

# HVL375B

## Variable Capacitance Diode for VCO

# RENESAS

ADE-208-1565 (Z)

 Rev.0  
 Dec. 2002

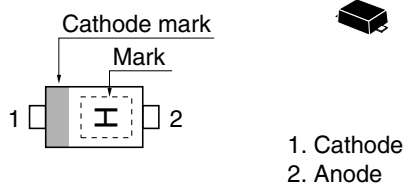
### Features

- 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



**HVL375B****Absolute Maximum Ratings**

(Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	$V_R$	10	V
Junction temperature	$T_j$	125	°C
Storage temperature	$T_{stg}$	-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

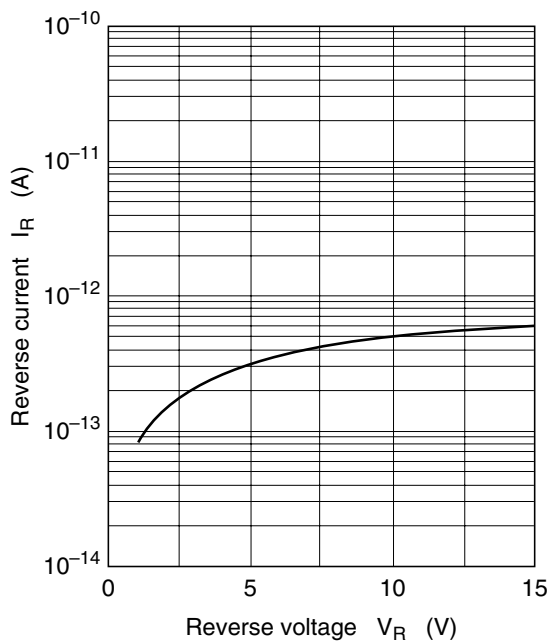


Fig.1 Reverse current vs. Reverse voltage

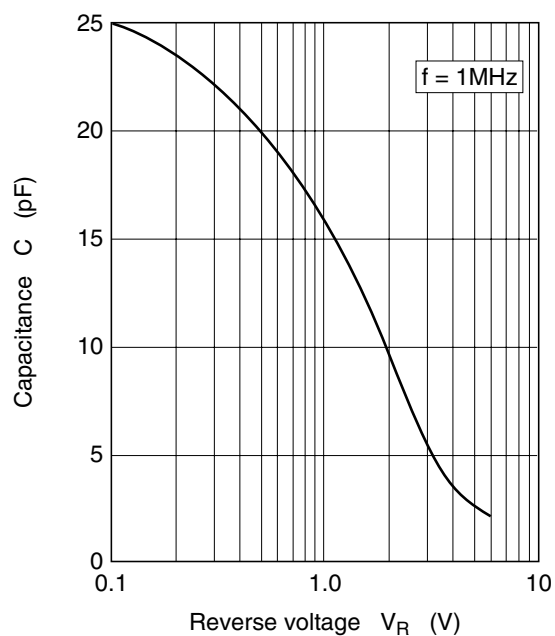


Fig.2 Capacitance vs. Reverse voltage

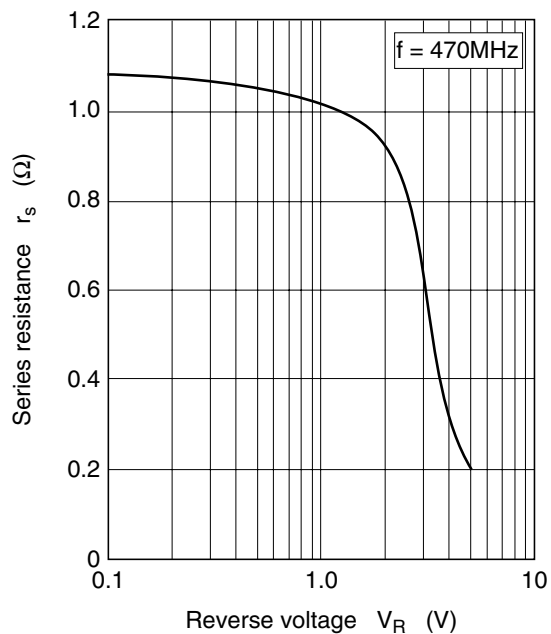
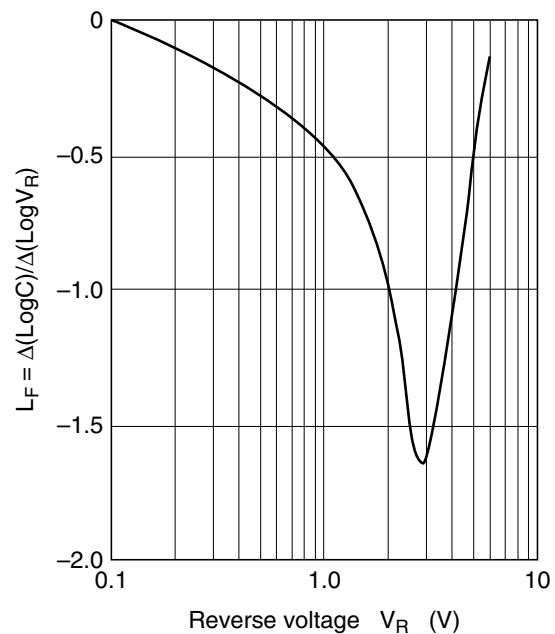


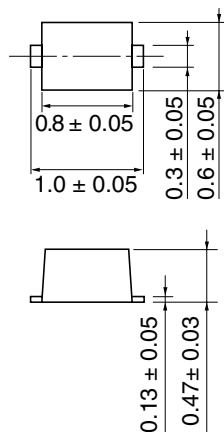
Fig.3 Series resistance vs. Reverse voltage

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

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