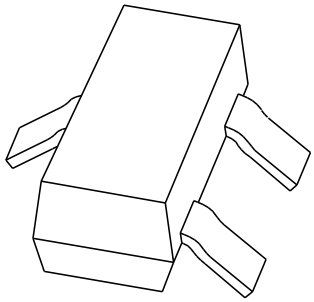
DATA SHEET



PMBD352; PMBD353
Schottky barrier double diodes

Product specification
Supersedes data of January 1995
File under Discrete Semiconductors, SC01

1996 Mar 20

Philips
Semiconductors

PHILIPS

Schottky barrier double diodes PMBD352; PMBD353

FEATURES

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

APPLICATIONS

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

DESCRIPTION

Planar Schottky barrier double diodes in series connection with different pinning.

The diodes are encapsulated in a SOT23 small plastic SMD package.

MARKING

TYPE NUMBER	MARKING CODE
PMBD352	p5g
PMBD353	p4f

PINNING

PIN	DESCRIPTION
PMBD352 (see Fig.2)	
1	a_1
2	k_2
3	k_1, a_2
PMBD353 (see Fig.3)	
1	k_1
2	a_2
3	a_1, k_2

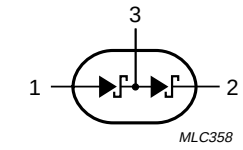


Fig.2 PMBD352 diode configuration (symbol).

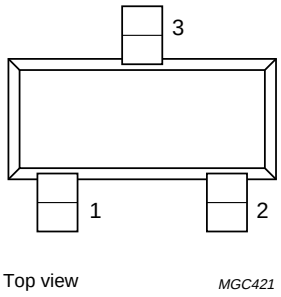


Fig.1 Simplified outline (SOT23) and pin configuration.

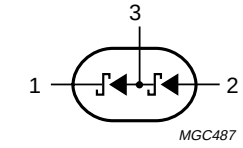


Fig.3 PMBD353 diode configuration (symbol).

LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
Per diode				
V_R	continuous reverse voltage	–	4	V
I_F	continuous forward current	–	30	mA
T_{stg}	storage temperature	–65	+150	°C
T_j	junction temperature	–	100	°C

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
Per diode				
V_F	forward voltage	see Fig.4		
		I_F = 0.1 mA	350	mV
		I_F = 1 mA	450	mV
		I_F = 10 mA	600	mV
I_R	reverse current	V_R = 3 V; note 1; see Fig.5	0.25	μA
C_d	diode capacitance	f = 1 MHz; V_R = 0 V; see Fig.6	1	pF

Note

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

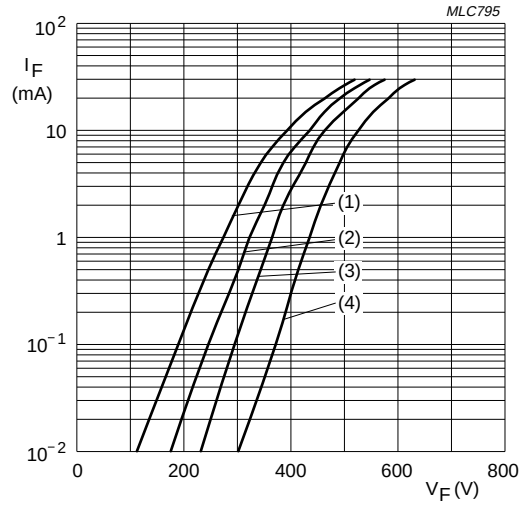
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j\text{-}a}$	thermal resistance from junction to ambient	note 1	500	K/W

Note

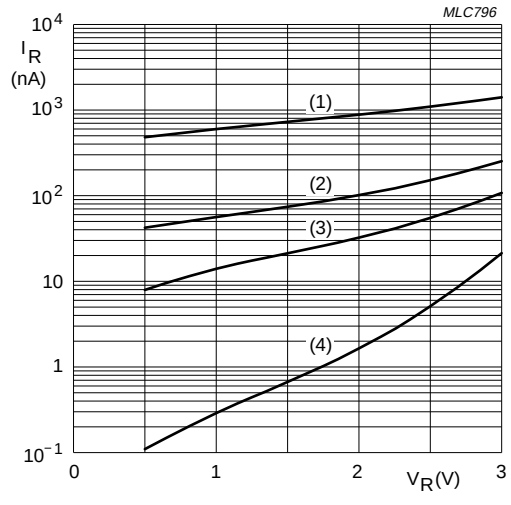
1. Refer to SOT23 standard mounting conditions.

GRAPHICAL DATA



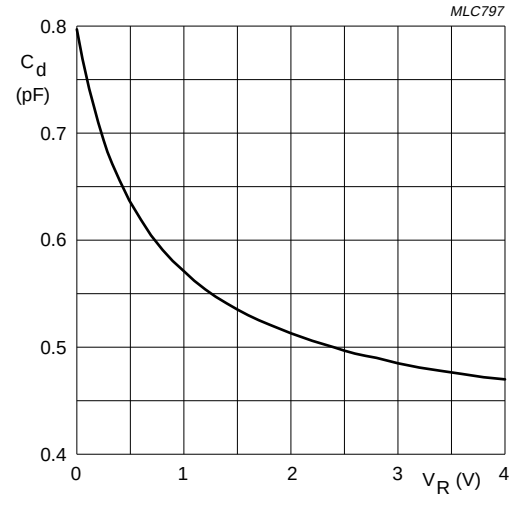
(1) T_{amb} = 100 °C.
(2) T_{amb} = 60 °C.
(3) T_{amb} = 25 °C.
(4) T_{amb} = −40 °C.

Fig.4 Forward current as a function of forward voltage; typical values.



(1) T_{amb} = 100 °C.
(2) T_{amb} = 60 °C.
(3) T_{amb} = 25 °C.
(4) T_{amb} = −40 °C.

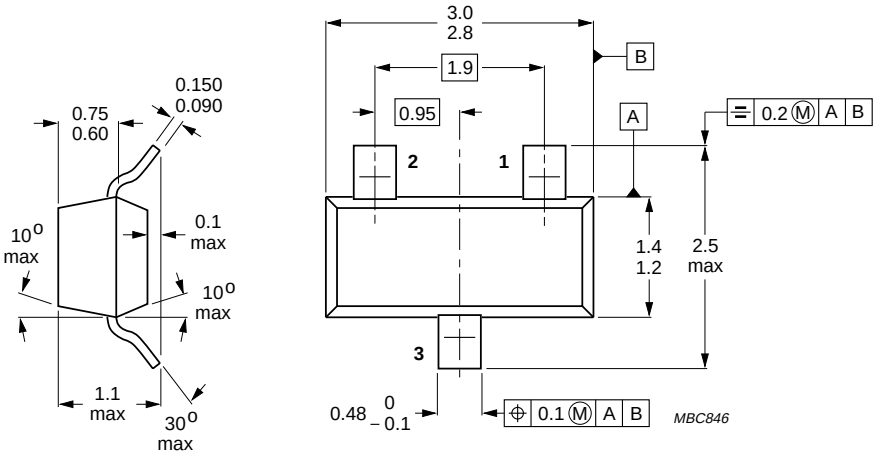
Fig.5 Reverse current as a function of reverse voltage; typical values.



f = 1 MHz; T_{amb} = 25 °C.

Fig.6 Diode capacitance as a function of reverse voltage; typical values.

PACKAGE OUTLINE



Dimensions in mm.

Fig.7 SOT23.

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

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.