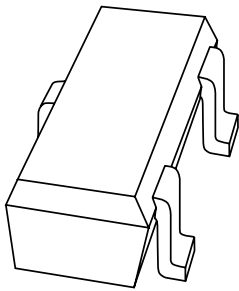


DATA SHEET



1PS59SB20

Schottky barrier diode

Schottky barrier diode

1PS59SB20

FEATURES

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

APPLICATIONS

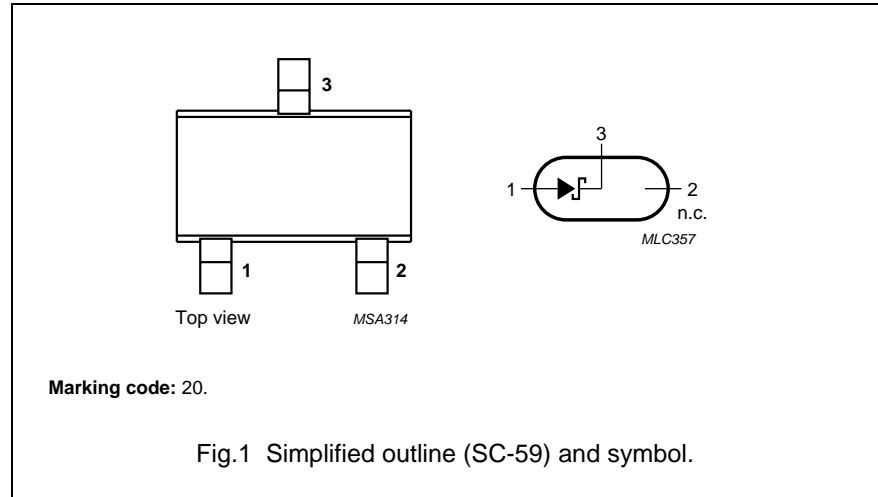
- High-speed switching
- Voltage clamping
- Protection circuits.

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

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ELECTRICAL CHARACTERISTICS $T_j = 25\text{ °C}$ 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	μA
		$V_R = 35\text{ V}$; $T_j = 100\text{ °C}$; 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

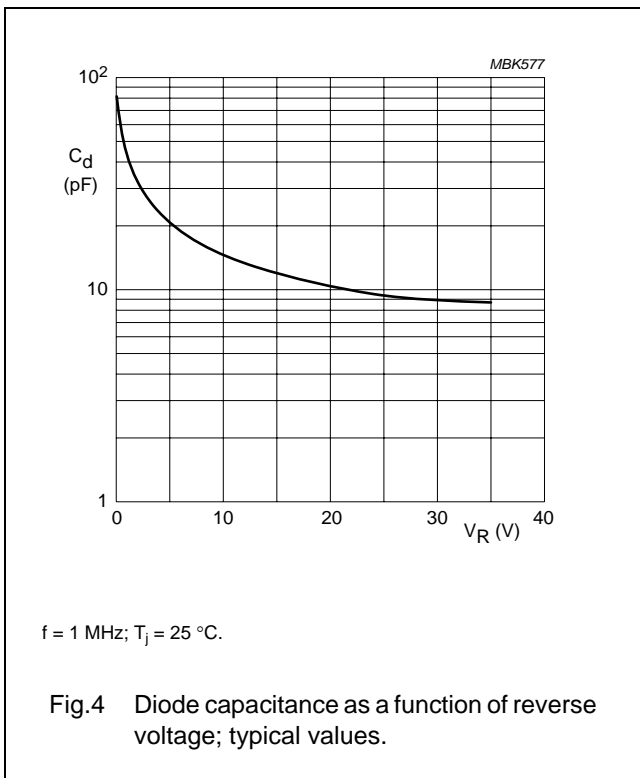
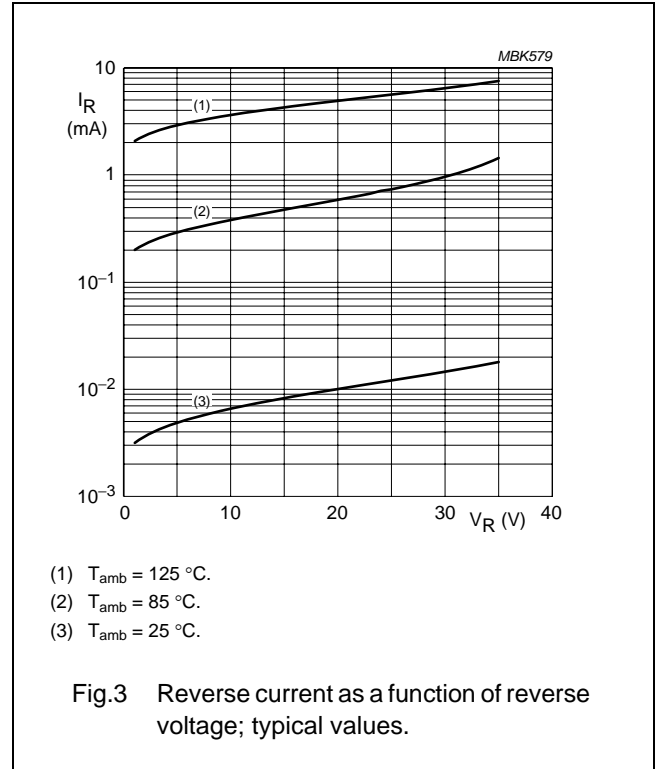
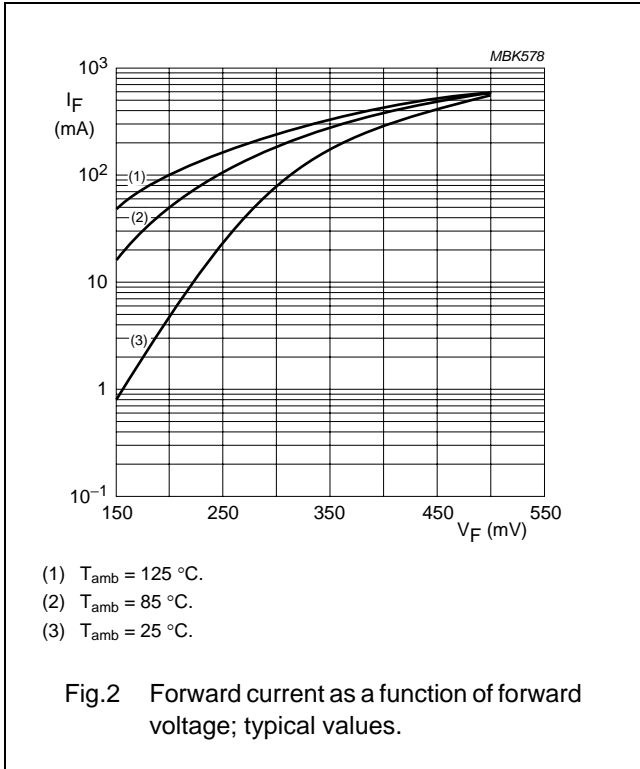
Note

1. Refer to SC-59 standard mounting conditions.

Schottky barrier diode

1PS59SB20

GRAPHICAL DATA



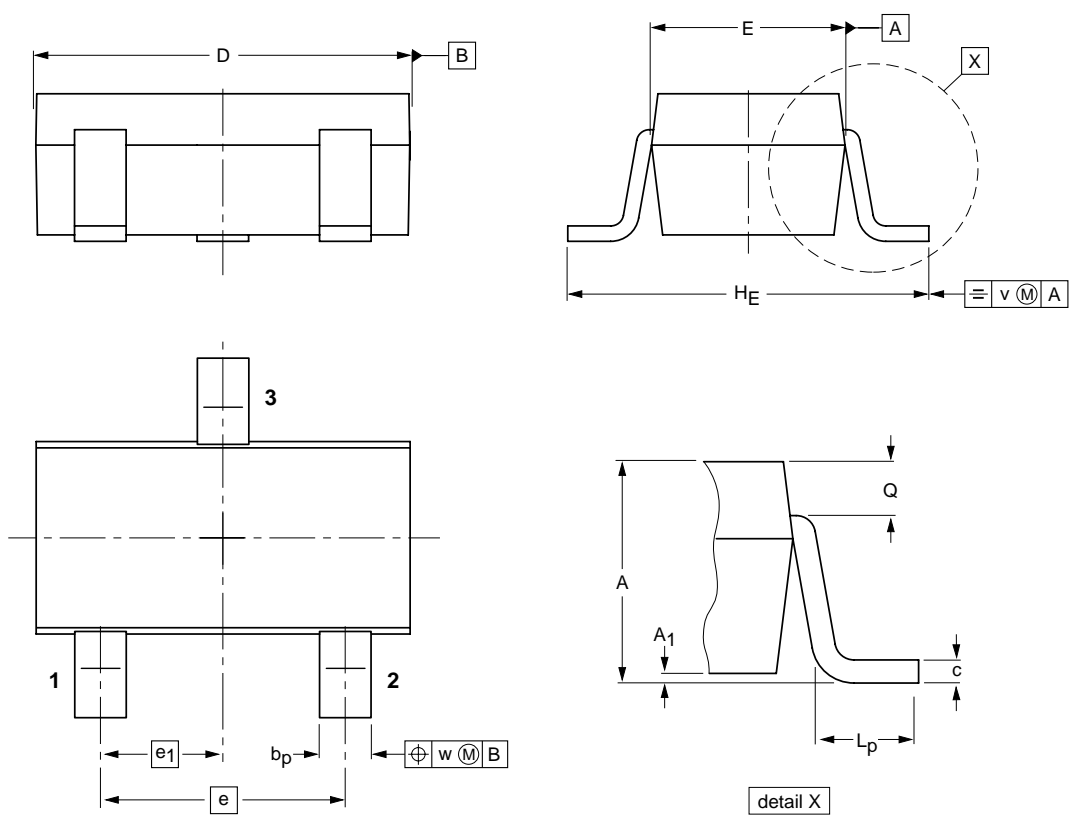
Schottky barrier diode

1PS59SB20

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT346



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁	b _p	c	D	E	e	e ₁	H _E	L _p	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 ⁽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.
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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