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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](mailto:salesaddresses@nexperia.com)). Thank you for your cooperation and understanding,

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

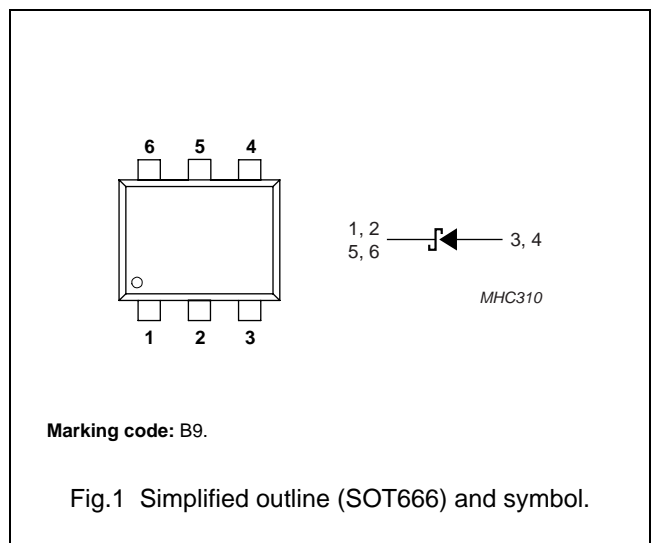
- Ultra high-speed switching
- rectification
- DC/DC conversion
- Switch mode power supply
- Inverse polarity protection.

### 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



### 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

BAT960

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R <sub>th j-a</sub>	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<sub>amb</sub> = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
V <sub>F</sub>	continuous forward voltage	I <sub>F</sub> = 10 mA	240	270	mV
		I <sub>F</sub> = 100 mA	300	350	mV
		I <sub>F</sub> = 1000 mA; note 1; see Fig.2	480	550	mV
I <sub>R</sub>	reverse current	V <sub>R</sub> = 5 V; note 2	5	10	μA
		V <sub>R</sub> = 8 V; note 2	7	20	μA
		V <sub>R</sub> = 15 V; note 2; see Fig.3	10	50	μA
C <sub>d</sub>	diode capacitance	V <sub>R</sub> = 5 V; f = 1 MHz; see Fig.4	19	25	pF

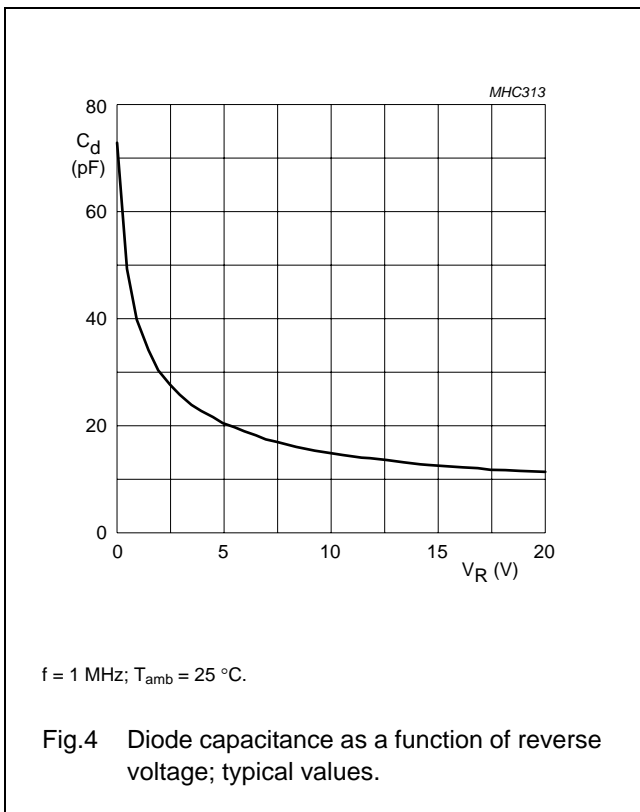
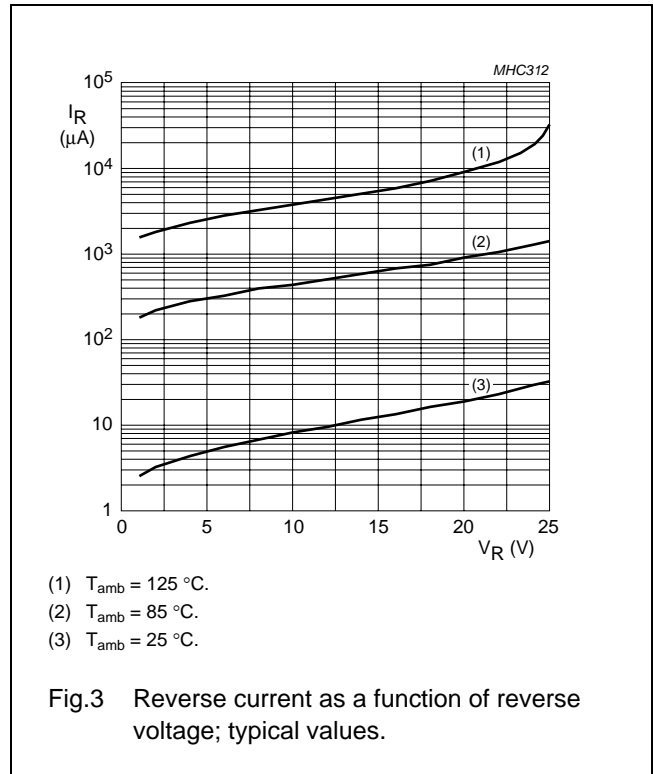
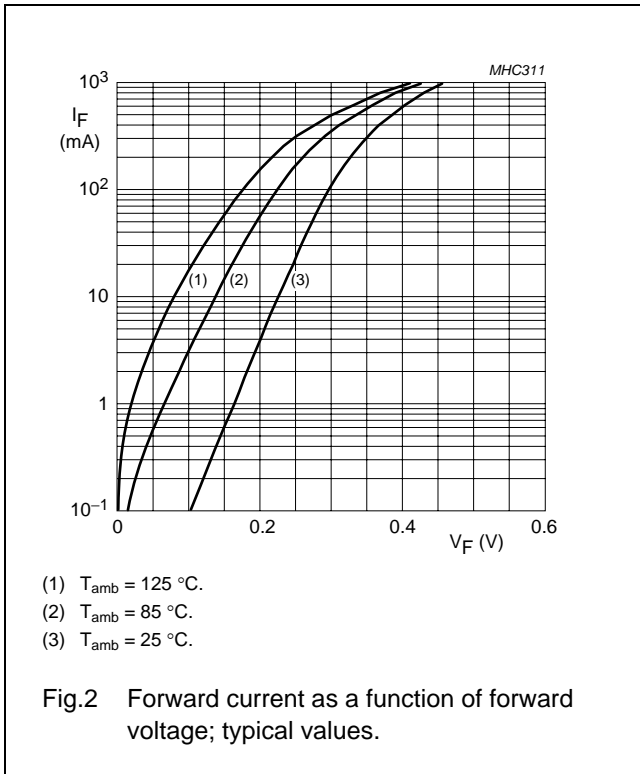
## Notes

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<sub>p</sub> = 300 μs; δ = 0.02.

Schottky barrier diode

BAT960

GRAPHICAL DATA



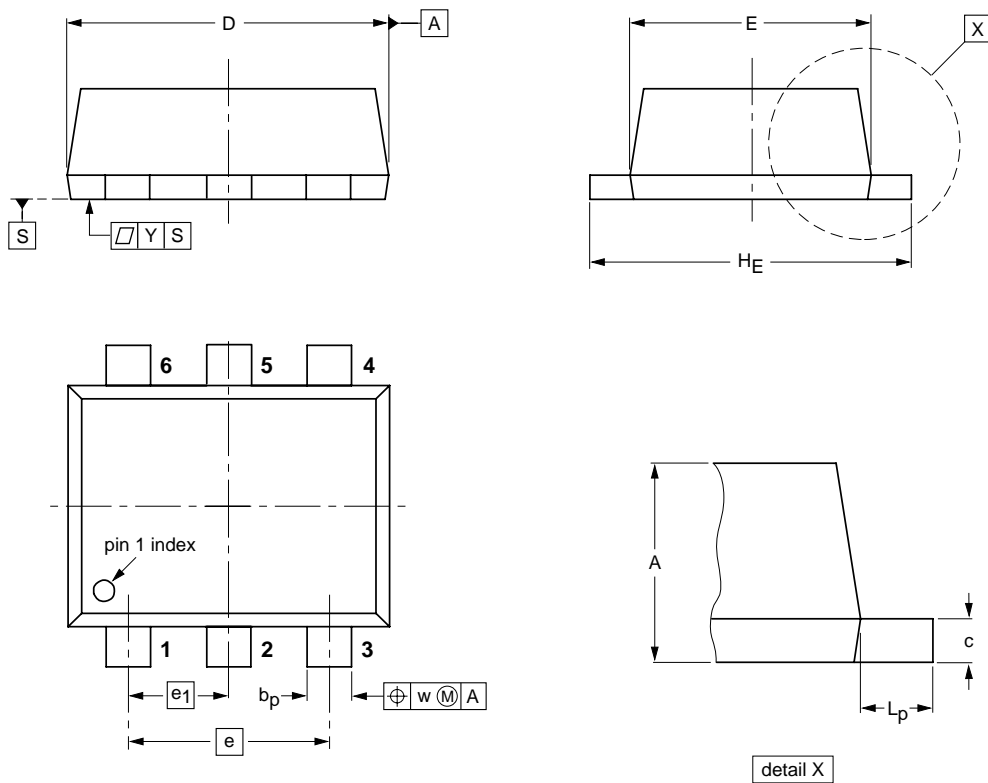
# Schottky barrier diode

# BAT960

## PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT666



**DIMENSIONS (mm are the original dimensions)**

UNIT	A	$b_p$	c	D	E	e	$e_1$	$H_E$	$L_p$	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

BAT960

## 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

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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# ***NXP Semiconductors***

## **Customer notification**

This data sheet was changed to reflect the new company name NXP Semiconductors. No changes were made to the content, except for the legal definitions and disclaimers.

## **Contact information**

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

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