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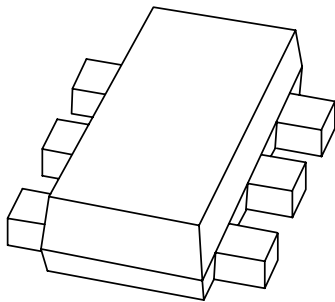
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Kind regards,

Team Nexperia

# DATA SHEET



## **BAT960** Schottky barrier diode

Product data sheet  
Supersedes data of 2002 Jun 24

2003 May 01

## Schottky barrier diode

## BAT960

## FEATURES

- High current capability
- Very low forward voltage
- Ultra small plastic SMD package
- Flat leads: excellent coplanarity and improved thermal behaviour.

## APPLICATIONS

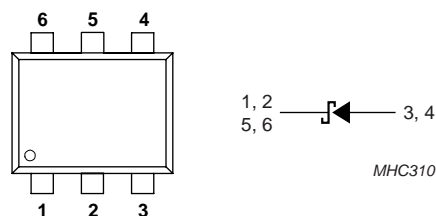
- Ultra high-speed switching
- rectification
- DC/DC conversion
- Switch mode power supply
- Inverse polarity protection.

## GENERAL DESCRIPTION

Planar Schottky barrier diode with an integrated guard ring for stress protection in a SOT666 ultra small SMD plastic package.

## PINNING

PIN	DESCRIPTION
1	cathode
2	cathode
3	anode
4	anode
5	cathode
6	cathode



Marking code: B9.

Fig.1 Simplified outline (SOT666) and symbol.

## LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_R$	continuous reverse voltage		–	23	V
$I_F$	continuous forward current		–	1	A
$I_{FSM}$	non-repetitive peak forward current	$t = 8.3$ ms half sinewave; JEDEC method; note 1	–	8	A
$T_{stg}$	storage temperature		–65	+150	°C
$T_j$	junction temperature		–	125	°C
$T_{amb}$	operating ambient temperature		–65	+125	°C

## Note

1. Only valid, if pins 3 and 4 are connected in parallel.

## Schottky barrier diode

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## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	405	K/W
		note 2	215	K/W

## Notes

1. Refer to SOT666 standard mounting conditions.
2. Mounted on printed circuit-board, 1 cm<sup>2</sup> copper area.

## Soldering

The only recommended soldering method is reflow soldering.

## CHARACTERISTICS

$T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
$V_F$	continuous forward voltage	$I_F = 10\text{ mA}$	240	270	mV
		$I_F = 100\text{ mA}$	300	350	mV
		$I_F = 1000\text{ mA}$ ; note 1; see Fig.2	480	550	mV
$I_R$	reverse current	$V_R = 5\text{ V}$ ; note 2	5	10	$\mu\text{A}$
		$V_R = 8\text{ V}$ ; note 2	7	20	$\mu\text{A}$
		$V_R = 15\text{ V}$ ; note 2; see Fig.3	10	50	$\mu\text{A}$
$C_d$	diode capacitance	$V_R = 5\text{ V}$ ; $f = 1\text{ MHz}$ ; see Fig.4	19	25	pF

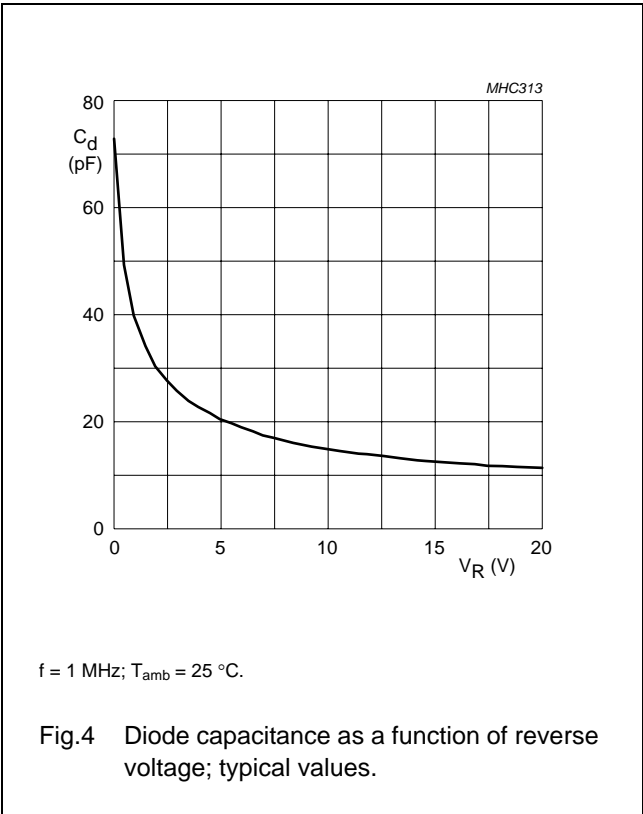
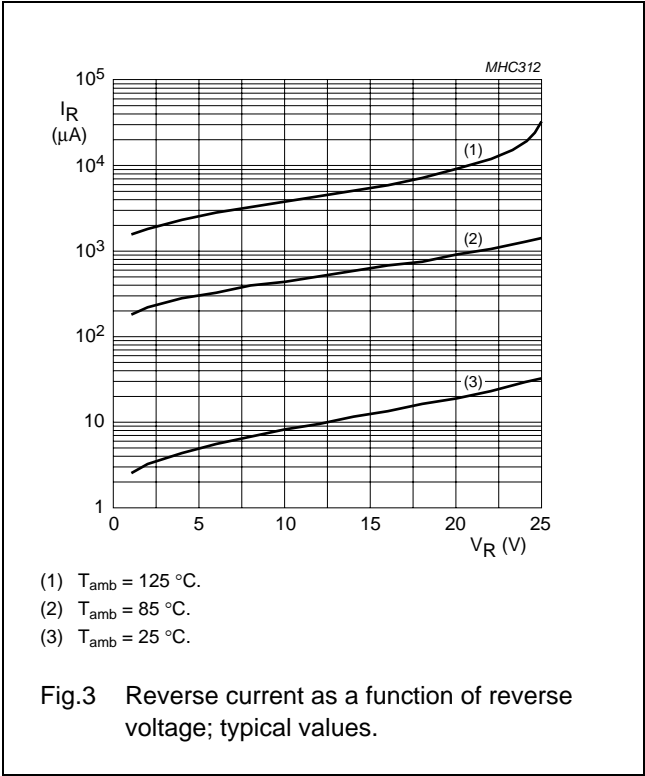
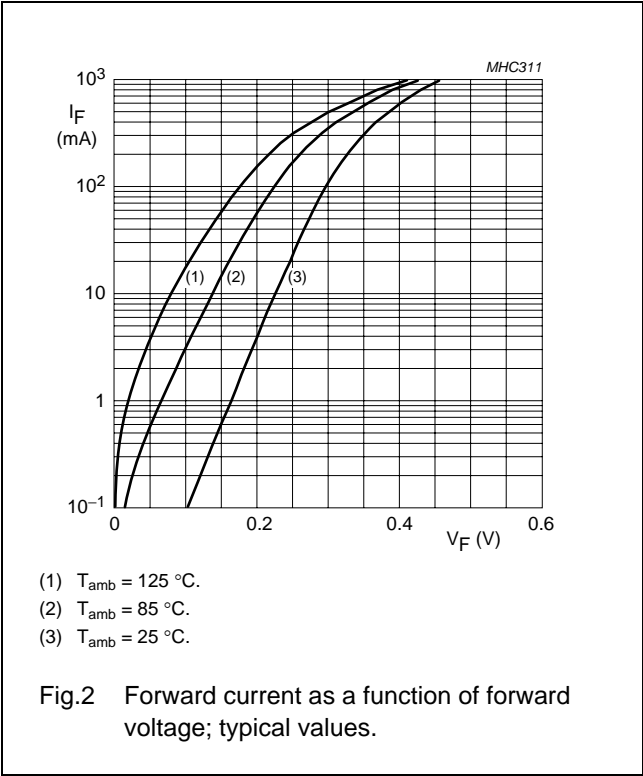
## Notes

1. Only valid, if pins 1, 2, 5 and 6 are soldered on a 1 cm<sup>2</sup> copper solder land.
2. Pulse test:  $t_p = 300\text{ }\mu\text{s}$ ;  $\delta = 0.02$ .

Schottky barrier diode

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GRAPHICAL DATA



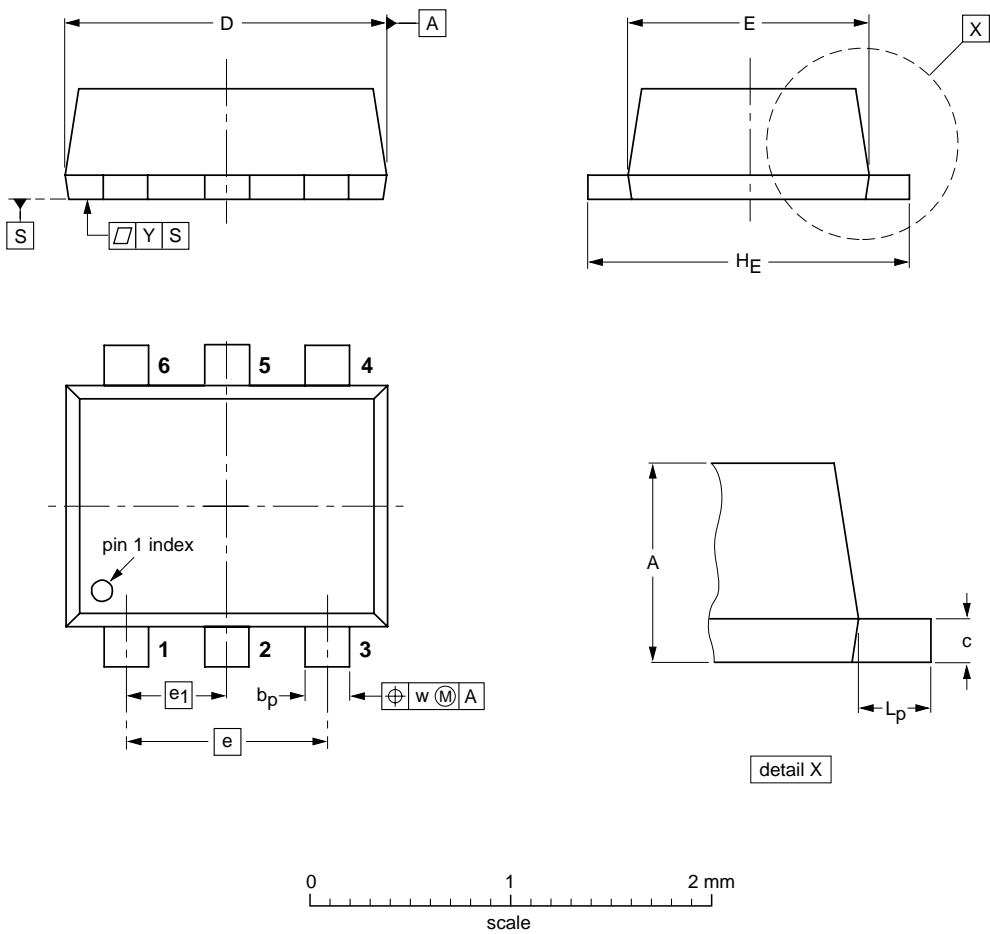
Schottky barrier diode

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PACKAGE OUTLINE


Plastic surface mounted package; 6 leads

SOT666



DIMENSIONS (mm are the original dimensions)

UNIT	A	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	w	y
mm	0.6 0.5	0.27 0.17	0.18 0.08	1.7 1.5	1.3 1.1	1.0	0.5	1.7 1.5	0.3 0.1	0.1	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT666						-01-01-04- 01-08-27

## Schottky barrier diode

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## 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.

## Notes

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# ***NXP Semiconductors***

## **Customer notification**

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## **Contact information**

For additional information please visit: **<http://www.nxp.com>**

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