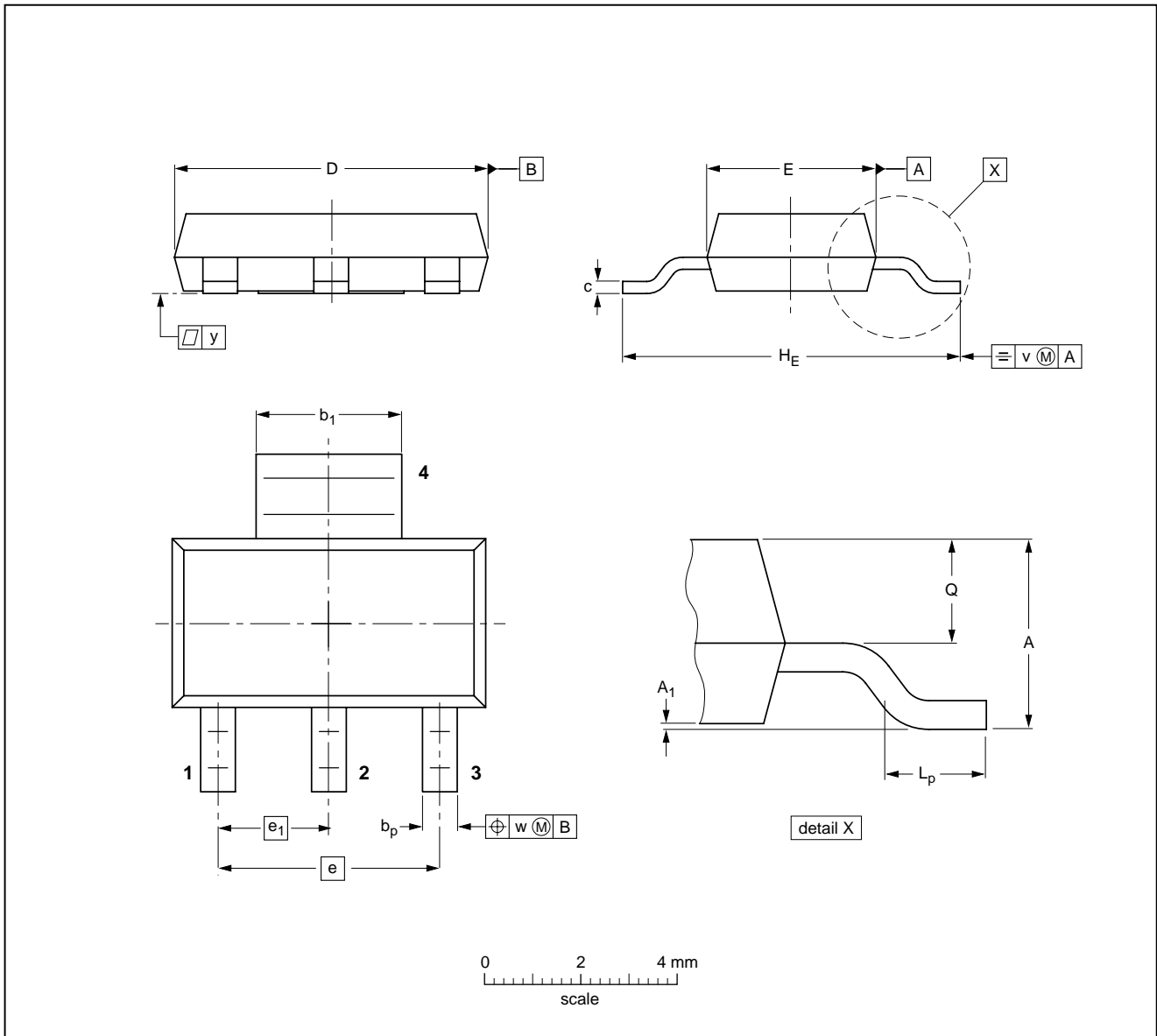
Schottky barrier double diode

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PACKAGE OUTLINE

Plastic surface mounted package; collector pad for good heat transfer; 4 leads

SOT223



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁	b _p	b ₁	c	D	E	e	e ₁	H _E	L _p	Q	v	w	y
mm	1.8 1.5	0.10 0.01	0.80 0.60	3.1 2.9	0.32 0.22	6.7 6.3	3.7 3.3	4.6	2.3	7.3 6.7	1.1 0.7	0.95 0.85	0.2	0.1	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT223						96-11-11 97-02-28

Schottky barrier double diode

PBYR2100CT

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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Schottky barrier double diode

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