

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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# HVC380B

## Variable Capacitance Diode for VCO

REJ03G0493-0100  
 (Previous: ADE-208-1125)  
 Rev.1.00  
 Jan 19, 2005

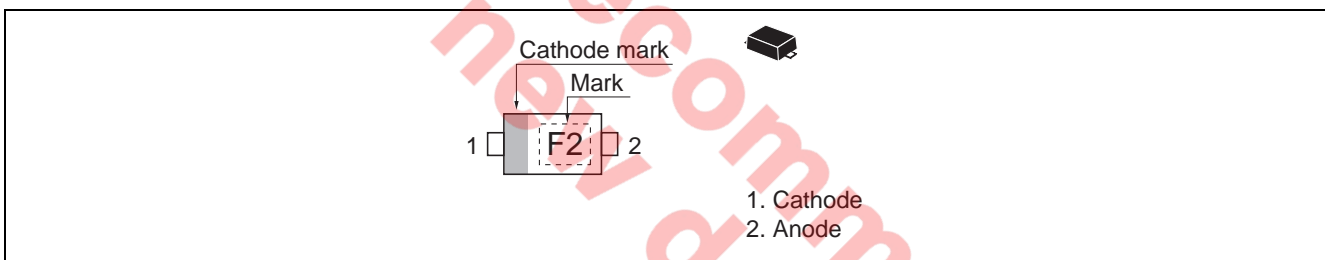
### Features

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

### Ordering Information

Type No.	Laser Mark	Package Code
HVC380B	F2	UFP

### Pin Arrangement



## 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	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	$\Omega$	$V_R = 1\text{ V}, f = 470\text{ MHz}$

Not recommend  
 for new design

Main Characteristic

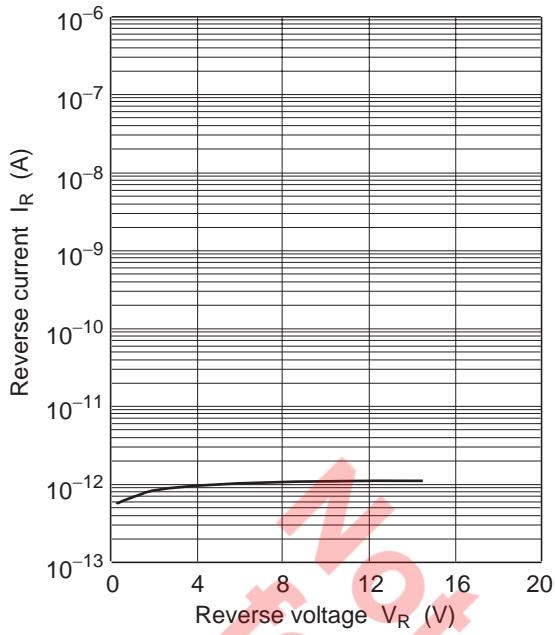


Fig.1 Reverse current vs. Reverse voltage

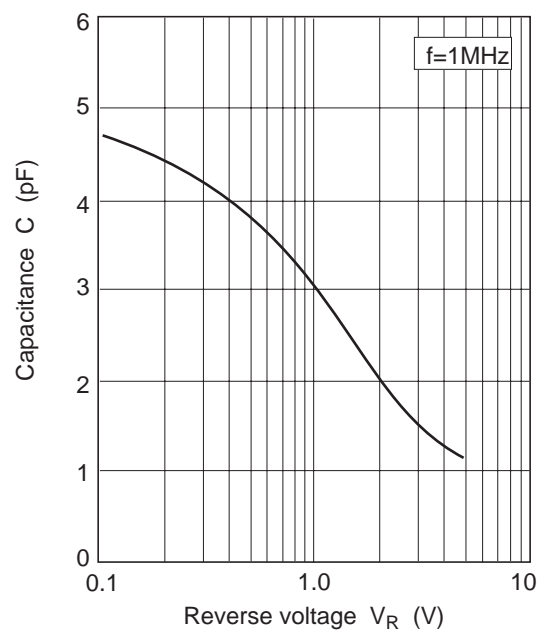


Fig.2 Capacitance vs. Reverse voltage

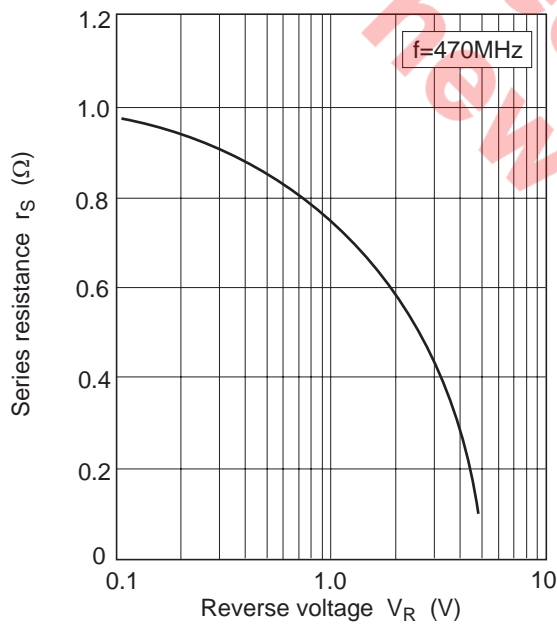


Fig.3 Series resistance vs. Reverse voltage

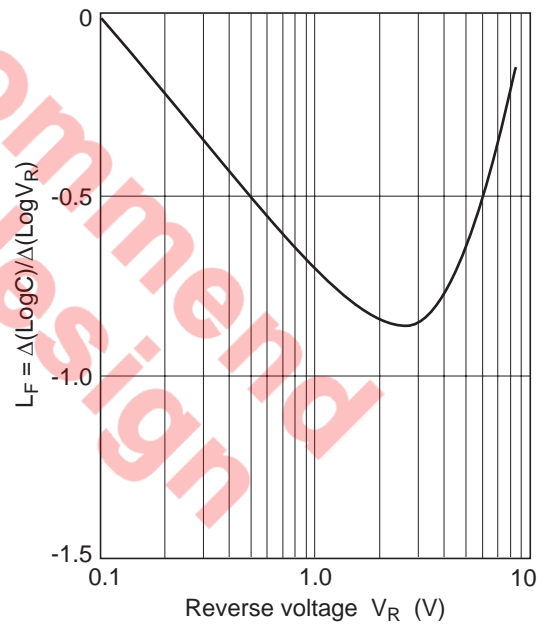
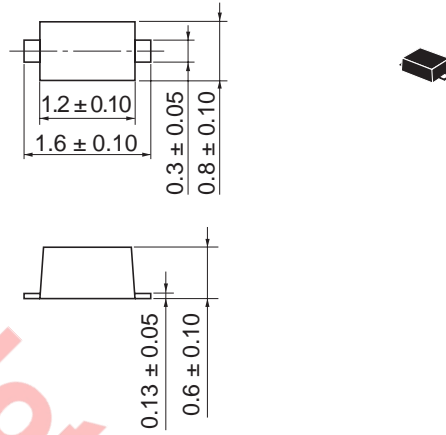


Fig.4  $L_F$  vs. Reverse voltage

Package Dimensions

As of January, 2003  
Unit: mm



Package Code	UFP
JEDEC	—
JEITA	Conforms
Mass (reference value)	0.0016 g

Not recommend  
for new design

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