

HVC383B

Variable Capacitance Diode for VCO

REJ03G0092-0100Z
(Previous: ADE-208-823)
Rev.1.00
Sep.17.2003

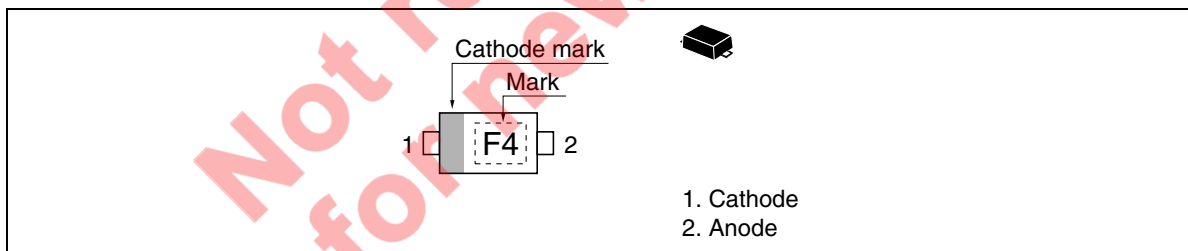
Features

- High capacitance ratio. ($n = 2.0$ min)
- Low series resistance. ($r_s = 0.5 \Omega$ max)
- Good C-V linearity.
- Ultra small Flat Package (UFP) is suitable for surface mount design.

Ordering Information

| Type No. | Laser Mark | Package Code |
|----------|------------|--------------|
| HVC383B | F4 | UFP |

Pin Arrangement



Absolute Maximum Ratings

($T_a = 25^\circ\text{C}$)

| Item | Symbol | Value | Unit |
|----------------------|-----------|-------------|------------------|
| Reverse voltage | V_R | 15 | V |
| Junction temperature | T_j | 125 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +125 | $^\circ\text{C}$ |

Electrical Characteristics

($T_a = 25^\circ\text{C}$)

| 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 | 19.0 | — | 21.0 | pF | $V_R = 1\text{ V}, f = 1\text{ MHz}$ |
| | C_4 | 8.50 | — | 10.0 | | $V_R = 4\text{ V}, f = 1\text{ MHz}$ |
| | C_7 | 4.50 | — | 5.5 | | $V_R = 7\text{ V}, f = 1\text{ MHz}$ |
| Capacitance ratio | n_1 | 2.00 | — | — | — | C_1/C_4 |
| | n_2 | 3.50 | — | — | — | C_1/C_7 |
| Series resistance | r_s | — | — | 0.5 | Ω | $V_R = 1\text{ V}, f = 470\text{ MHz}$ |

Main Characteristic

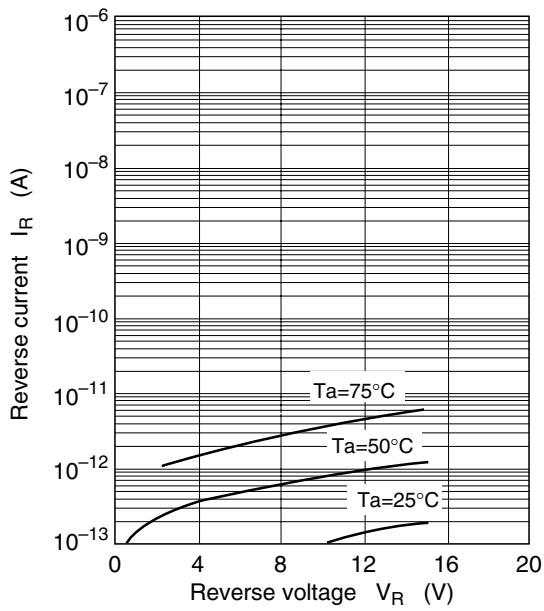


Fig.1 Reverse current vs. Reverse voltage

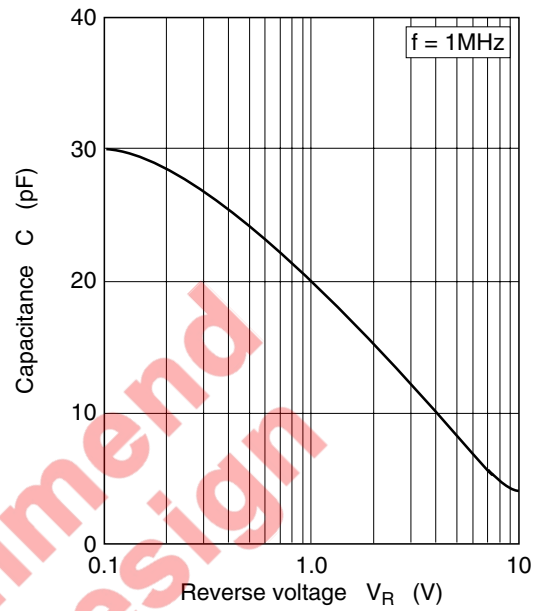


Fig.2 Capacitance vs. Reverse voltage

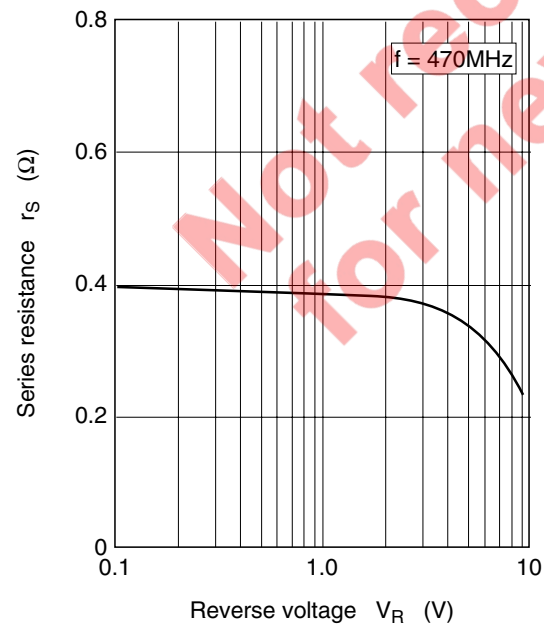


Fig.3 Series resistance vs. Reverse voltage

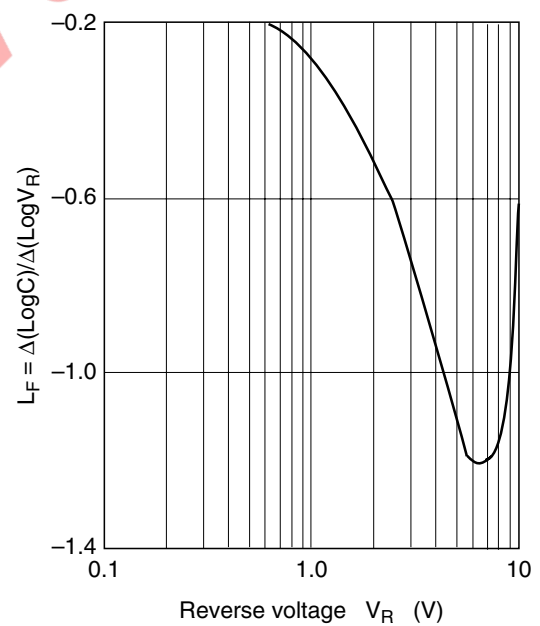
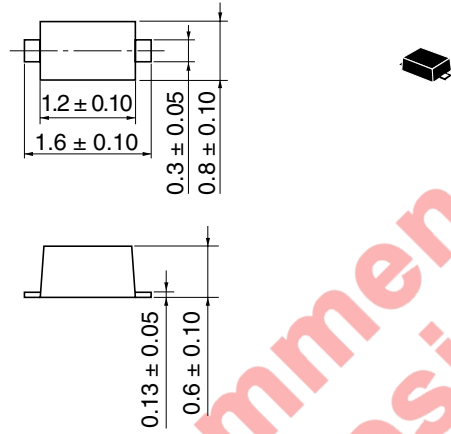


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions

As of January, 2003
Unit: mm



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

Not recommend
for new design

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