

## HVL385B

### Variable Capacitance Diode for VCO

REJ03G0033-0100Z

Rev.1.00

Jun.12.2003

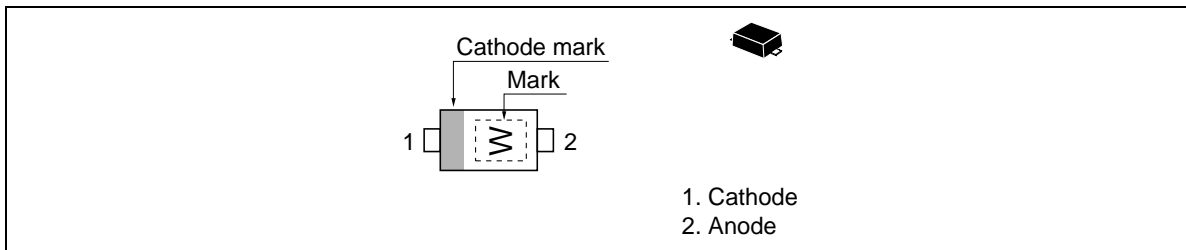
#### Features

- High capacitance ratio. ( $n = 2.43$  min)
- Low series resistance. ( $r_s = 0.75 \Omega$  max)
- Extremely small Flat Package (EFP) is suitable for surface mount design.

#### Ordering Information

| Type No. | Laser Mark | Package Code |
|----------|------------|--------------|
| HVL385B  | W          | EFP          |

#### Pin Arrangement



## 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       | $V_R = 10\text{ V}$                         |
|                   | $I_{R2}$  | —    | —   | 100  |          | $V_R = 10\text{ V}, T_a = 60^\circ\text{C}$ |
| Capacitance       | $C_{0.5}$ | 7.20 | —   | 7.70 | pF       | $V_R = 0.5\text{ V}, f = 1\text{ MHz}$      |
|                   | $C_{2.5}$ | 2.70 | —   | 3.20 |          | $V_R = 2.5\text{ V}, f = 1\text{ MHz}$      |
| Capacitance ratio | n         | 2.43 | —   | 2.57 | —        | $C_{0.5} / C_{2.5}$                         |
| Series resistance | $r_s$     | —    | —   | 0.75 | $\Omega$ | $V_R = 1\text{ V}, f = 470\text{ MHz}$      |

- Notes: 1. Please do not use the soldering iron due to avoid high stress to the EFP package.  
 2. The material of lead is exposed for cutting plane. Therefore, soldering nature of lead tip part is considered as unquestioned. Please kindly consider soldering nature.

Main Characteristic

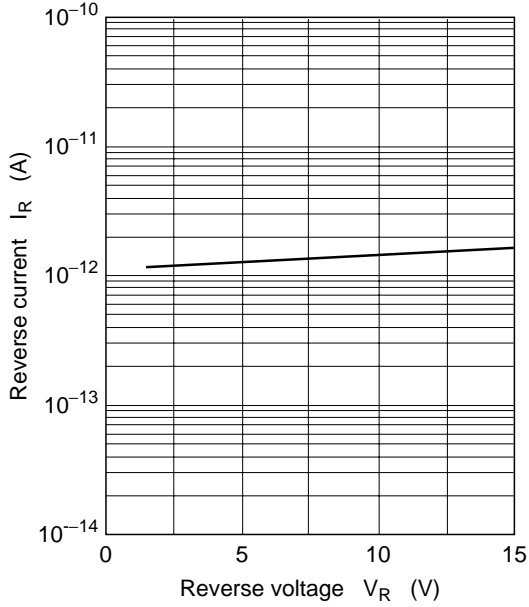


Fig.1 Reverse current vs. Reverse voltage

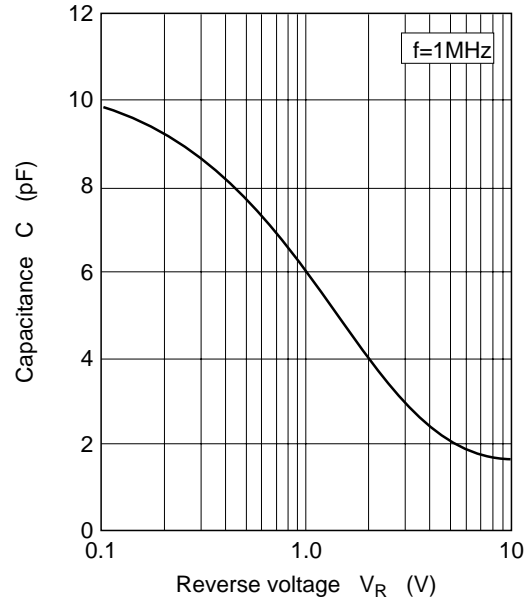


Fig.2 Capacitance vs. Reverse voltage

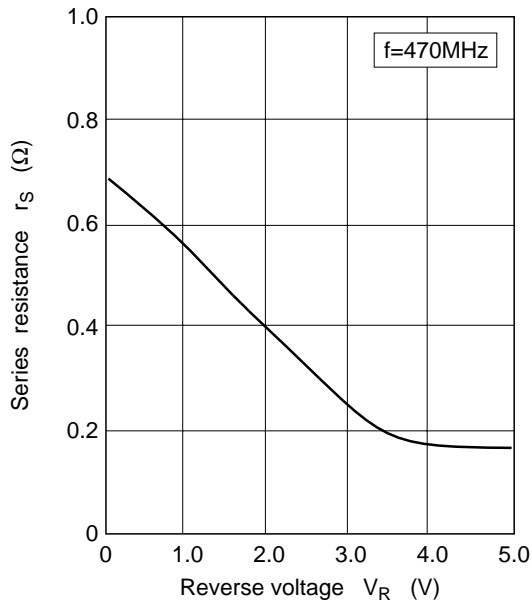


Fig.3 Series resistance vs. Reverse voltage

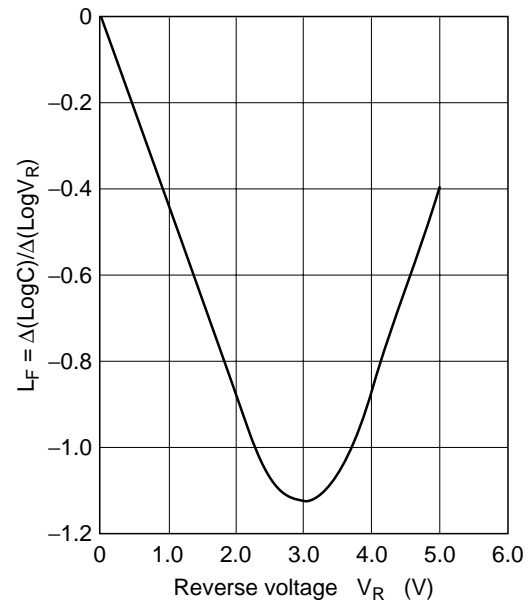
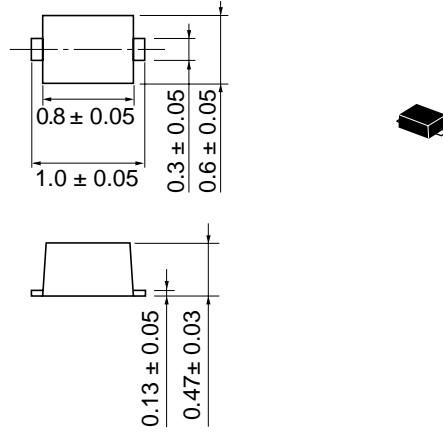


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions

As of January, 2003  
Unit: mm



|                        |          |
|------------------------|----------|
| Package Code           | EFP      |
| JEDEC                  | —        |
| JEITA                  | —        |
| Mass (reference value) | 0.0007 g |

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