

## HVC308A

Variable Capacitance Diode for TV tuner

REJ03G0099-0200Z  
(Previous: ADE-208-411A)  
Rev.2.00  
Sep.23.2003

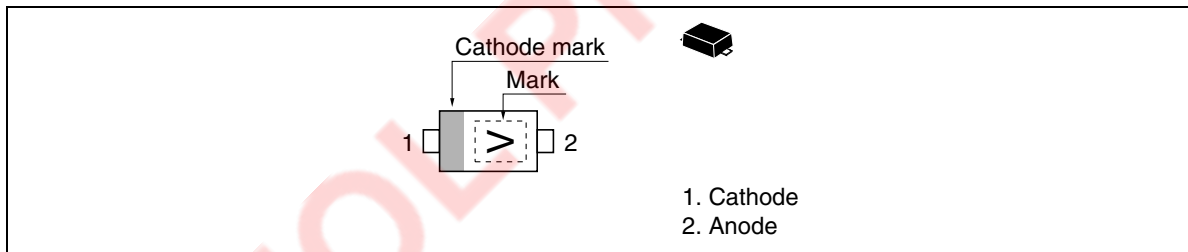
### Features

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

### Ordering Information

| Type No. | Laser Mark | Package Code |
|----------|------------|--------------|
| HVC308A  | V          | UFP          |

### Pin Arrangement



## 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 | $\Omega$ | $V_R = 5\text{ V}, f = 470\text{ MHz}$      |

Main Characteristic

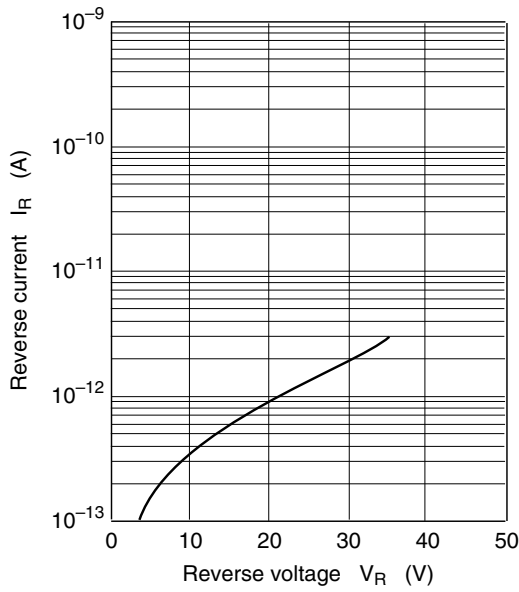


Fig.1 Reverse current vs. Reverse voltage

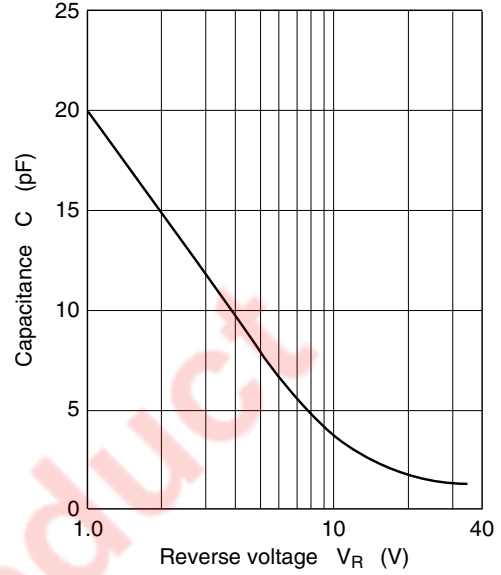


Fig.2 Capacitance vs. Reverse voltage

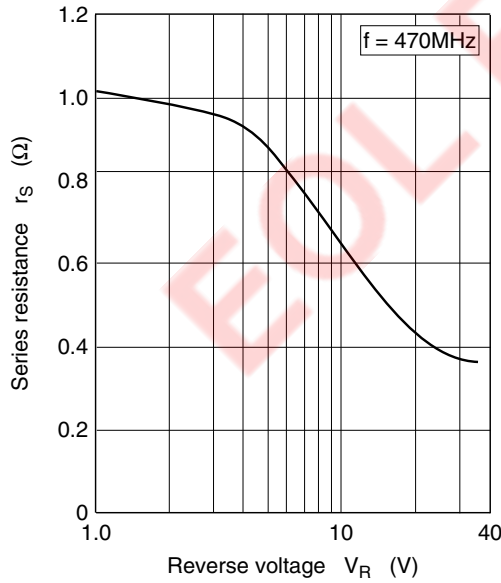


Fig.3 Series resistance vs. Reverse voltage

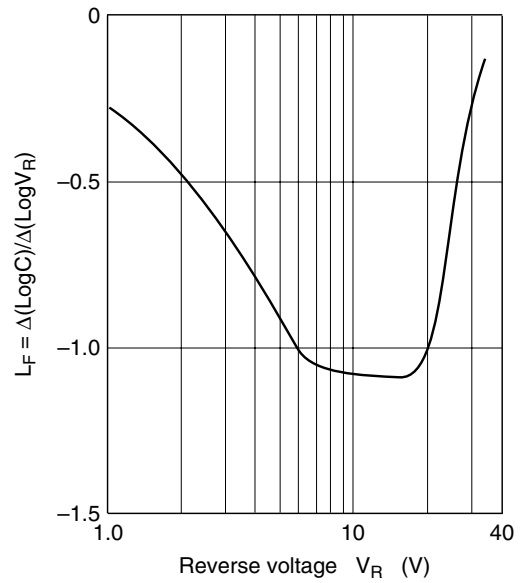
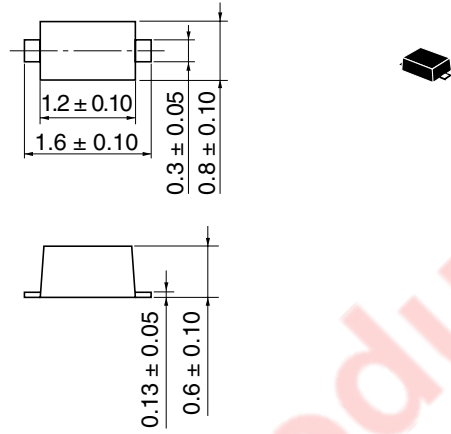


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions

As of January, 2003  
Unit: mm



|                        |          |
|------------------------|----------|
| Package Code           | UFP      |
| JEDEC                  | —        |
| JEITA                  | Conforms |
| Mass (reference value) | 0.0016 g |

EOL Product

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