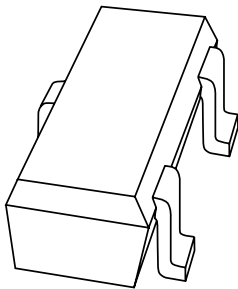


# DATA SHEET



## **1PS59SB20** Schottky barrier diode

Product data sheet

1998 Jul 28

Schottky barrier diode

1PS59SB20

FEATURES

- Ultra fast switching speed
- Low forward voltage
- Guard ring protected
- Small SMD package.

APPLICATIONS

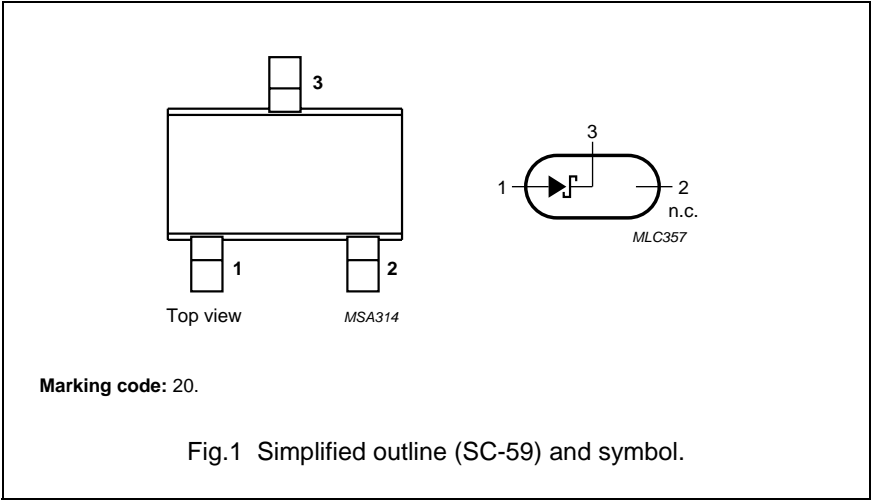
- High-speed switching
- Voltage clamping
- Protection circuits.

PINNING

PIN	DESCRIPTION
1	anode
2	not connected
3	cathode

DESCRIPTION

Planar Schottky barrier diode with an integrated guard ring for stress protection in an SC-59 small SMD plastic package.



LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
$V_R$	continuous reverse voltage	—	40	V
$I_F$	continuous forward current	—	500	mA
$I_{FSM}$	non-repetitive peak forward current	—	2	A
$T_{stg}$	storage temperature	−65	+150	°C
$T_j$	junction temperature	—	125	°C

**Schottky barrier diode****1PS59SB20****ELECTRICAL CHARACTERISTICS** $T_j = 25\text{ }^{\circ}\text{C}$  unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_F$	forward voltage	$I_F = 500\text{ mA}$ ; see Fig.2	–	550	mV
$I_R$	reverse current	$V_R = 35\text{ V}$ ; see Fig.3	–	100	$\mu\text{A}$
		$V_R = 35\text{ V}$ ; $T_j = 100\text{ }^{\circ}\text{C}$ ; see Fig.3	–	10	mA
$C_d$	diode capacitance	$f = 1\text{ MHz}$ ; $V_R = 0$ ; see Fig.4	60	90	pF

**THERMAL CHARACTERISTICS**

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

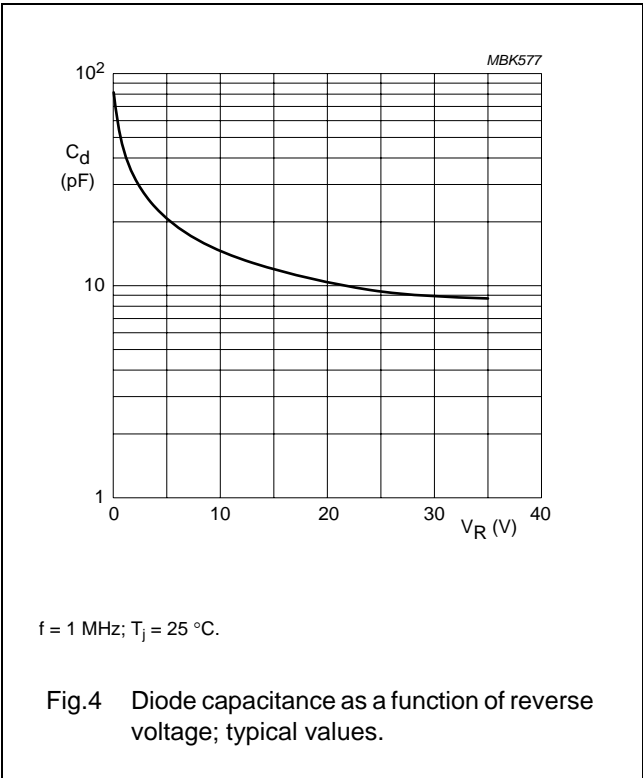
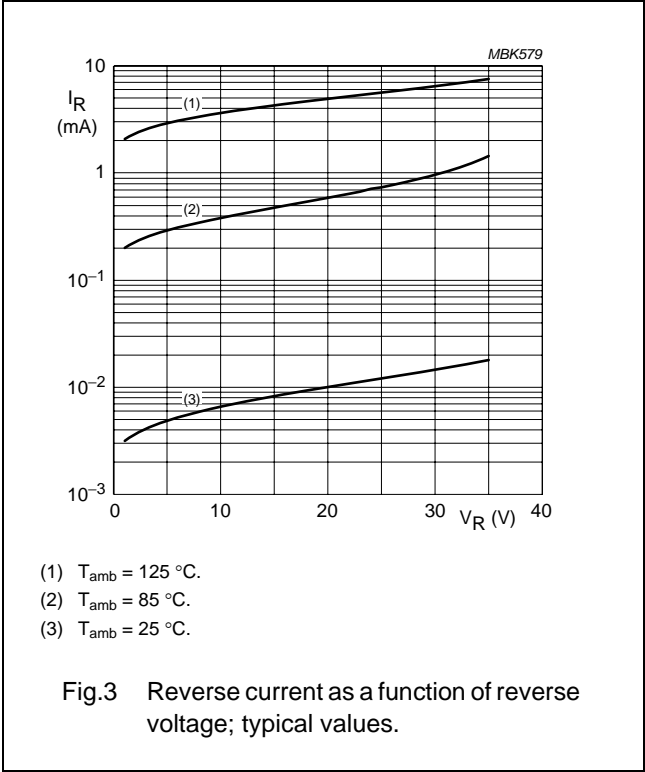
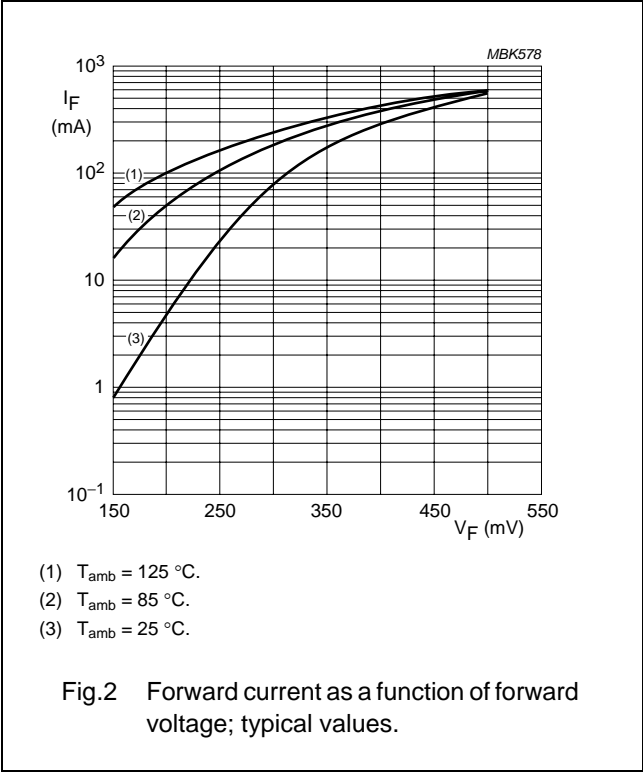
**Note**

1. Refer to SC-59 standard mounting conditions.

Schottky barrier diode

1PS59SB20

GRAPHICAL DATA



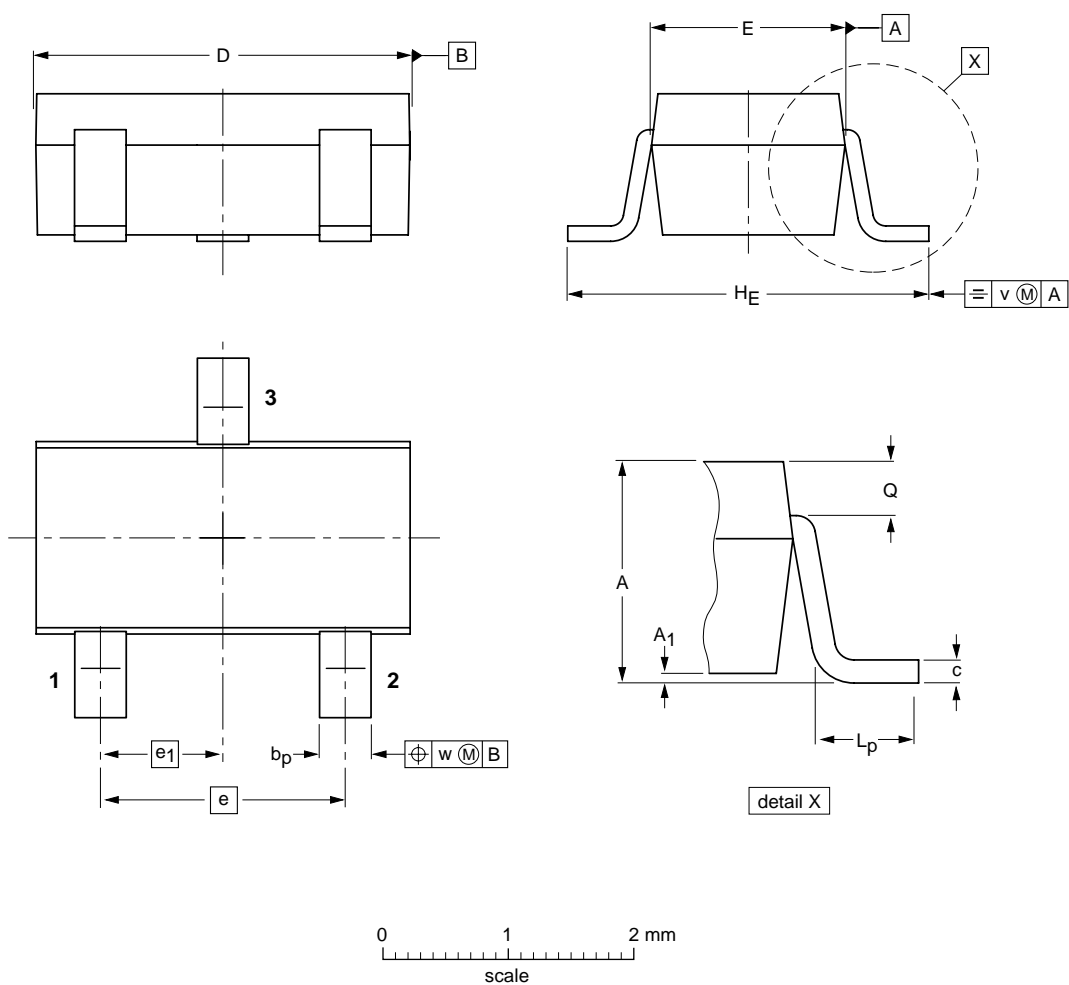
Schottky barrier diode

1PS59SB20

PACKAGE OUTLINE


Plastic surface mounted package; 3 leads

SOT346



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub>	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.3 1.0	0.1 0.013	0.50 0.35	0.26 0.10	3.1 2.7	1.7 1.3	1.9	0.95	3.0 2.5	0.6 0.2	0.33 0.23	0.2	0.2

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT346		TO-236	SC-59			98-07-17

## Schottky barrier diode

## 1PS59SB20

## 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.

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## **Customer notification**

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## **Contact information**

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