

To our customers,

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## Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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Not recommended  
for new design

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To all our customers

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

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# HVL375B

Variable Capacitance Diode for VCO

**RENESAS**

ADE-208-1565 (Z)

Rev.0  
Dec. 2002

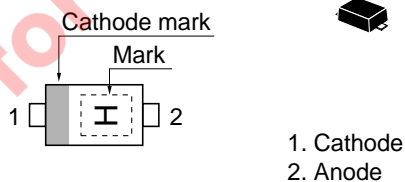
## Features

- Low tolerance.
- Low series resistance. ( $r_s = 1.1 \Omega$  max)
- Good C-V linearity.
- Extremely small Flat Package (EFP) is suitable for surface mount design.

## Ordering Information

Type No.	Laser Mark	Package Code
HVL375B	H	EFP

## Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	$V_R$	10	V
Junction temperature	Tj	125	°C
Storage temperature	Tstg	-55 to +125	°C

## Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse current	$I_{R1}$	—	—	10	nA	$V_R = 10\text{ V}$
	$I_{R2}$	—	—	100		$V_R = 10\text{ V}, T_a = 60^\circ\text{C}$
Capacitance	$C_1$	15.0	—	16.5	pF	$V_R = 1\text{ V}, f = 1\text{ MHz}$
	$C_3$	5.0	—	6.0		$V_R = 3\text{ V}, f = 1\text{ MHz}$
	$C_4$	3.3	—	4.0		$V_R = 4\text{ V}, f = 1\text{ MHz}$
Capacitance ratio	n	4.0	—	—	—	$C_1 / C_4$
Series resistance	$r_s$	—	—	1.1	$\Omega$	$V_R = 2\text{ V}, f = 470\text{ MHz}$

- Notes: 1. Please do not use the soldering iron due to avoid high stress to the EFP package.  
2. The material of lead is exposed for cutting plane. Therefore, soldering nature of lead tip part is considered as unquestioned. Please kindly consider soldering nature.

Main Characteristic

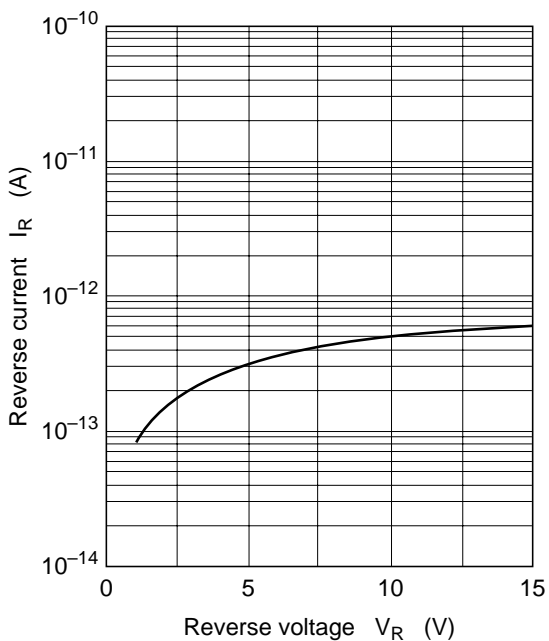


Fig.1 Reverse current vs. Reverse voltage

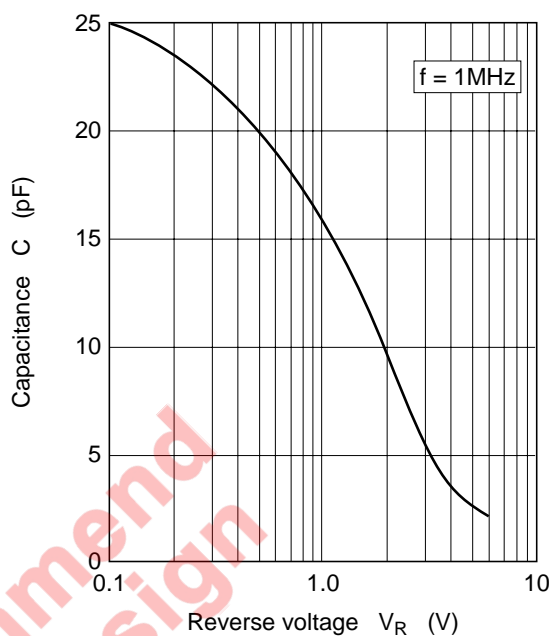


Fig.2 Capacitance vs. Reverse voltage

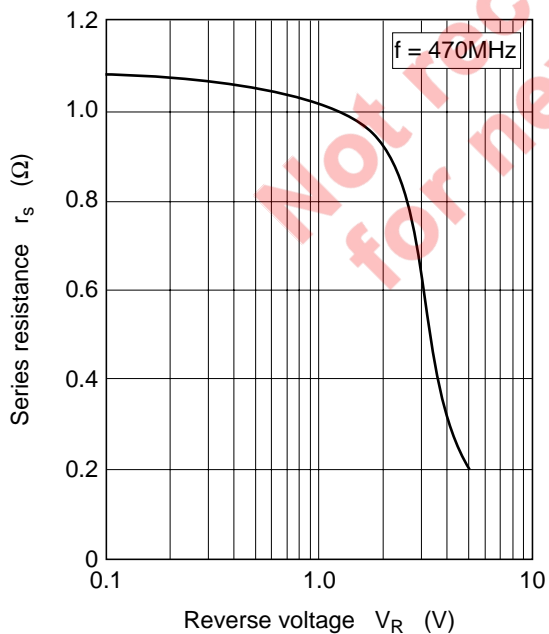


Fig.3 Series resistance vs. Reverse voltage

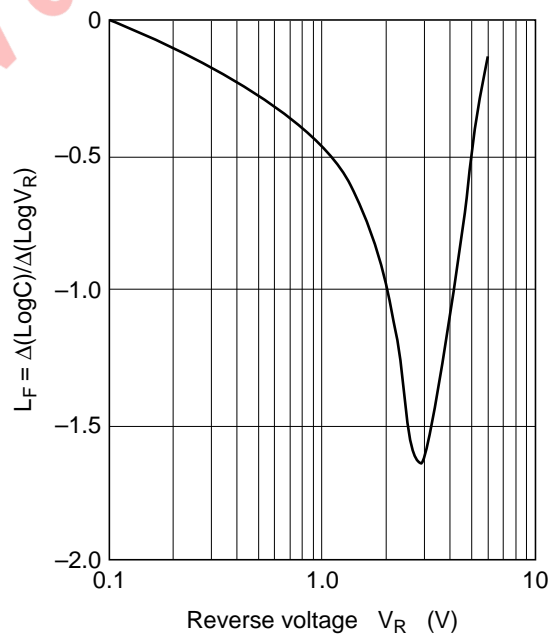
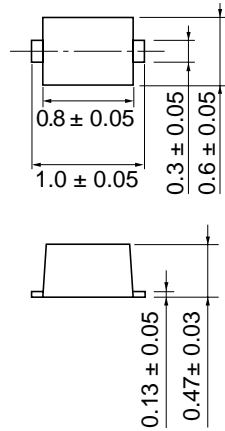


Fig.4  $L_F$  vs. Reverse voltage

## Package Dimensions

As of July, 2002

Unit: mm



Hitachi Code	EFP
JEDEC	—
JEITA	—
Mass (reference value)	0.0007 g

Not recommend  
for new design



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