

# HVU326C

## Variable Capacitance Diode for UHF/VHF tuner

REJ03G0214-0100Z

Rev.1.00

May 11, 2004

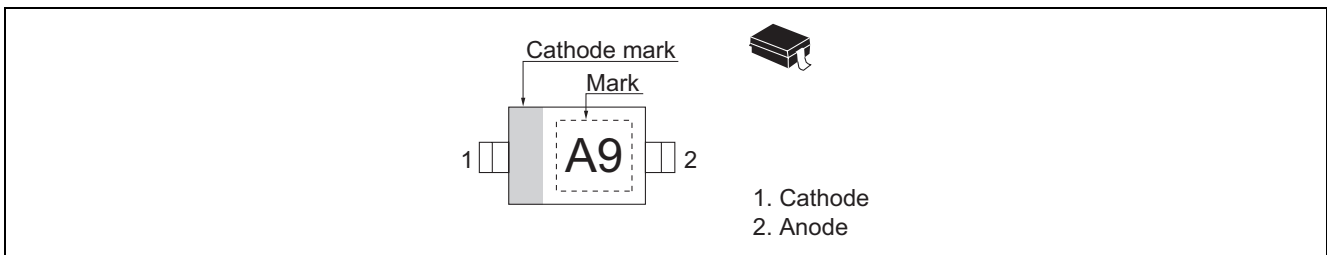
### Features

- Low voltage type (tuning voltage 1 to 10 V), it is suitable for ET without DC/DC converter.
- Low series resistance. ( $r_s = 0.6 \Omega$  max) and good C-V linearity.
- Ultra small Resin Package (URP) is suitable for surface mount design.

### Ordering Information

| Type No. | Laser Mark | Package Code |
|----------|------------|--------------|
| HVU326C  | A9         | URP          |

### Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

| Item                 | Symbol           | Value       | Unit |
|----------------------|------------------|-------------|------|
| Reverse voltage      | V <sub>R</sub>   | 15          | V    |
| Junction temperature | T <sub>j</sub>   | 125         | °C   |
| Storage temperature  | T <sub>stg</sub> | -55 to +125 | °C   |

## Electrical Characteristics

(Ta = 25°C)

| Item              | Symbol          | Min  | Typ | Max  | Unit | Test Condition                        |
|-------------------|-----------------|------|-----|------|------|---------------------------------------|
| Reverse current   | I <sub>R1</sub> | —    | —   | 10   | nA   | V <sub>R</sub> = 10 V                 |
|                   | I <sub>R2</sub> | —    | —   | 100  |      | V <sub>R</sub> = 10 V, Ta = 60°C      |
| Capacitance       | C <sub>1</sub>  | 13.0 | —   | 16.0 | pF   | V <sub>R</sub> = 1 V, f = 1 MHz       |
|                   | C <sub>10</sub> | 2.0  | —   | 2.3  |      | V <sub>R</sub> = 10 V, f = 1 MHz      |
| Capacitance ratio | n               | 6.0  | —   | —    | —    | C <sub>1</sub> / C <sub>10</sub>      |
| Series resistance | r <sub>s</sub>  | —    | —   | 0.6  | Ω    | V <sub>R</sub> = 5 V, f = 470 MHz     |
| Matching error    | ΔC/C *1         | —    | —   | 2.0  | %    | V <sub>R</sub> = 1 to 10 V, f = 1 MHz |

Note 1. C.C system (Continuous Connected taping system) enable to make any 10 pcs of ΔC/C continuous in a reel, expect extention to another group.

Calculate Matching Error,

$$\Delta C/C = \frac{(C_{max} - C_{min})}{C_{min}} \times 100 (\%)$$

Main Characteristic

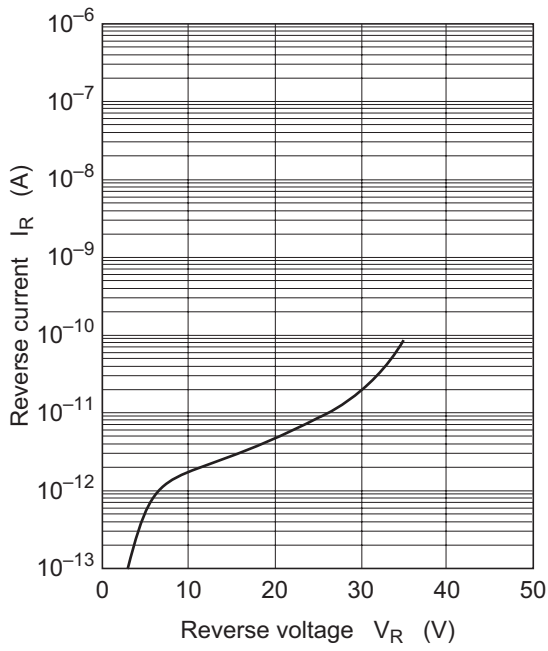


Fig.1 Reverse current vs. Reverse voltage

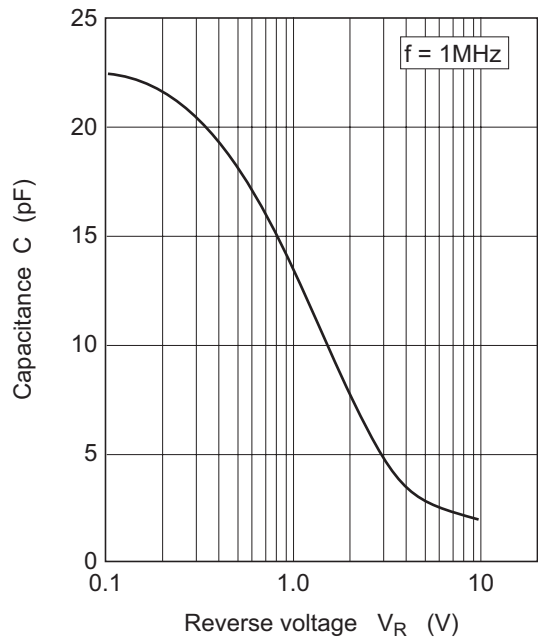


Fig.2 Capacitance vs. Reverse voltage

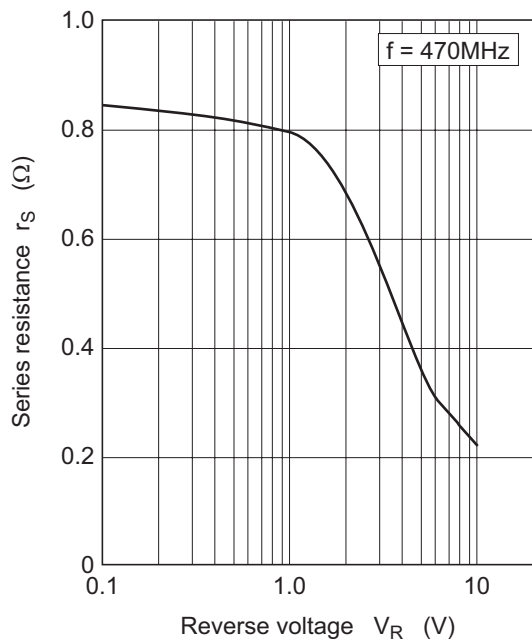


Fig.3 Series resistance vs. Reverse voltage

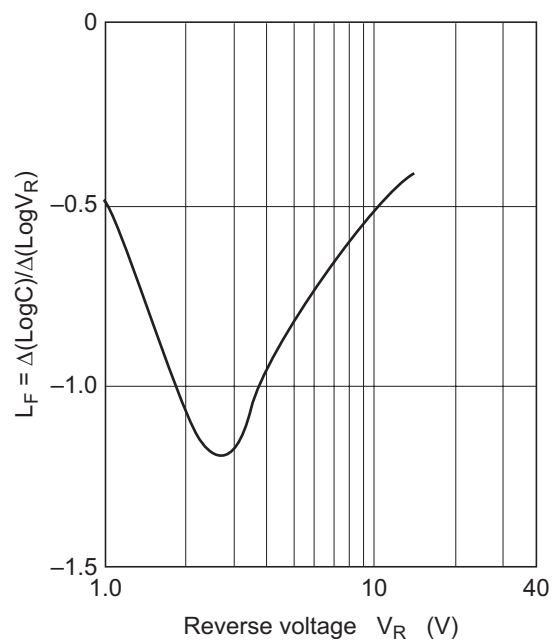
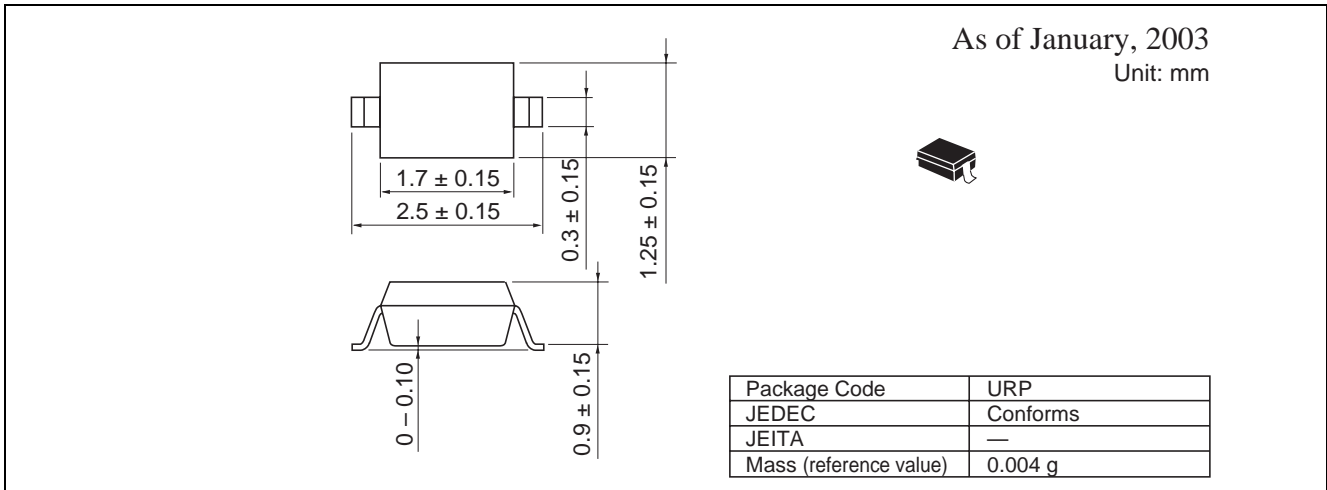


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions



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