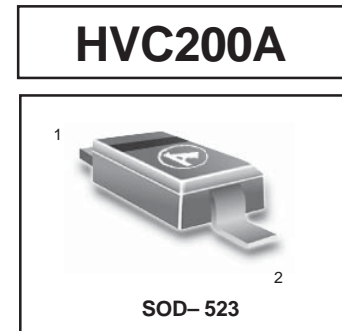


# Variable Capacitance Diode for Electronic Tuning

## FEATURES

- High capacitance ratio(n = 10min) and suitable for wide band tuner.
- Ultra small Resin Package (URP) is suitable for surface mount design.
- Low series resistance and good C-V linearity.



## DEVICE MARKING

HVC200A = 2

## ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25°C)

| Item                 | Symbol           | Value        | Unit |
|----------------------|------------------|--------------|------|
| Reverse voltage      | V <sub>R</sub>   | 32           | V    |
| Junction temperature | T <sub>j</sub>   | 125          | °C   |
| Storage temperature  | T <sub>stg</sub> | - 55 to +125 | °C   |

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)

| Item              | Symbol          | Min  | Typ | Max  | Unit | Test Condition                              |
|-------------------|-----------------|------|-----|------|------|---|
| Reverse current   | I <sub>R1</sub> | -    | -   | 10   | nA   | V <sub>R</sub> = 30V                        |
|                   | I <sub>R2</sub> | -    | -   | 100  |      | V <sub>R</sub> = 30V, T <sub>A</sub> = 60°C |
| Capacitance       | C <sub>2</sub>  | 27.7 | -   | 31.8 | pF   | V <sub>R</sub> = 2V, f = 1 MHz              |
|                   | C <sub>25</sub> | 2.67 | -   | 3.03 |      | V <sub>R</sub> = 25V, f = 1 MHz             |
| Capacitance ratio | n               | 10.0 | -   | -    | -    | C <sub>2</sub> / C <sub>25</sub>            |
| Series resistance | r <sub>s</sub>  | -    | -   | 0.70 | Ω    | V <sub>R</sub> = 5V, f = 470 MHz            |
| Matching error    | ΔC/C*1          | -    | -   | 2.0  | %    | V <sub>R</sub> = 2 to 25V, 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 extension to another group.

Calculate Matching Error,

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

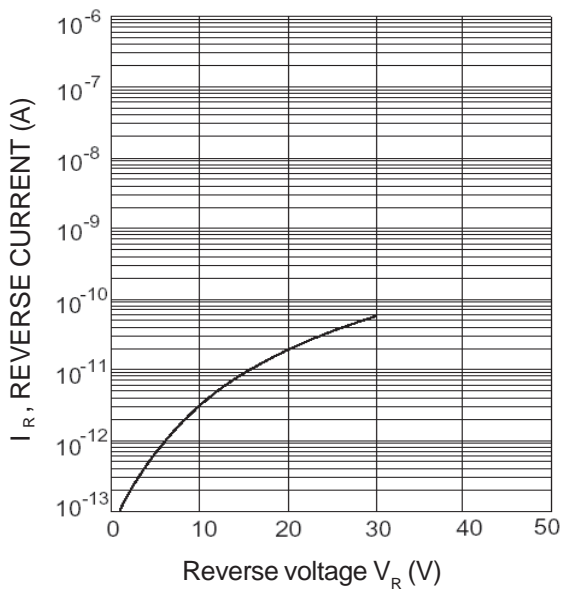
**HVC200A**


Fig.1 Reverse current Vs. Reverse voltage

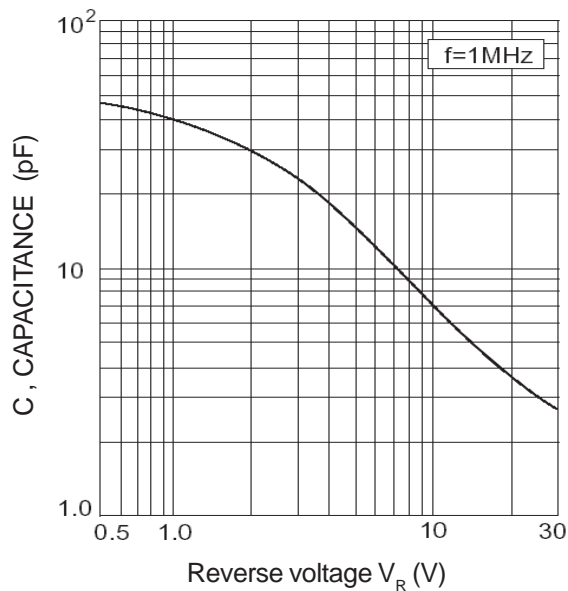


Fig.2 Capacitance Vs. Reverse voltage

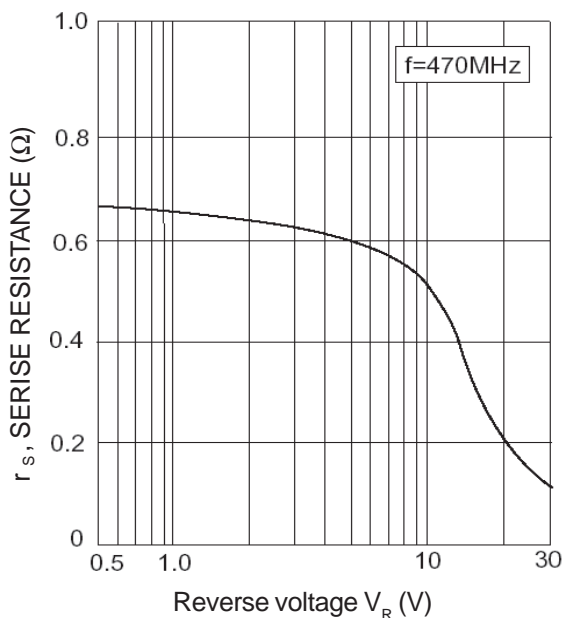


Fig.3 Series resistance Vs. Reverse voltage

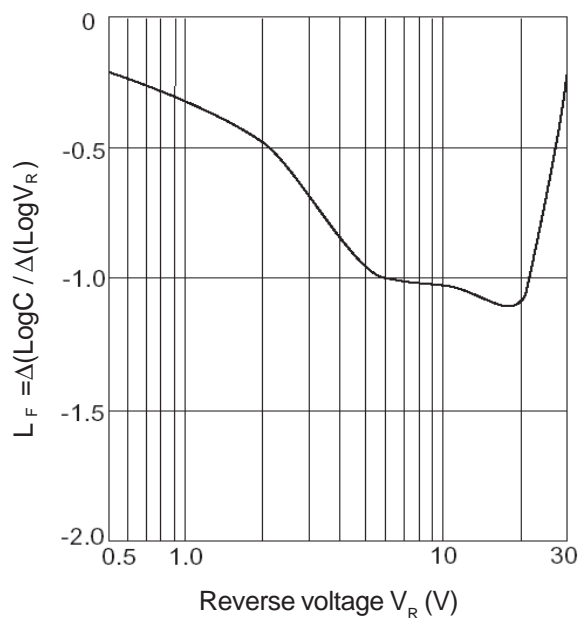


Fig.4 Linearity factor Vs. Reverse voltage