To our customers,

## Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: http://www.renesas.com

April 1st, 2010
Renesas Electronics Corporation



Issued by: Renesas Electronics Corporation (http://www.renesas.com)

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# HVC381B

## Variable Capacitance Diode for VCO

REJ03G0494-0100
(Previous: ADE-208-990)
Rev.1.00
Jan 19, 2005

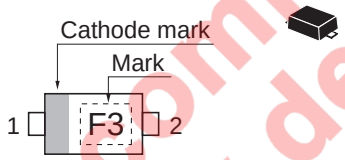
### Features

- High capacitance ratio. (n = 1.65 min)
- Low series resistance. (rs = 0.50 Ω max)
- Ultra Small Flat Lead Package (UFP) is suitable for surface mount design.

### Ordering Information

| Type No. | Laser Mark | Package Code |
|---|---|---|
| HVC381B | F3 | 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 | 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 | $V_R$ = 15 V |
| | $I_{R2}$ | — | — | 100 | | $V_R$ = 15 V, Ta = 60°C |
| Capacitance | $C_1$ | 10.0 | — | 11.0 | pF | $V_R$ = 1 V, f = 1 MHz |
| | $C_3$ | 5.80 | — | 6.40 | | $V_R$ = 3 V, f = 1 MHz |
| Capacitance ratio | n | 1.65 | — | — | — | $C_1$ / $C_3$ |
| Series resistance | $r_S$ | — | — | 0.50 | Ω | $V_R$ = 1 V, f = 470 MHz |

## Main Characteristic

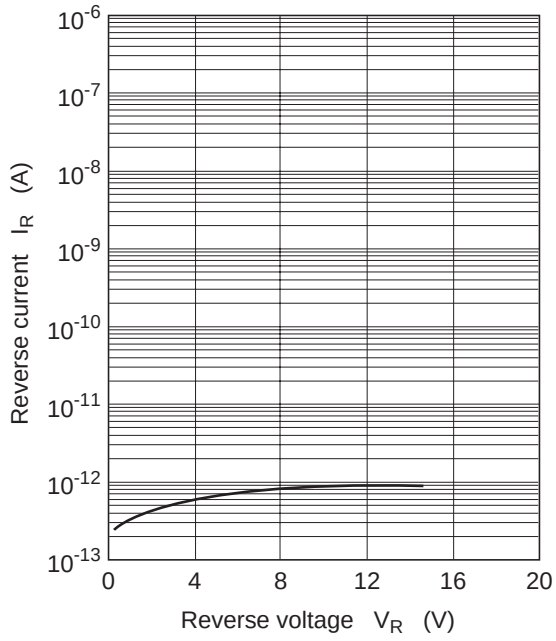



Fig.1 Reverse current vs. Reverse voltage

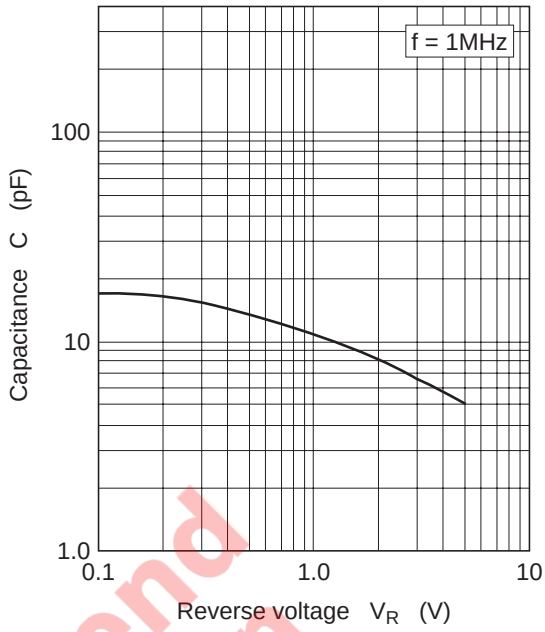



Fig.2 Capacitance vs. Reverse voltage

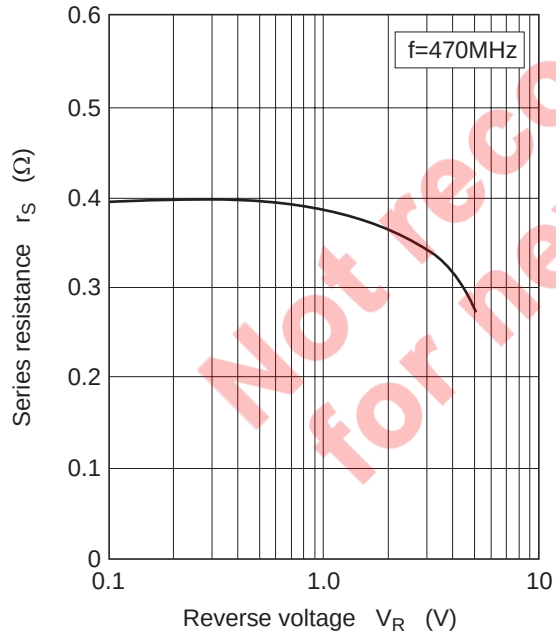



Fig.3 Series resistance vs. Reverse voltage

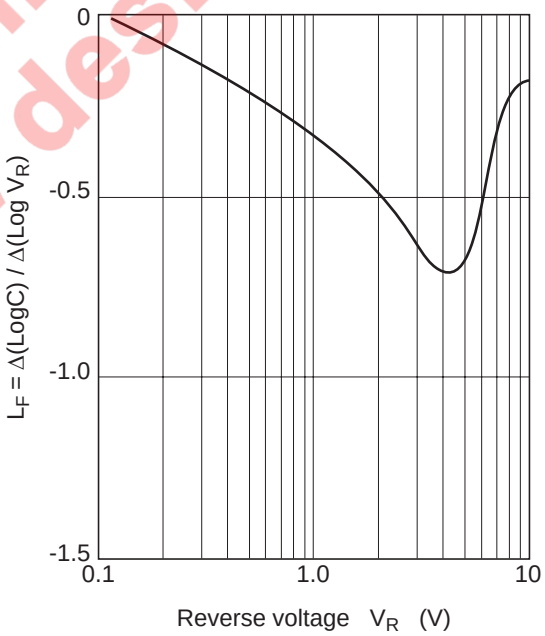
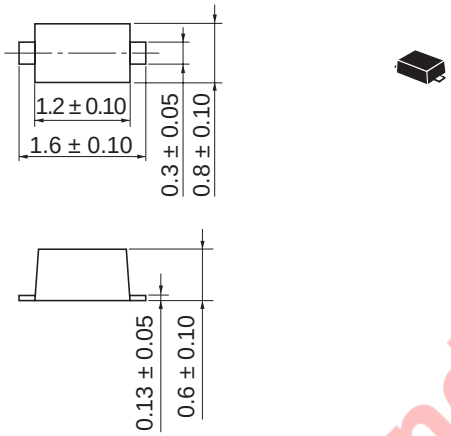



Fig.4 $L_F$ vs. Reverse voltage

## Package Dimensions

As of January, 2003

Unit: mm




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

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