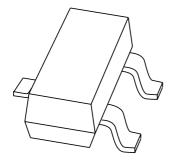
## DISCRETE SEMICONDUCTORS

# DATA SHEET



## PMBD353 Schottky barrier double diode

Product data sheet Supersedes data of 1999 May 25 2001 Oct 15



## Schottky barrier double diode

**PMBD353** 

#### **FEATURES**

- Low forward voltage
- Small SMD package
- · Low capacitance.

#### **APPLICATIONS**

- UHF mixer
- · Sampling circuits
- Modulators
- Phase detection.

#### **DESCRIPTION**

Planar Schottky barrier double diode in a SOT23 small plastic SMD package.

#### **MARKING**

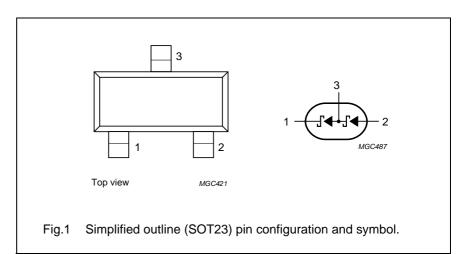
TYPE NUMBER	MARKING CODE <sup>(1)</sup>
PMBD353	*4F

#### Note

- \* = p: Made in Hong Kong.
   \* = t: Made in Malaysia.
  - \* = W: Made in China.

#### **PINNING**

PIN	DESCRIPTION					
1	cathode k <sub>1</sub>					
2	anode a <sub>2</sub>					
3	common connection a <sub>1</sub> , k <sub>2</sub>					



#### **LIMITING VALUES**

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
Per diode				
V <sub>R</sub>	continuous reverse voltage	_	4	V
I <sub>F</sub>	continuous forward current	_	30	mA
T <sub>stg</sub>	storage temperature	-65	+150	°C
Tj	junction temperature	_	100	°C

## Schottky barrier double diode

PMBD353

#### **ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	R CONDITIONS		
Per diode				
V <sub>F</sub>	forward voltage	see Fig.2		
		I <sub>F</sub> = 0.1 mA	350	mV
		I <sub>F</sub> = 1 mA	450	mV
		I <sub>F</sub> = 10 mA	600	mV
I <sub>R</sub>	reverse current	V <sub>R</sub> = 3 V; note 1; see Fig.3	0.25	μΑ
C <sub>d</sub>	diode capacitance	$f = 1 \text{ MHz}$ ; $V_R = 0$ ; see Fig.4	1	pF

#### Note

1. Pulse test:  $t_p$  = 300  $\mu$ s;  $\delta$  = 0.02.

#### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R <sub>th j-a</sub>	thermal resistance from junction to ambient	note 1	500	K/W

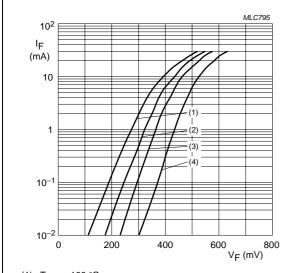
#### Note

1. Refer to SOT23 standard mounting conditions.

## Schottky barrier double diode

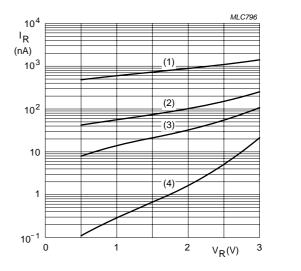
PMBD353

#### **GRAPHICAL DATA**



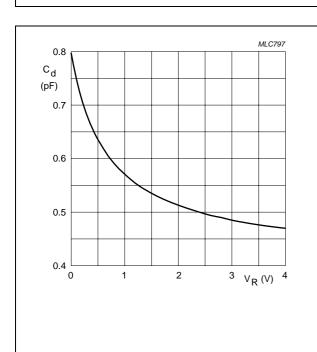
- (1)  $T_{amb} = 100 \, ^{\circ}C$ .
- (2)  $T_{amb} = 60 \, ^{\circ}C$ .
- (3)  $T_{amb} = 25 \, ^{\circ}C$ .
- (4)  $T_{amb} = -40 \, ^{\circ}C$ .

Fig.2 Forward current as a function of forward voltage; typical values.



- (1) T<sub>amb</sub> = 100 °C.
- (2)  $T_{amb} = 60 \, ^{\circ}C$ .
- (3)  $T_{amb} = 25 \, ^{\circ}C$ .
- (4)  $T_{amb} = -40 \, ^{\circ}C$ .

Fig.3 Reverse current as a function of reverse voltage; typical values.



 $f = 1 \text{ MHz}; T_{amb} = 25 \,^{\circ}\text{C}.$ 

Fig.4 Diode capacitance as a function of reverse voltage; typical values.

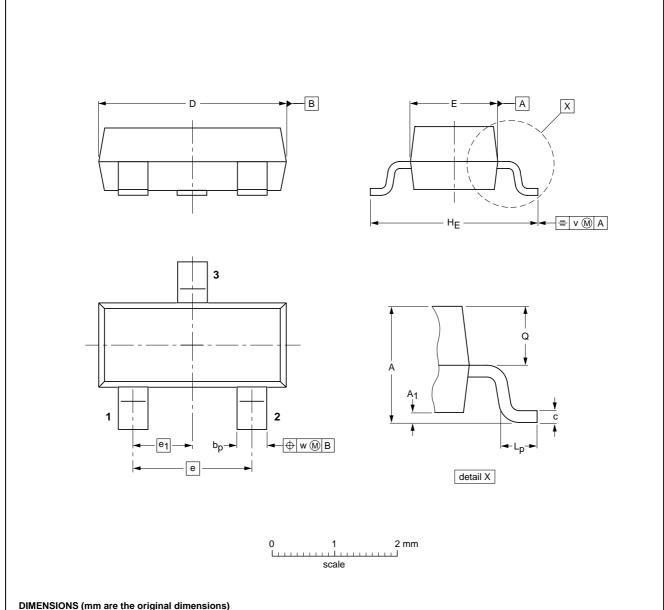
## Schottky barrier double diode

PMBD353

#### **PACKAGE OUTLINE**

Plastic surface mounted package; 3 leads

SOT23



DIMENS	IONS (m	ım are tı	ne origir	nai dime	nsions)	
						_

UNIT	A	max.	bp	С	D	E	е	e <sub>1</sub>	HE	L <sub>p</sub>	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

OUTLINE		REFER	EUROPEAN	ISSUE DATE		
VERSION	IEC	JEDEC			ISSUE DATE	
SOT23		TO-236AB				<del>97-02-28</del> 99-09-13

### Schottky barrier double diode

PMBD353

#### **DATA SHEET STATUS**

DOCUMENT STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	DEFINITION
Objective data sheet	Development	This document contains data from the objective specification for product development.
Preliminary data sheet	Qualification	This document contains data from the preliminary specification.
Product data sheet	Production	This document contains the product specification.

#### **Notes**

- 1. Please consult the most recently issued document before initiating or completing a design.
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Printed in The Netherlands 613514/04/pp7 Date of release: 2001 Oct 15 Document order number: 9397 750 08769

