

# HVD380B

Variable Capacitance Diode for VCO

# HITACHI

ADE-208-1168 (Z)

Rev. 0

Apr. 2001

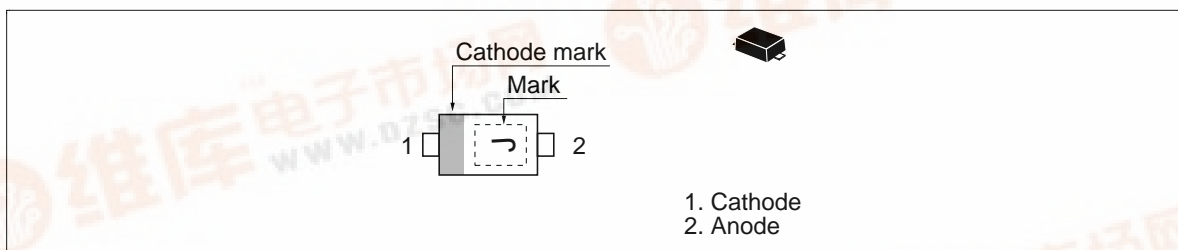
## Features

- High capacitance ratio. ( $n = 1.70$  min)
- Low series resistance. ( $r_s = 0.80 \Omega$  max)
- Super small Flat Package (SFP) is suitable for surface mount design.

## Ordering Information

Type No.	Laser Mark	Package Code
HVD380B	J	SFP

## Outline



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## HVD380B

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### Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	$V_R$	15	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	$I_{R1}$	—	—	10.0	nA	$V_R = 15\text{ V}$
	$I_{R2}$	—	—	100		$V_R = 15\text{ V}, T_a = 60^\circ\text{C}$
Capacitance	$C_1$	2.880	—	3.120	pF	$V_R = 1\text{ V}, f = 1\text{ MHz}$
	$C_3$	1.660	—	1.795		$V_R = 3\text{ V}, f = 1\text{ MHz}$
	$C_4$	1.360	—	1.471		$V_R = 4\text{ V}, f = 1\text{ MHz}$
Capacitance ratio	$n_1$	1.70	—	1.84	—	$C_1 / C_3$
	$n_2$	2.08	—	2.25		$C_1 / C_4$
Series resistance	$r_s$	—	—	0.80	$\Omega$	$V_R = 1\text{ V}, f = 470\text{ MHz}$

Note: Please do not use the soldering iron due to avoid high stress to the SFP package.

Main Characteristic

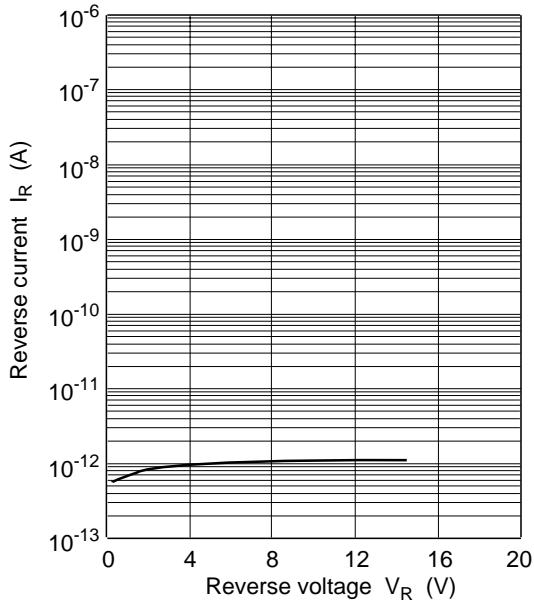


Fig.1 Reverse current vs. Reverse voltage

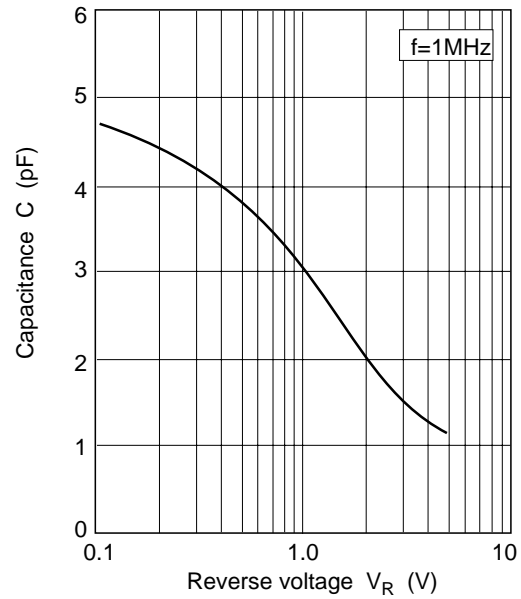


Fig.2 Capacitance vs. Reverse voltage

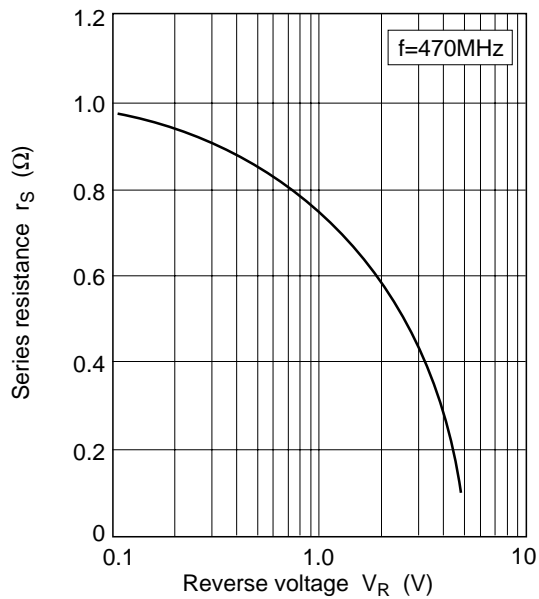


Fig.3 Series resistance vs. Reverse voltage

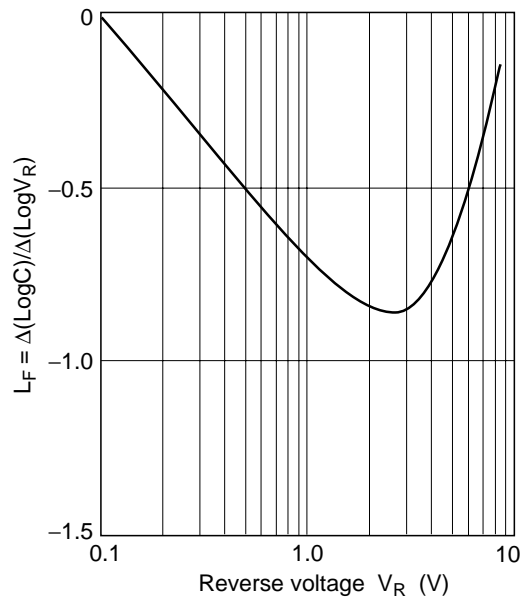


Fig.4  $L_F$  vs. Reverse voltage

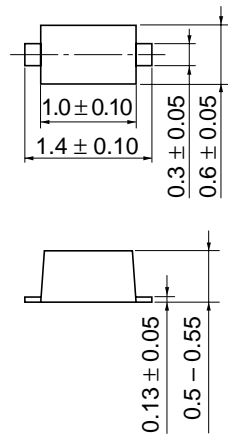
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# HVD380B

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## Package Dimensions

As of January, 2001  
Unit: mm



Hitachi Code	SFP
JEDEC	—
EIAJ	—
Mass (reference value)	0.0010 g

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