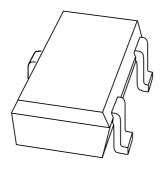
DISCRETE SEMICONDUCTORS

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	2			
1	а			
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			

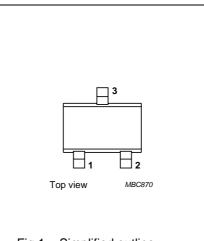


Fig.1 Simplified outline (SOT323; SC-70) and pin configuration.

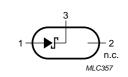


Fig.2 1PS70SB82 single diode configuration (symbol).

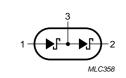


Fig.3 1PS70SB84 diode configuration (symbol).

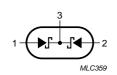


Fig.4 1PS70SB85 diode configuration (symbol).

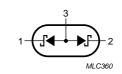


Fig.5 1PS70SB86 diode configuration (symbol).

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	٧
I _F	continuous forward current	_	30	mA
T _{stg}	storage temperature	-65	+150	°C
Tj	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

1. 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	_	340	mV
		$I_F = 30 \text{ mA}$	_	700	mV
r _D	differential diode forward resistance	$f = 1 \text{ MHz}$; $I_F = 5 \text{ mA}$; see Fig.9	12	_	Ω
I _R	continuous reverse current	V _R = 1 V; note 1; see Fig.7	-	0.2	μΑ
C _d	diode capacitance	V _R = 0; f = 1 MHz; see Fig.8	1	_	pF

Note

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

Schottky barrier (double) diodes

1PS70SB82; 1PS70SB84; 1PS70SB85; 1PS70SB86

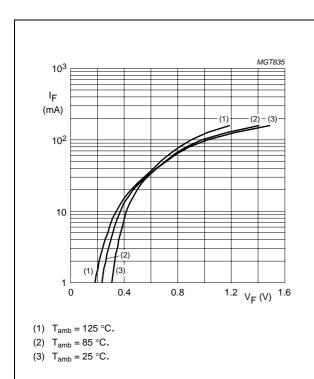
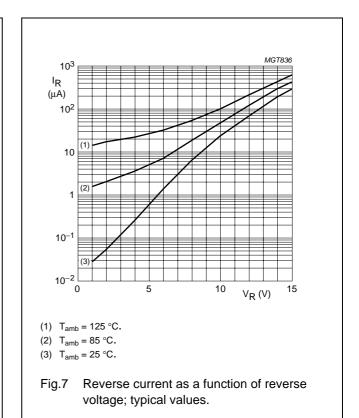
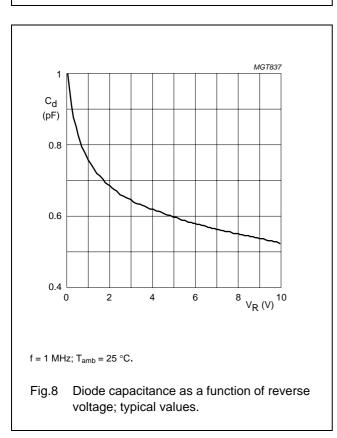
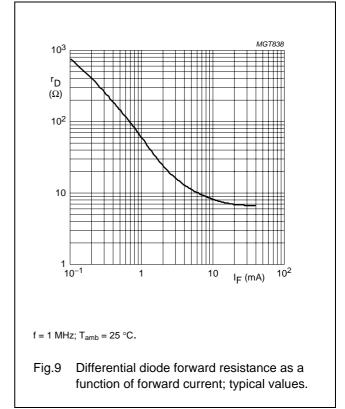


Fig.6 Forward current as a function of forward voltage; typical values.







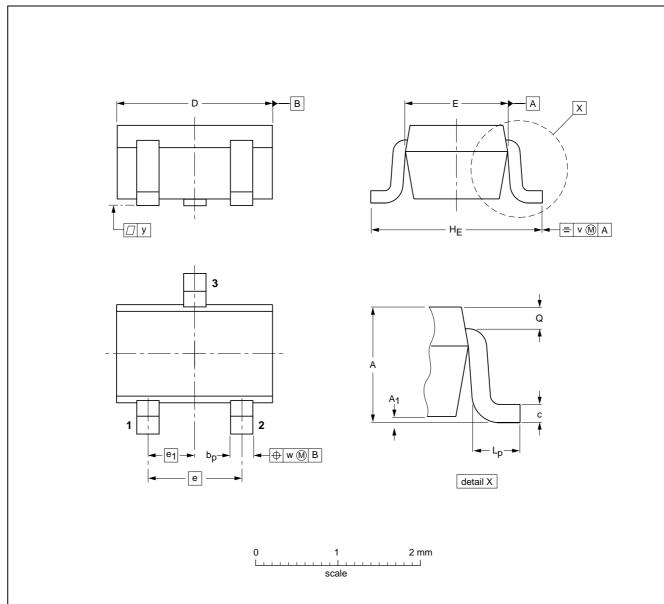
Schottky barrier (double) diodes

1PS70SB82; 1PS70SB84; 1PS70SB85; 1PS70SB86

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max	bp	С	D	E	е	e ₁	HE	Lp	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		REFER	EUROPEAN ISSUE DATE			
VERSION	IEC	JEDEC	EIAJ		PROJECTION	ISSUE DATE
SOT323			SC-70			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.

Notes

- 1. Please consult the most recently issued document before initiating or completing a design.
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