

# HVU308A

## Variable Capacitance Diode for TV tuner

# HITACHI

Preliminary  
Rev. 1  
Apr. 1993

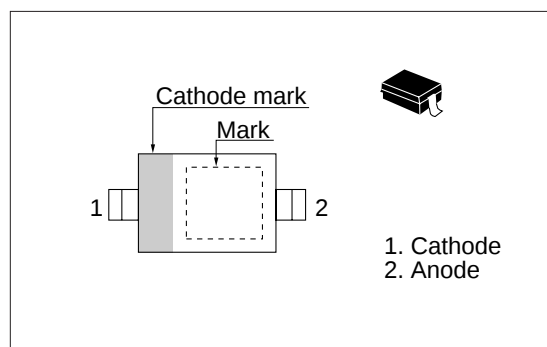
### Features

- Low series resistance. ( $r_s=0.95\Omega$  max)
- Ultra small Resin Package (URP) is suitable for surface mount design.

### Ordering Information

| Type No. | Laser Mark | Package Code |
|----------|------------|--------------|
| HVU308A  | V          | URP          |

### Outline

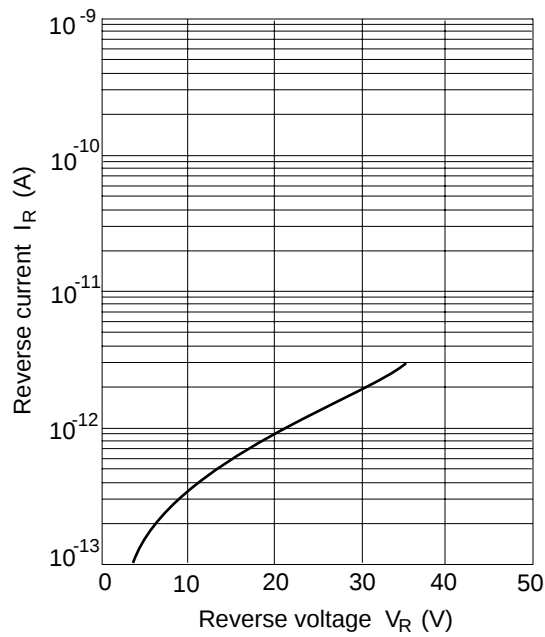


### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

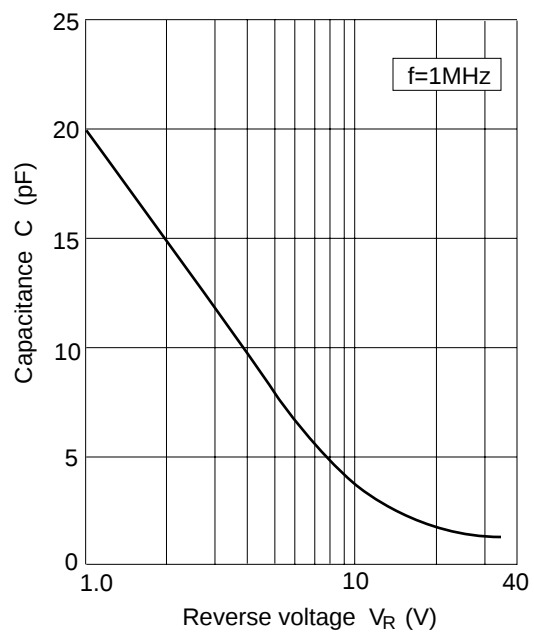
| Item                 | Symbol    | Value       | Unit             |
|----------------------|-----------|-------------|------------------|
| Reverse voltage      | $V_R$     | 35          | V                |
| Junction temperature | $T_j$     | 125         | $^\circ\text{C}$ |
| Storage temperature  | $T_{stg}$ | -55 to +125 | $^\circ\text{C}$ |

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

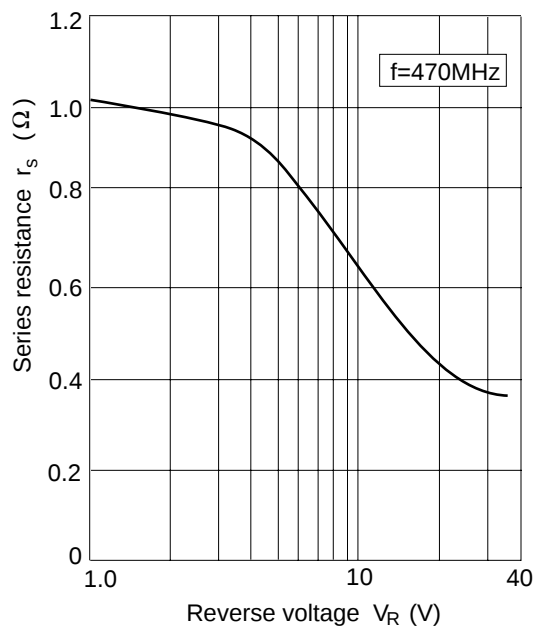
| Item              | Symbol   | Min  | Typ | Max  | Unit     | Test Condition                                 |
|-------------------|----------|------|-----|------|----------|------------------------------------------------|
| Reverse current   | $I_{R1}$ | —    | —   | 10   | nA       | $V_R = 30\text{ V}$                            |
|                   | $I_{R2}$ | —    | —   | 100  |          | $V_R = 30\text{ V}$ , $T_a = 60^\circ\text{C}$ |
| Capacitance       | $C_2$    | 13.7 | —   | 15.9 | pF       | $V_R = 2\text{ V}$ , $f = 1\text{ MHz}$        |
|                   | $C_{20}$ | 1.65 | —   | 2.06 |          | $V_R = 20\text{ V}$ , $f = 1\text{ MHz}$       |
| Capacitance ratio | $n$      | 7.12 | —   | —    | —        | $C_2 / C_{20}$                                 |
| Series resistance | $r_s$    | —    | —   | 0.95 | $\Omega$ | $V_R = 5\text{ V}$ , $f = 470\text{ MHz}$      |



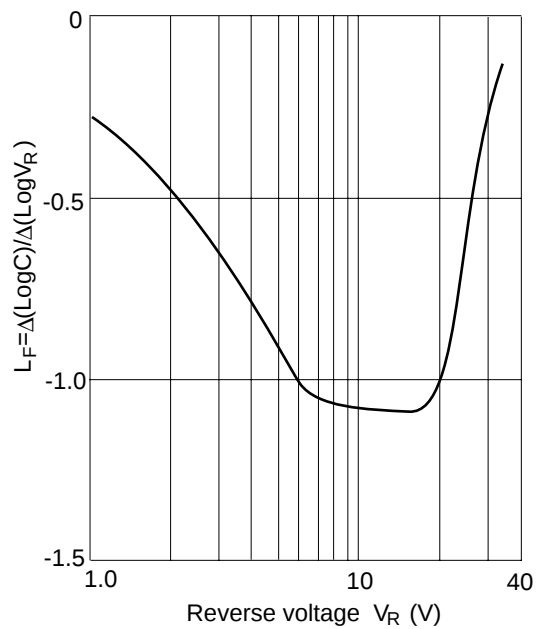
**Fig.1 Reverse current Vs. Reverse voltage**



**Fig.2 Capacitance Vs. Reverse voltage**



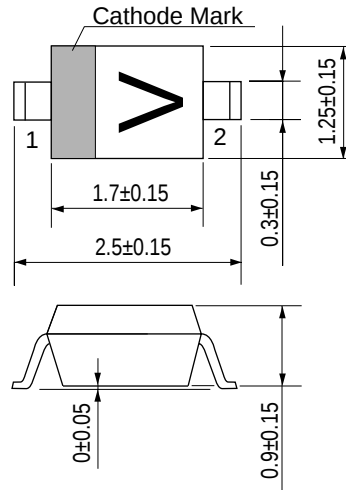
**Fig.3 Series resistance Vs. Reverse voltage**



**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 |