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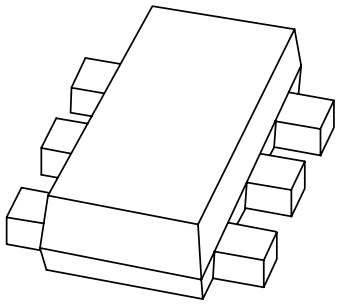
Kind regards,

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

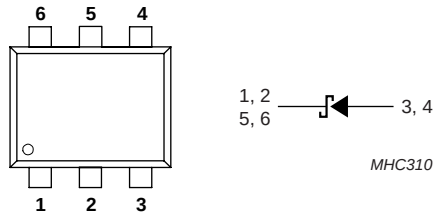
- Ultra high-speed switching
- rectification
- DC/DC conversion
- Switch mode power supply
- Inverse polarity protection.

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.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j\text{-}a}$	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^2 copper area.

Soldering

The only recommended soldering method is reflow soldering.

CHARACTERISTICS

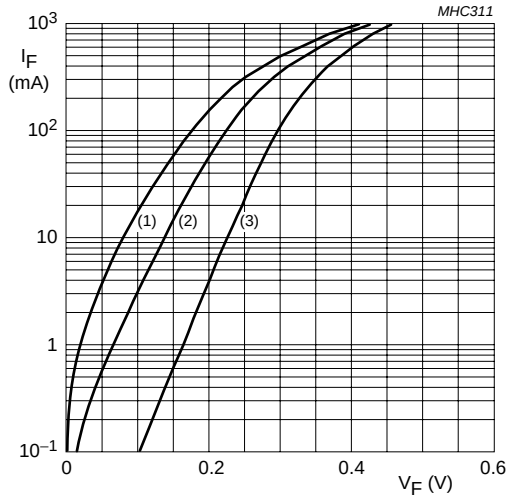
T_{amb} = 25 °C unless otherwise specified.

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

Notes

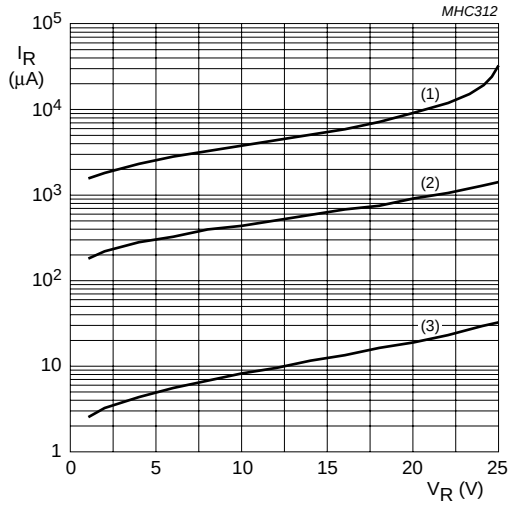
1. Only valid, if pins 1, 2, 5 and 6 are soldered on a 1 cm^2 copper solder land.
2. Pulse test: t_p = 300 μs; δ = 0.02.

GRAPHICAL DATA



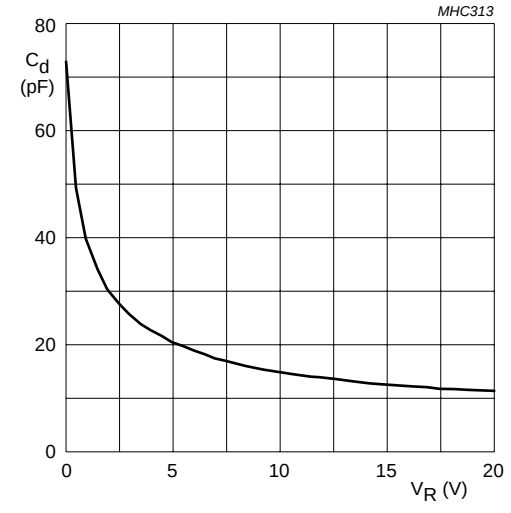
(1) T_{amb} = 125 °C.
(2) T_{amb} = 85 °C.
(3) T_{amb} = 25 °C.

Fig.2 Forward current as a function of forward voltage; typical values.



(1) T_{amb} = 125 °C.
(2) T_{amb} = 85 °C.
(3) T_{amb} = 25 °C.

Fig.3 Reverse current as a function of reverse voltage; typical values.

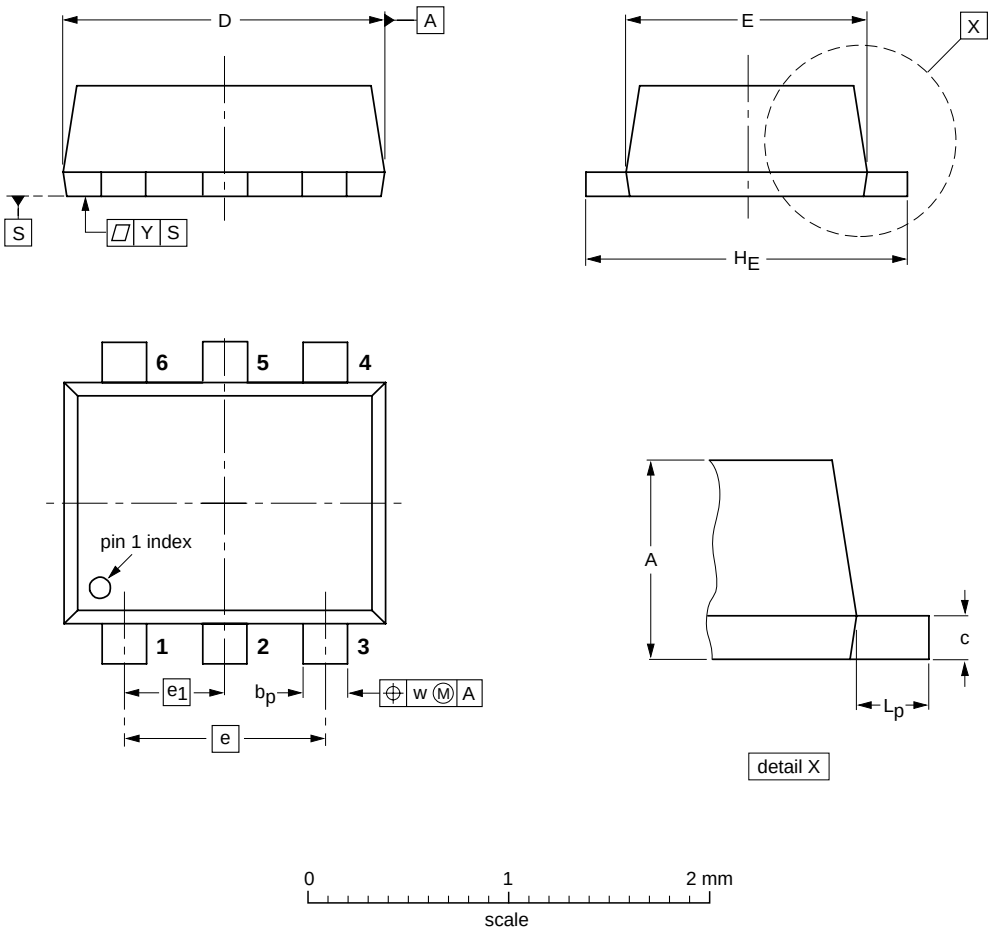


f = 1 MHz; T_{amb} = 25 °C.

Fig.4 Diode capacitance as a function of reverse voltage; typical values.

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

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

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NXP Semiconductors

Customer notification

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