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

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Keep safety first in your circuit designs!

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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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HVC380B

Variable Capacitance Diode for VCO



ADE-208-1125 (Z)

Rev. 0
Apr. 2001

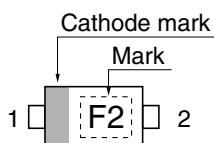
Features

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

Ordering Information

Type No.	Laser Mark	Package Code
HVC380B	F2	UFP

Pin Arrangement



1. Cathode
2. Anode

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

Main Characteristic

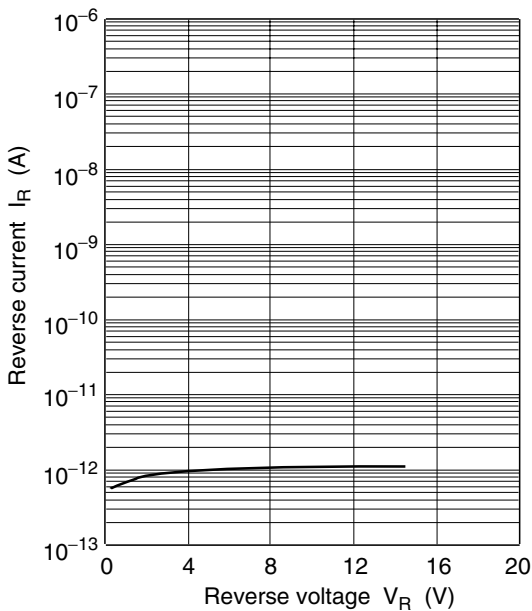


Fig.1 Reverse current vs. Reverse voltage

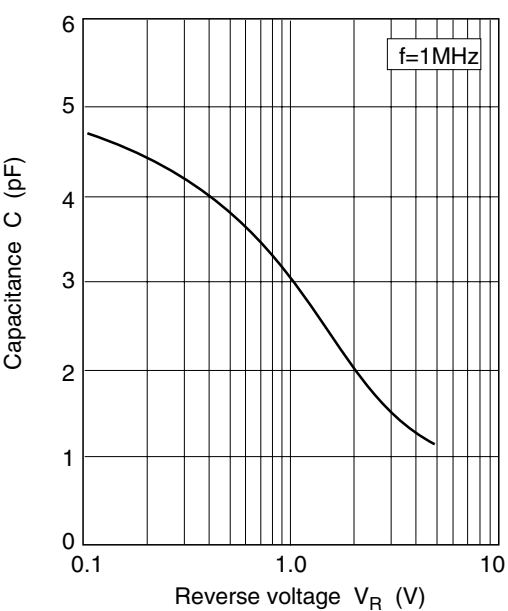


Fig.2 Capacitance vs. Reverse voltage

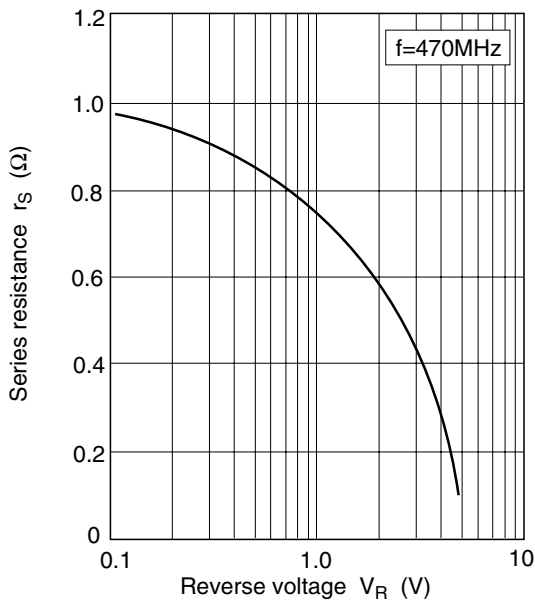


Fig.3 Series resistance vs. Reverse voltage

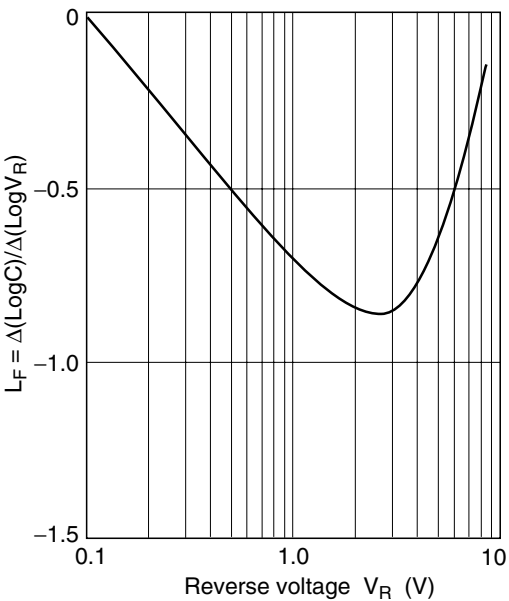
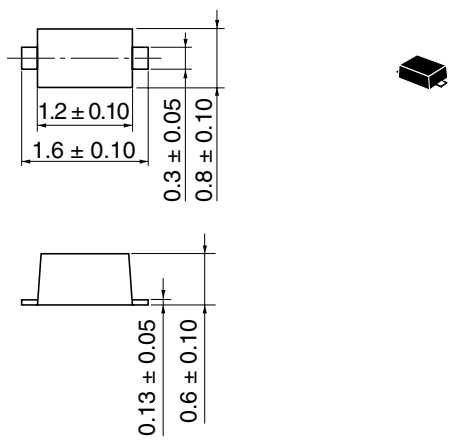


Fig.4 L_F vs. Reverse voltage

Package Dimensions

As of January, 2001
Unit: mm



Hitachi Code	UFP
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.0016 g

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