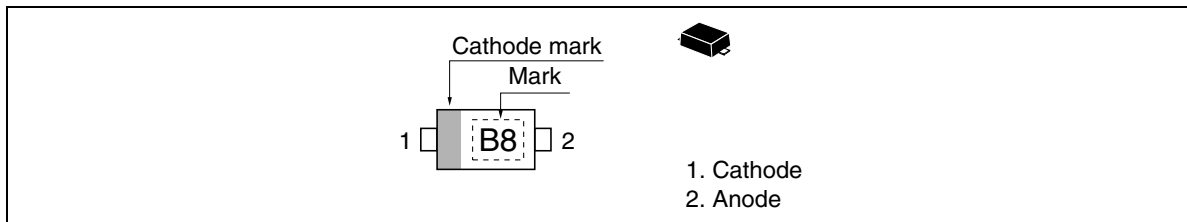# RENESAS

HVC375B

Variable Capacitance Diode for VCO

Features

- Narrow terminal Capacitance deviation.
- Low series resistance. (r_s = 1.1 Ω max)
- Good C-V linearity.
- Ultra small Flat Package (UFP) is suitable for surface mount design.

Ordering Information

Type No.	Laser Mark	Package Code
HVC375B	B8	UFP

Pin Arrangement

Cathode mark
Mark
1 ☐ B8 ☐ 2

1. Cathode
2. Anode

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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 V
	I_{R2}	—	—	100		V_R = 10 V, Ta = 60°C
Capacitance	C_1	15.0	—	16.5	pF	V_R = 1 V, f = 1 MHz
	C_3	5.0	—	6.0		V_R = 3 V, f = 1 MHz
	C_4	3.3	—	4.0		V_R = 4 V, f = 1 MHz
Capacitance ratio	n	4.0	—	—	—	C_1 / C_4
Series resistance	r_s	—	—	1.1	Ω	V_R = 2 V, f = 470 MHz

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Main Characteristic
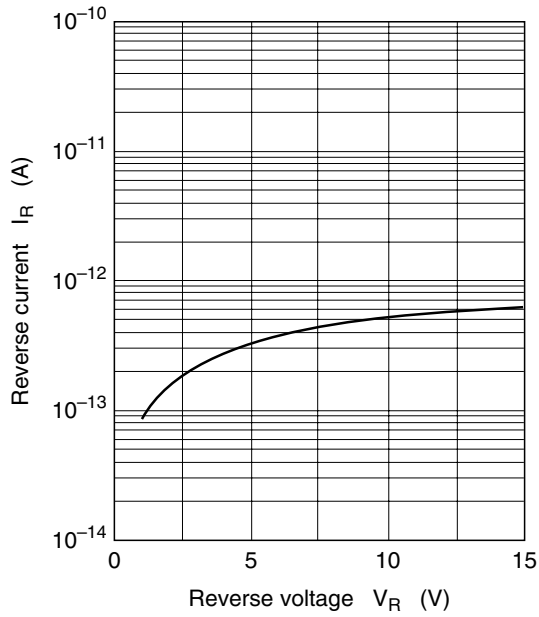
Fig.1   Reverse current vs. Reverse voltage
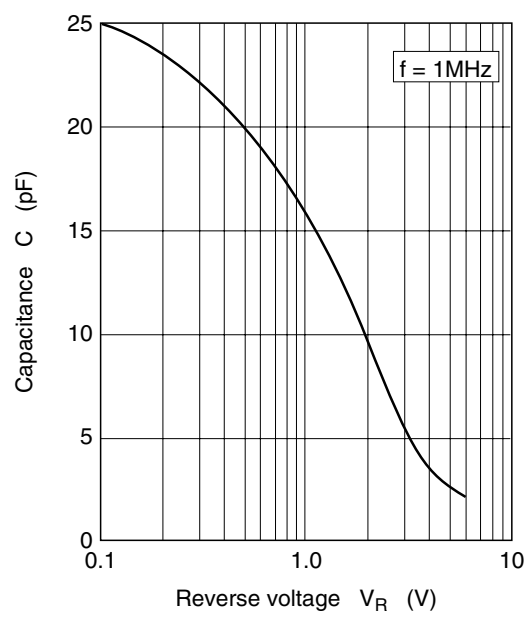
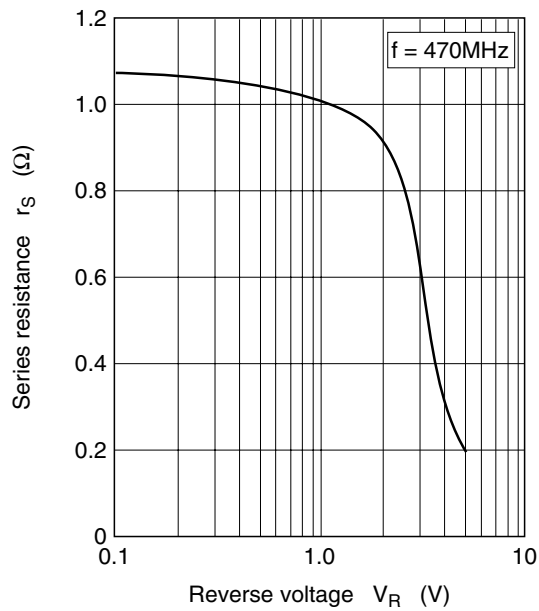Fig.2   Capacitance vs. Reverse voltage

Fig.3   Series resistance vs. Reverse voltage

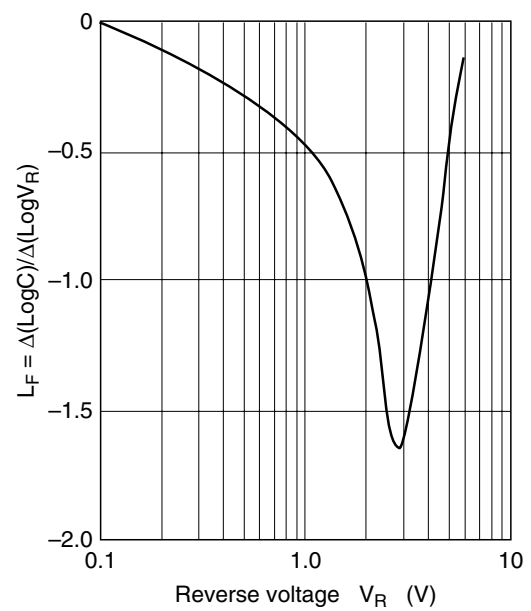Fig.4   Linearity factor vs. Reverse voltage

Package Dimensions

As of January, 2003
Unit: mm
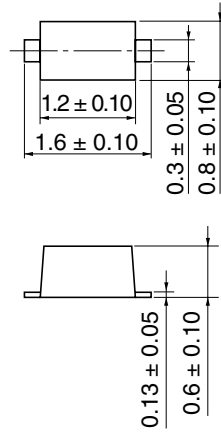
Package Code	UFP
JEDEC	—
JEITA	Conforms
Mass (reference value)	0.0016 g

1.2 ± 0.10
1.6 ± 0.10
0.3 ± 0.05
0.8 ± 0.10

0.13 ± 0.05
0.6 ± 0.10

http://www.renesas.com