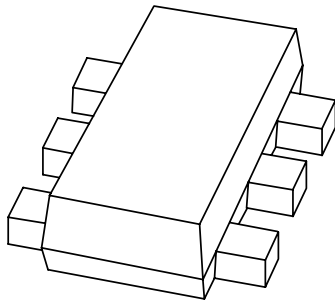


DATA SHEET



BAT960 Schottky barrier diode

Preliminary specification

2002 Jun 24

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

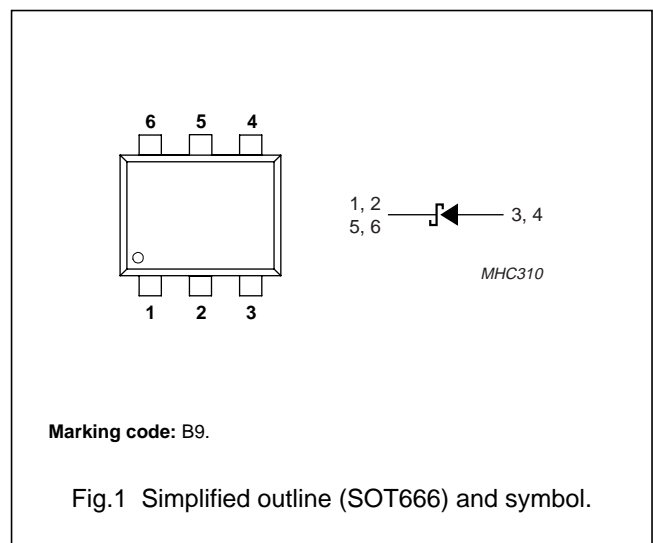
- Ultra high-speed switching
- rectification
- DC/DC conversion
- Switch mode power supply
- Inverse polarity protection.

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		–	20	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.

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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 cm² 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	μA
		$V_R = 8\text{ V}$; note 2	7	20	μA
		$V_R = 15\text{ V}$; note 2; see Fig.3	10	50	μA
C_d	diode capacitance	$V_R = 5\text{ V}$; $f = 1\text{ MHz}$; see Fig.4	19	25	pF

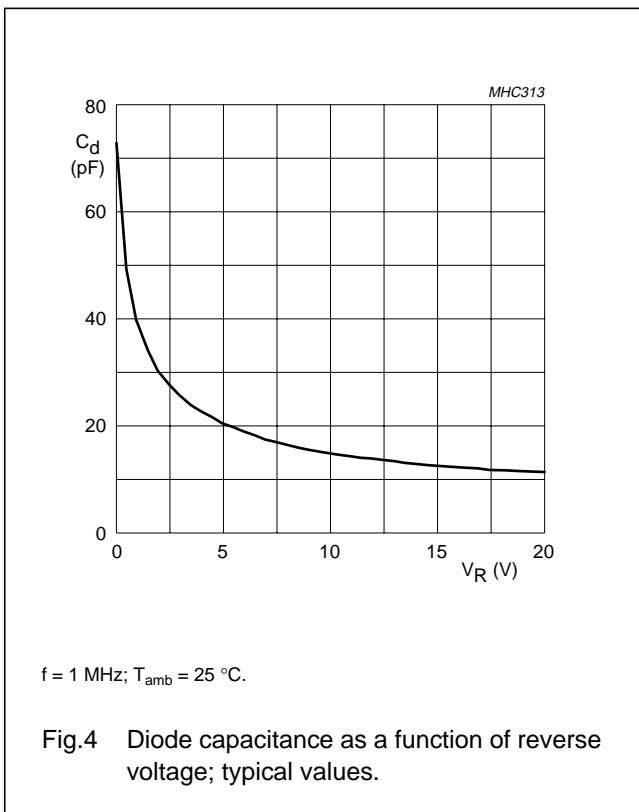
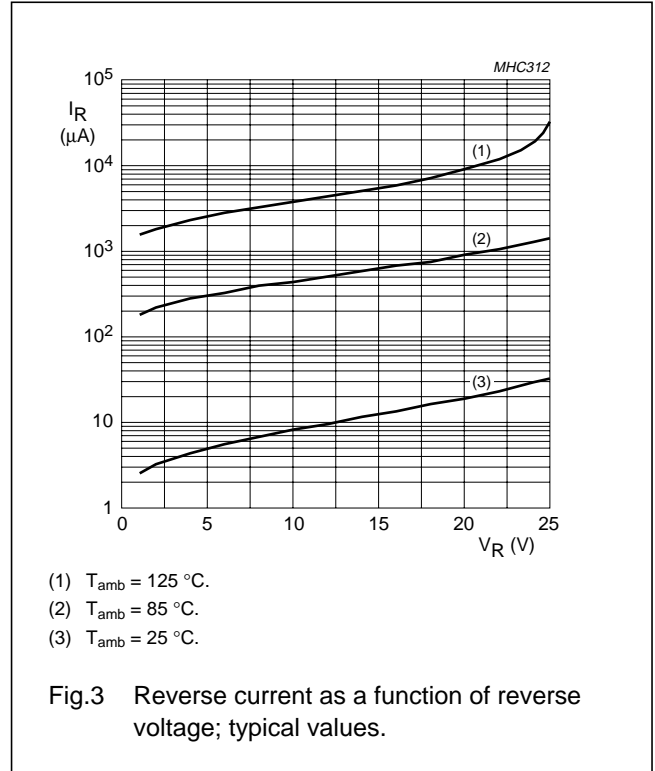
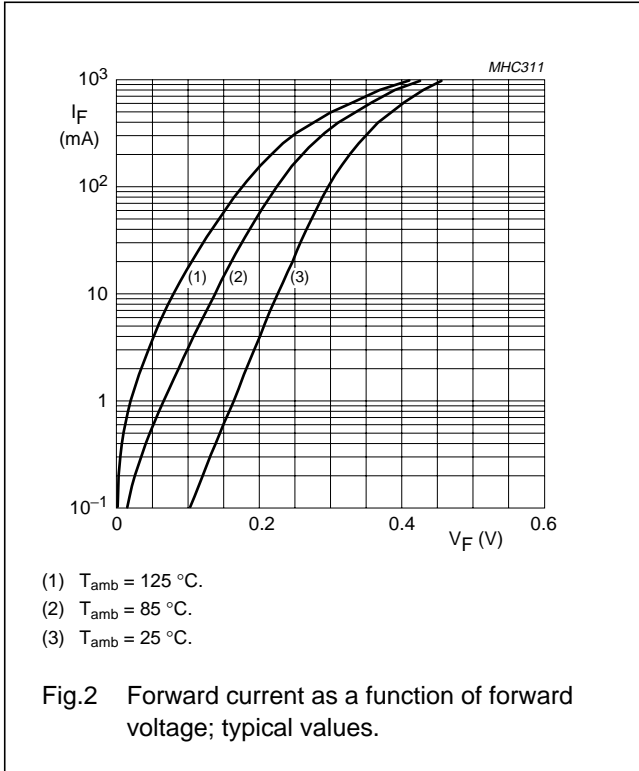
Notes

1. Only valid, if pins 1, 2, 5 and 6 are soldered on a 1 cm² copper solder land.
2. Pulse test: $t_p = 300\text{ }\mu\text{s}$; $\delta = 0.02$.

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GRAPHICAL DATA



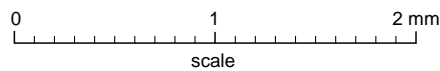
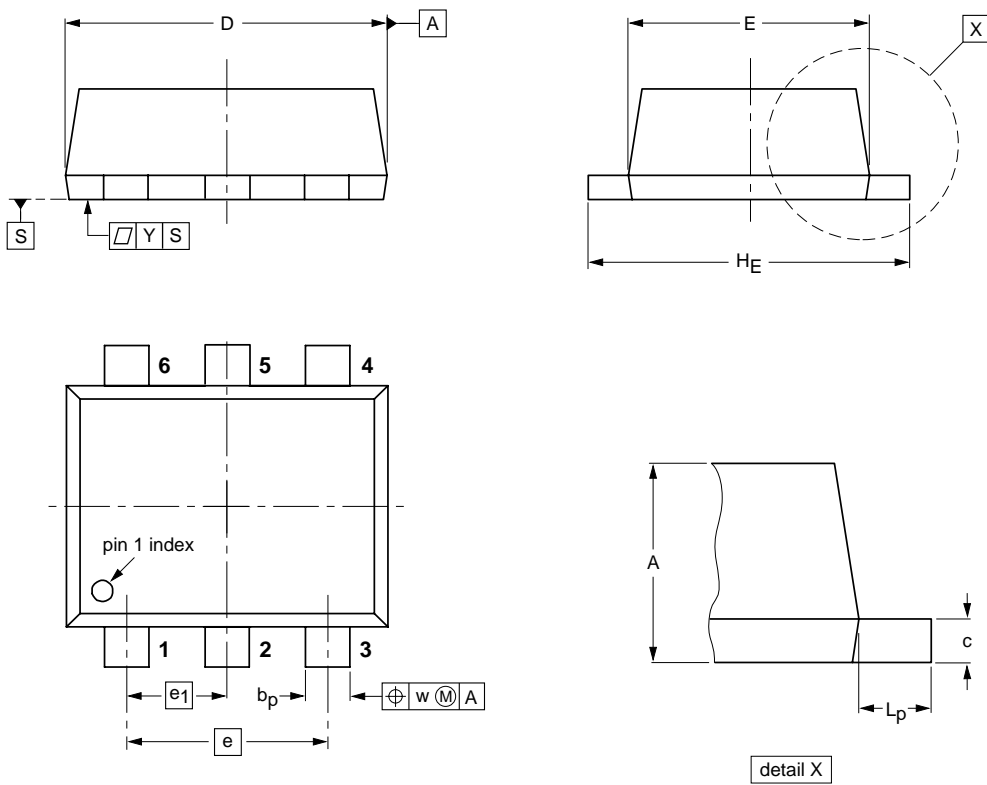
Schottky barrier diode

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PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT666



DIMENSIONS (mm are the original dimensions)

UNIT	A	b_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

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DATA SHEET STATUS

DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
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