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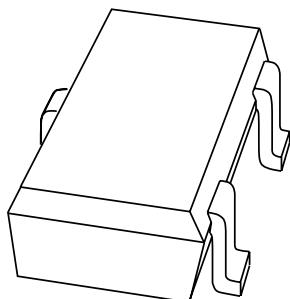
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If you have any questions related to the data sheet, please contact our nearest sales office via e-mail or telephone (details via salesaddresses@nexperia.com). Thank you for your cooperation and understanding,

Kind regards,

Team Nexperia

DATA SHEET



**1PS70SB82; 1PS70SB84;
1PS70SB85; 1PS70SB86**
Schottky barrier (double) diodes

Product data sheet

2001 Jan 18

Schottky barrier (double) diodes**1PS70SB82; 1PS70SB84;
1PS70SB85; 1PS70SB86****FEATURES**

- Low forward voltage
- Very small SMD plastic package
- Low diode capacitance.

APPLICATIONS

- UHF mixers
- Sampling circuits
- Modulators
- Phase detectors.

DESCRIPTION

Planar Schottky barrier diodes encapsulated in a SOT323 (SC-70) very small plastic SMD package. Single diodes and double diodes with different pinning are available. ESD sensitive device, observe handling precautions.

MARKING

TYPE NUMBER	MARKING CODE
1PS70SB82	88
1PS70SB84	87
1PS70SB85	85
1PS70SB86	86

PINNING

PIN	SYMBOL
1PS70SB82	
1	a
2	n.c.
3	k
1PS70SB84	
1	a ₁
2	k ₂
3	k ₁ and a ₂
1PS70SB85	
1	a ₁
2	a ₂
3	k ₁ and k ₂
1PS70SB86	
1	k ₁
2	k ₂
3	a ₁ and a ₂

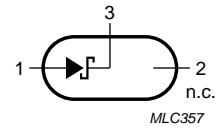


Fig.2 1PS70SB82 single diode configuration (symbol).

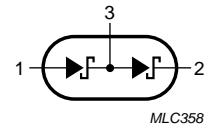


Fig.3 1PS70SB84 diode configuration (symbol).

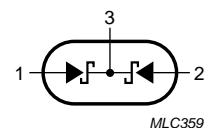


Fig.4 1PS70SB85 diode configuration (symbol).

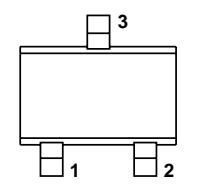


Fig.1 Simplified outline (SOT323; SC-70) and pin configuration.

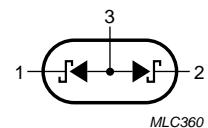


Fig.5 1PS70SB86 diode configuration (symbol).

Schottky barrier (double) diodes

1PS70SB82; 1PS70SB84;
1PS70SB85; 1PS70SB86**LIMITING VALUES**

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
Per diode				
V_R	continuous reverse voltage	–	15	V
I_F	continuous forward current	–	30	mA
T_{stg}	storage temperature	–65	+150	°C
T_j	junction temperature	–	125	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	625	K/W

Note

- Refer to (SOT323; SC-70) standard mounting conditions.

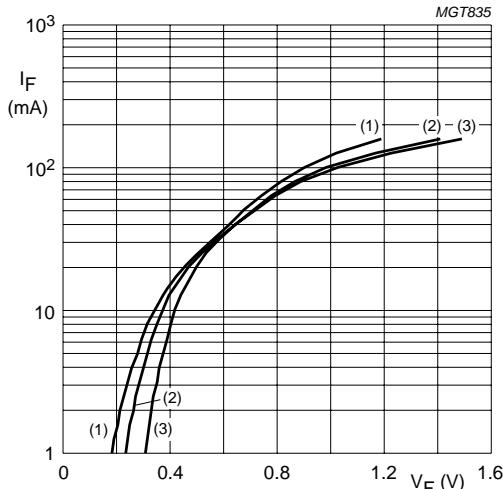
ELECTRICAL CHARACTERISTICS $T_{amb} = 25$ °C; unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
Per diode					
V_F	forward voltage	see Fig.6 $I_F = 1$ mA $I_F = 30$ mA	– –	340 700	mV mV
r_D	differential diode forward resistance	$f = 1$ MHz; $I_F = 5$ mA; see Fig.9	12	–	Ω
I_R	continuous reverse current	$V_R = 1$ V; note 1; see Fig.7	–	0.2	μA
C_d	diode capacitance	$V_R = 0$; $f = 1$ MHz; see Fig.8	1	–	pF

Note

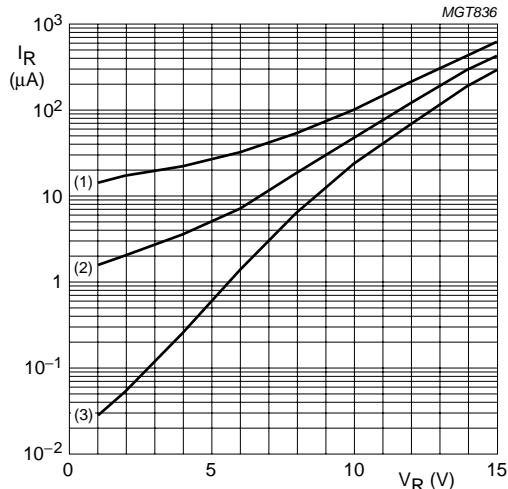
- Pulsed test: $t_p = 300$ μs; $\delta = 0.02$.

Schottky barrier (double) diodes

1PS70SB82; 1PS70SB84;
1PS70SB85; 1PS70SB86

- (1) $T_{amb} = 125\text{ }^{\circ}\text{C}$.
- (2) $T_{amb} = 85\text{ }^{\circ}\text{C}$.
- (3) $T_{amb} = 25\text{ }^{\circ}\text{C}$.

Fig.6 Forward current as a function of forward voltage; typical values.



- (1) $T_{amb} = 125\text{ }^{\circ}\text{C}$.
- (2) $T_{amb} = 85\text{ }^{\circ}\text{C}$.
- (3) $T_{amb} = 25\text{ }^{\circ}\text{C}$.

Fig.7 Reverse current as a function of reverse voltage; typical values.

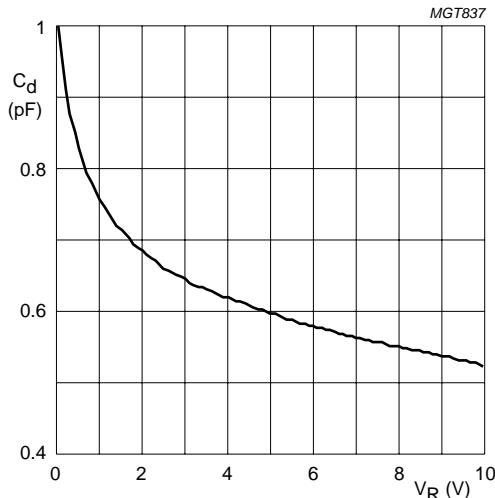
 $f = 1\text{ MHz}; T_{amb} = 25\text{ }^{\circ}\text{C}$.

Fig.8 Diode capacitance as a function of reverse voltage; typical values.

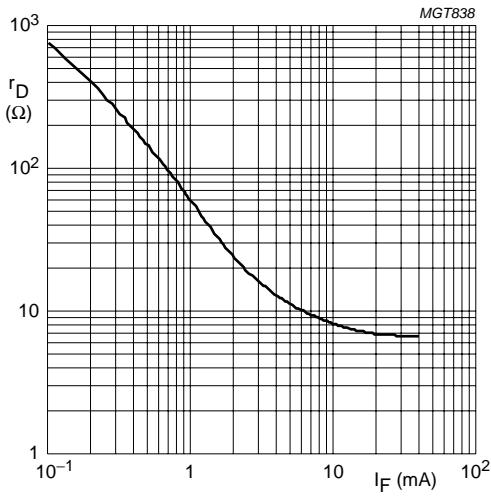
 $f = 1\text{ MHz}; T_{amb} = 25\text{ }^{\circ}\text{C}$.

Fig.9 Differential diode forward resistance as a function of forward current; typical values.

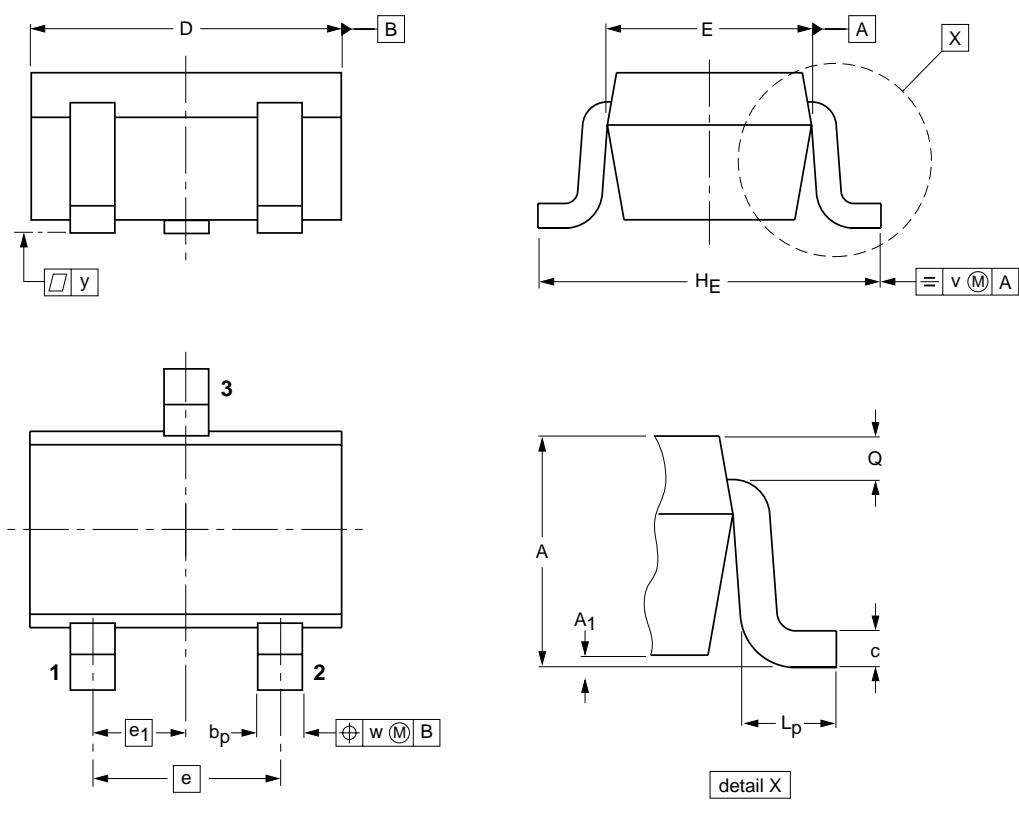
Schottky barrier (double) diodes

1PS70SB82; 1PS70SB84;
1PS70SB85; 1PS70SB86

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT323



0 1 2 mm
scale

DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.8	0.1	0.4 0.3	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.23 0.13	0.2	0.2

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ	SC-70		
SOT323						97-02-28

Schottky barrier (double) diodes

1PS70SB82; 1PS70SB84;
1PS70SB85; 1PS70SB86**DATA SHEET STATUS**

DOCUMENT STATUS⁽¹⁾	PRODUCT STATUS⁽²⁾	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.

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2. The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL <http://www.nxp.com>.

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NXP Semiconductors

Customer notification

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Contact information

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