

To all our customers

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Renesas Technology Corp.  
Customer Support Dept.  
April 1, 2003

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Keep safety first in your circuit designs!

1. Renesas Technology Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage.

Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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# HSB88WS

Silicon Schottky Barrier Diode for Balanced Mixer

**RENESAS**

ADE-208-026C (Z)

Rev. 3  
Aug. 2000

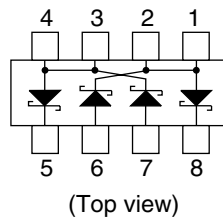
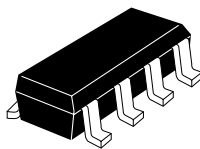
## Features

- Small  $\Delta V_F$  and  $\Delta C$ .
- Good for surface mounting on printed circuit board.
- Each diode can be biased.
- Wideband operation.

## Ordering Information

Type No.	Laser Mark	Package Code
HSB88WS	—	MOP

## Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	$V_R$	10	V
Average rectified current	$I_O^*$	15	mA
Power dissipation	$Pd^*$	150	mW
Junction temperature	Tj	125	°C
Operation temperature	Topr	-40 to +85	°C
Storage temperature	Tstg	-55 to +125	°C

Note: 4 devices total

## Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Forward voltage	$V_{F1}$	365	—	435	mV	$I_F = 1 \text{ mA}$
	$V_{F2}$	520	—	600		$I_F = 10 \text{ mA}$
Reverse current	$I_{R1}$	—	—	0.2	$\mu\text{A}$	$V_R = 2 \text{ V}$
	$I_{R2}$	—	—	10		$V_R = 10 \text{ V}$
Capacitance	C	—	—	0.85	pF	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$
Capacitance deviation	$\Delta C^{*1}$	—	—	0.2	pF	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$
Forward voltage deviation	$\Delta V_F^{*1}$	—	—	15	mV	$I_F = 10 \text{ mA}$
ESD-Capability <sup>*2</sup>	—	30	—	—	V	C = 200 pF, R = 0 $\Omega$ , Both forward and reverse direction 1 pulse.

Notes: 1. Deviation between 4 devices in one package

2. Failure criterion ;  $I_R > 0.4 \mu\text{A}$  at  $V_R = 2 \text{ V}$

Main Characteristic

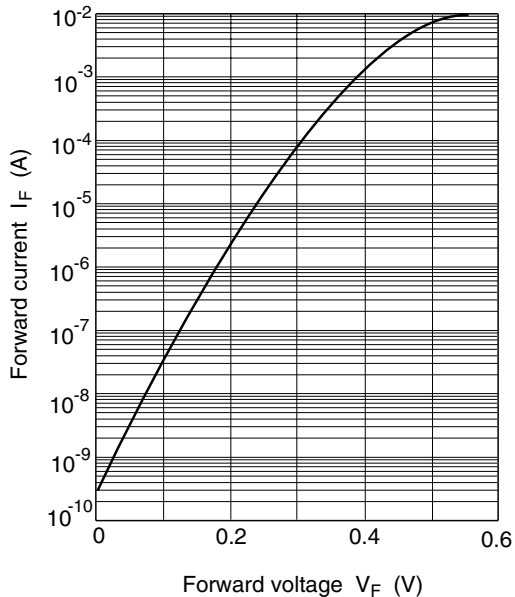


Fig.1 Forward current Vs. Forward voltage

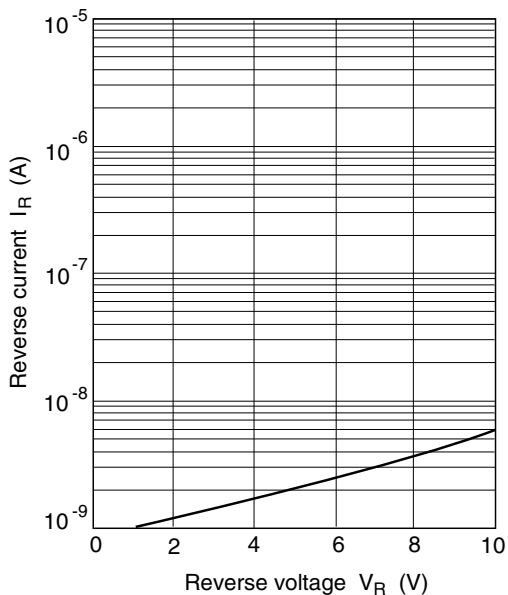


Fig.2 Reverse current Vs. Reverse voltage

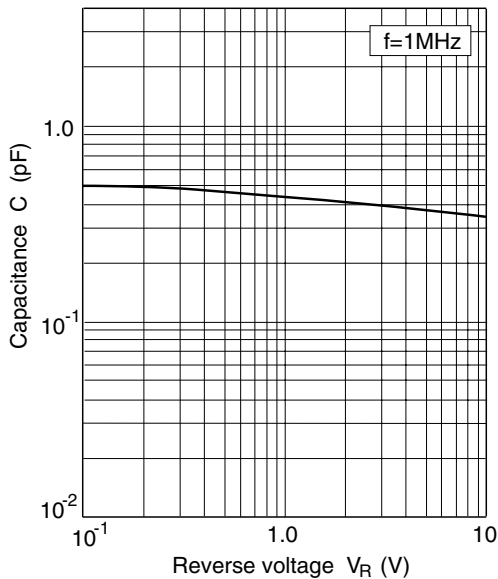
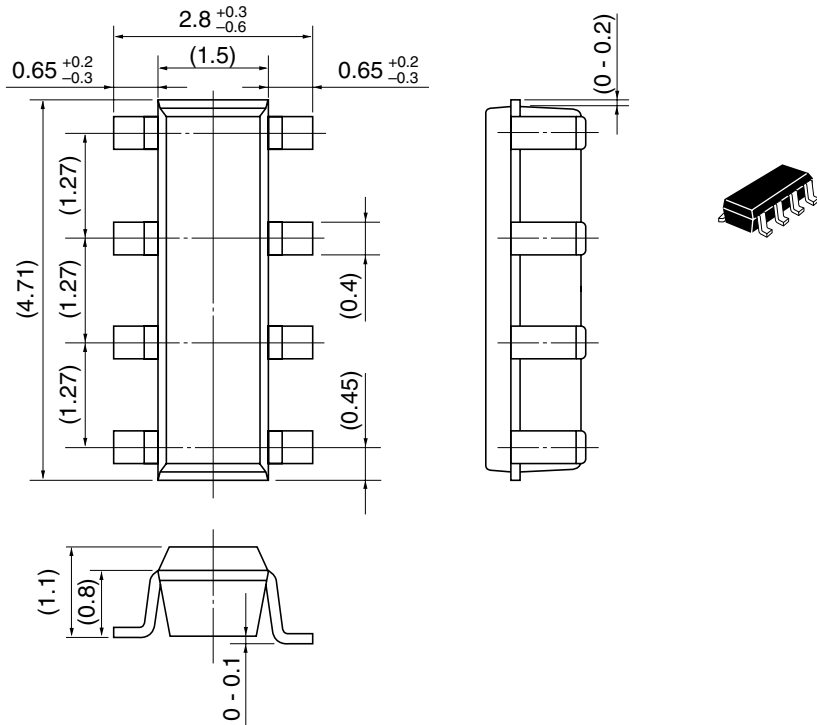


Fig.3 Capacitance Vs. Reverse voltage

## Package Dimensions

Unit: mm



Hitachi Code	MOP
JEDEC	—
EIAJ	—
Mass (reference value)	0.020 g

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