

## HVL375C

### Variable Capacitance Diode for VCO

REJ03G0223-0200  
Rev.2.00  
Mar 10, 2006

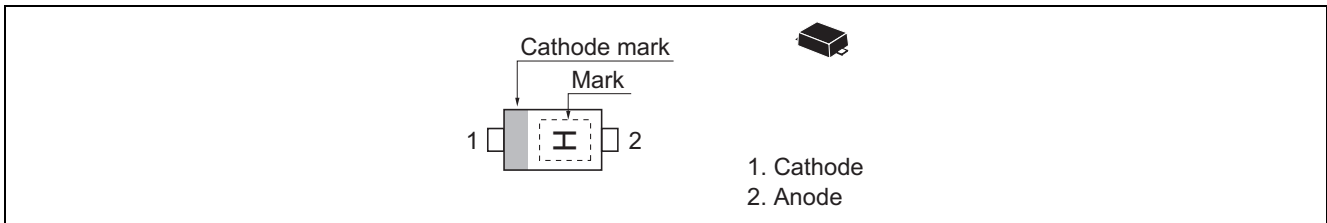
#### Features

- Narrow terminal Capacitance deviation.
- Low series resistance. ( $r_s = 1.1 \Omega$  max)
- Good C-V linearity.
- Extremely small Flat Lead Package (EFP) is suitable for surface mount design.

#### Ordering Information

| Type No. | Laser Mark | Package Name | Package Code |
|----------|------------|--------------|--------------|
| HVL375C  | H          | EFP          | PXSF0002ZA-A |

#### Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

| Item                 | Symbol    | Value       | Unit |
|----------------------|-----------|-------------|------|
| Reverse voltage      | $V_R$     | 10          | 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   | nA       | $V_R = 10\text{ V}$                         |
|                   | $I_{R2}$ | —    | —   | 100  |          | $V_R = 10\text{ V}, T_a = 60^\circ\text{C}$ |
| Capacitance       | $C_1$    | 15.0 | —   | 16.5 | pF       | $V_R = 1\text{ V}, f = 1\text{ MHz}$        |
|                   | $C_3$    | 5.0  | —   | 6.0  |          | $V_R = 3\text{ V}, f = 1\text{ MHz}$        |
|                   | $C_4$    | 3.3  | —   | 4.0  |          | $V_R = 4\text{ V}, f = 1\text{ MHz}$        |
| Capacitance ratio | n        | 4.0  | —   | —    | —        | $C_1 / C_4$                                 |
| Series resistance | $r_s$    | —    | —   | 1.1  | $\Omega$ | $V_R = 2\text{ V}, f = 470\text{ MHz}$      |

Note: For EFP package, the material of lead is exposed for cutting plane. There for, soldering nature of lead tip part is considered as unquestioned. Please kindly consider soldering nature.

### Main Characteristic

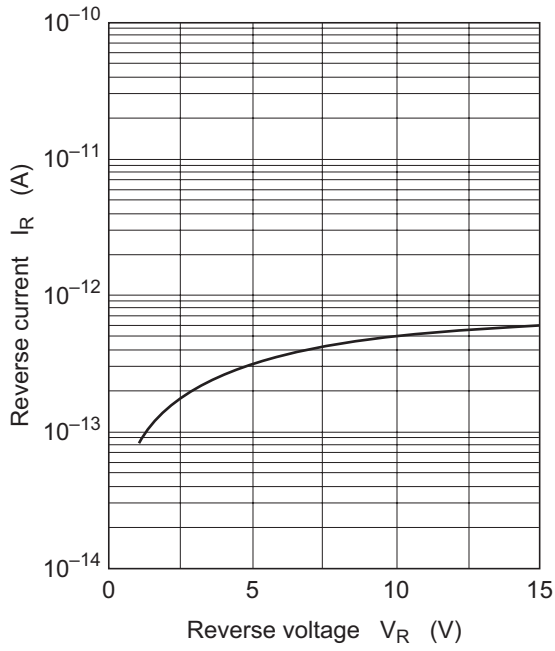


Fig.1 Reverse current vs. Reverse voltage

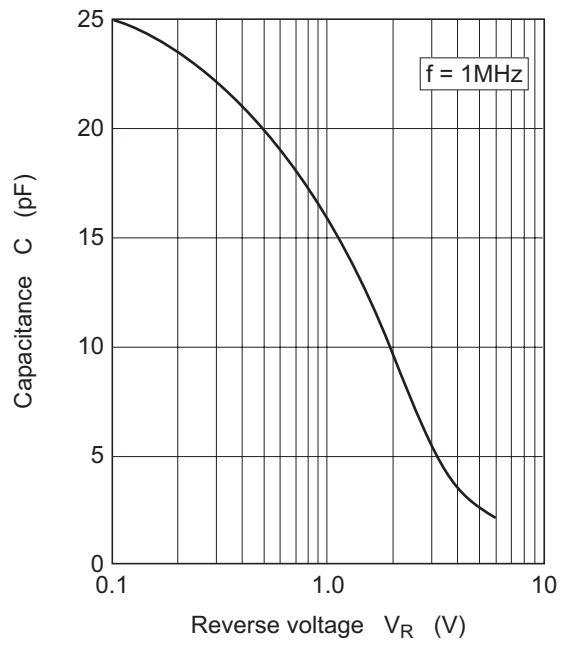


Fig.2 Capacitance vs. Reverse voltage

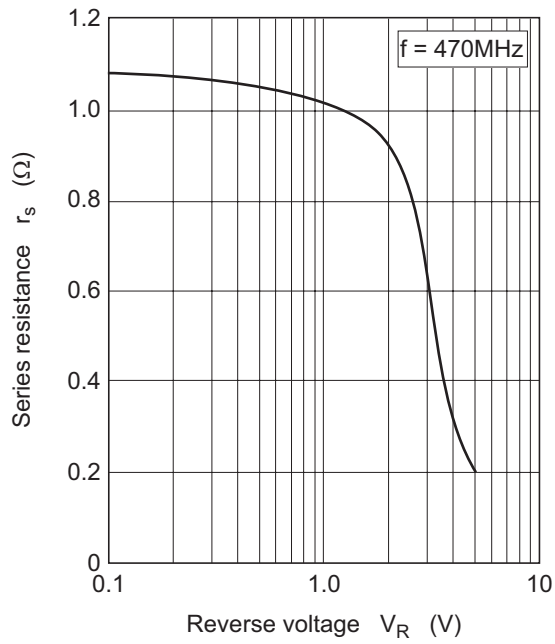
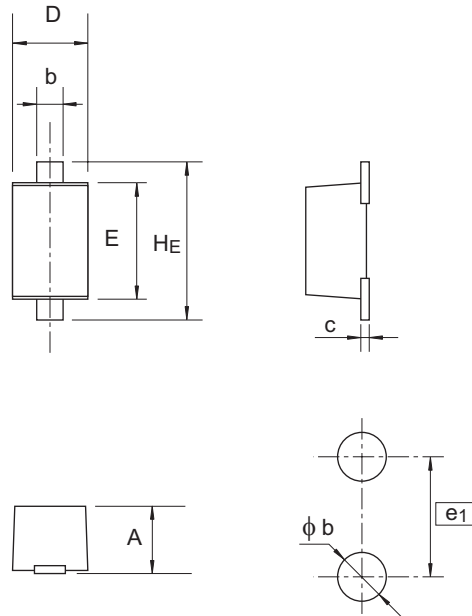


Fig.3 Series resistance vs. Reverse voltage

### Package Dimensions

|              |                    |              |               |            |
|--------------|--------------------|--------------|---------------|------------|
| Package Name | JEITA Package Code | RENESAS Code | Previous Code | MASS[Typ.] |
| EFP          | —                  | PXSF0002ZA-A | EFP / EFPV    | 0.0007g    |



Pattern of terminal position areas

| Reference Symbol | Dimension in Millimeters |      |      |
|------------------|--------------------------|------|------|
|                  | Min                      | Nom  | Max  |
| A                | 0.44                     | 0.47 | 0.50 |
| b                | 0.25                     | 0.30 | 0.35 |
| c                | 0.08                     | 0.13 | 0.18 |
| D                | 0.55                     | 0.60 | 0.65 |
| E                | 0.75                     | 0.80 | 0.85 |
| $H_E$            | 0.95                     | 1.00 | 1.05 |
| $\phi b$         | —                        | 0.40 | —    |
| $e_1$            | —                        | 1.00 | —    |

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Tel: <82> (2) 796-3115, Fax: <82> (2) 796-2145

**Renesas Technology Malaysia Sdn. Bhd**

Unit 906, Block B, Menara Amcorp, Amcorp Trade Centre, No.18, Jalan Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia  
Tel: <603> 7955-9390, Fax: <603> 7955-9510

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