

# HVU362

## Variable Capacitance Diode

### VCXO

HITACHI

 Rev. 0  
 May. 1995

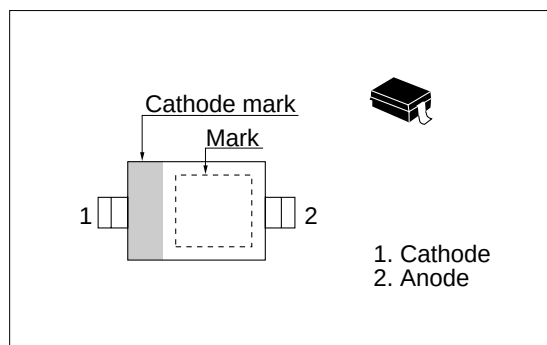
#### Features

- High capacitance ratio.(n=3.0min)
- Good C-V linearity.
- Ultra small Resin Package (URP) is suitable for surface mount design.

#### Ordering Information

| Type No. | Laser Mark | Package Code |
|----------|------------|--------------|
| HVU362   | V2         | URP          |

#### Outline



#### Absolute Maximum Ratings (Ta = 25°C)

| Item                 | Symbol    | Value       | Unit |
|----------------------|-----------|-------------|------|
| Reverse voltage      | $V_R$     | 15          | 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  |          | $V_R = 10\text{ V}$ , $T_a = 60\text{ °C}$                        |
| Capacitance       | $C_1$    | 41.6 | —   | 49.9 | pF       | $V_R = 1\text{ V}$ , $f = 1\text{ MHz}$                           |
|                   | $C_4$    | 10.1 | —   | 14.8 |          | $V_R = 4\text{ V}$ , $f = 1\text{ MHz}$                           |
| Capacitance ratio | n        | 3.0  | —   | —    | —        | $C_1 / C_4$                                                       |
| Series resistance | $r_s$    | —    | —   | 2.0  | $\Omega$ | $V_R = 4\text{ V}$ , $f = 100\text{ MHz}$                         |
| ESD-Capability    | —        | 80   | —   | —    | V        | * $C=200\text{ pF}$ , Both forward and reverse direction 1 pulse. |

\* Failure criterion ;  $I_R \geq 20\text{ nA}$  at  $V_R = 10\text{ V}$

HVU362

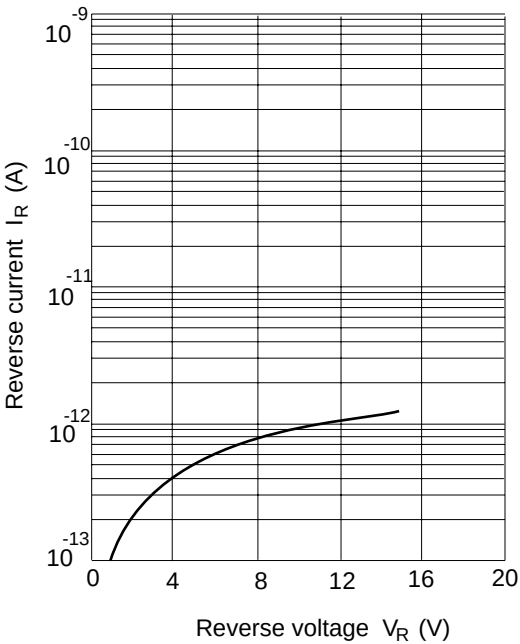


Fig.1 Reverse current Vs. Reverse voltage

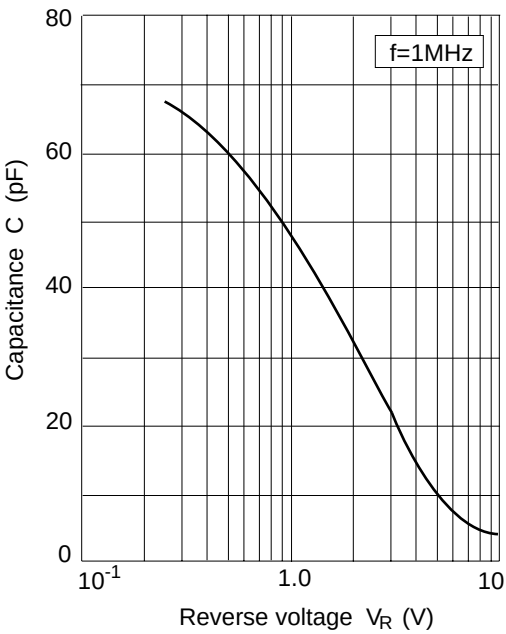


Fig.2 Capacitance Vs. Reverse voltage

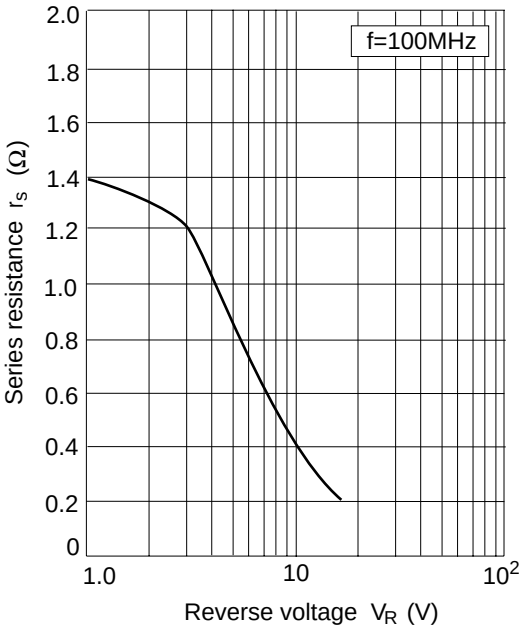


Fig.3 Series resistance Vs. Reverse voltage

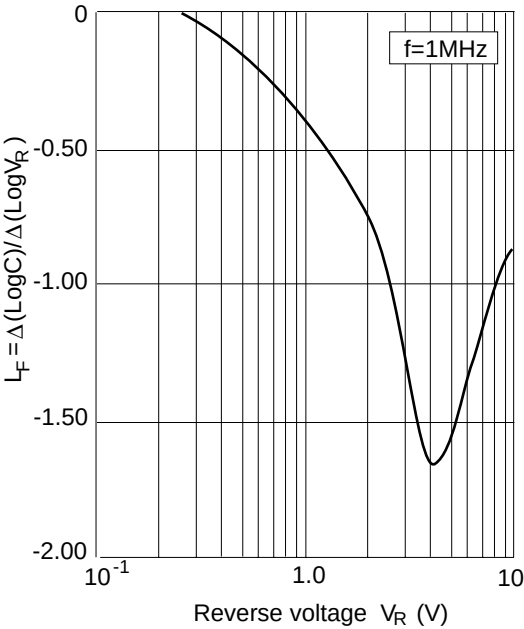
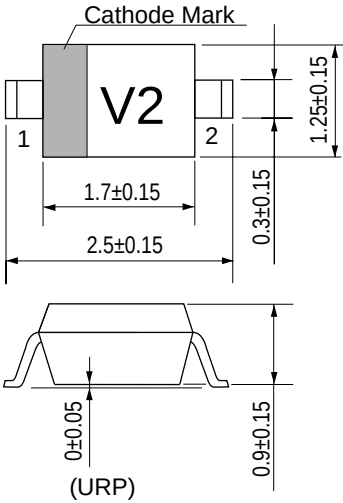


Fig.4 Linearity factor Vs. Reverse voltage

Package Dimensions

Unit: mm



- 1 Cathode
- 2 Anode

|              |       |
|--------------|-------|
| HITACHI Code | URP   |
| JEDEC Code   | —     |
| EIAJ Code    | —     |
| Weight (g)   | 0.004 |