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# HVU12

Variable Capacitance Diode for Electronic Tuning

# HITACHI

ADE-208-063C(Z)  
Rev 3

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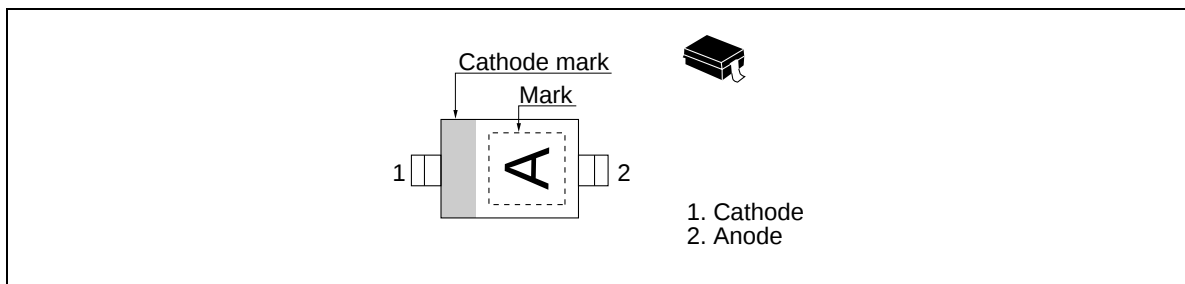
## Features

- High capacitance ratio to wide tuning band width. ( $C1/C30 = 4.0\text{min}$ )
- Low series resistance. ( $r_s = 1.5\Omega\text{max}$ )
- Ultra small Resin Package (URP) is suitable for surface mount design.

## Ordering Information

| Type No. | Laser Mark | Package Code |
|----------|------------|--------------|
| HVU12    | A          | URP          |

## Outline



## HVU12

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

| Item                 | Symbol    | Value       | Unit |
|----------------------|-----------|-------------|------|
| Reverse voltage      | $V_R$     | 35          | 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 voltage   | $V_R$                 | 35   | —   | —    | V        | $I_R = 10\mu A$                           |
| Reverse current   | $I_{R1}$              | —    | —   | 50   | nA       | $V_R = 30V$                               |
| Capacitance       | $C_1$                 | 3.60 | —   | 5.60 | pF       | $V_R = 1V, f = 1\text{ MHz}$              |
|                   | $C_{10}$              | 1.04 | —   | 1.64 |          | $V_R = 10V, f = 1\text{ MHz}$             |
|                   | $C_{30}$              | 0.45 | —   | 0.85 |          | $V_R = 30V, f = 1\text{ MHz}$             |
| Capacitance ratio | n                     | 4.0  | —   | —    | —        | $C_1 / C_{30}$                            |
| Series resistance | $r_s$                 | —    | —   | 1.5  | $\Omega$ | $V_R = 2V, f = 100\text{ MHz}$            |
| Matching error    | $\Delta C/C \times 1$ | —    | —   | 6.0  | %        | $V_R = 1\text{ to }30V, f = 1\text{ MHz}$ |

Note: 1. C.C system (Continuous Connected taping system) enable to make any 10 pcs of  $\Delta C/C$  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

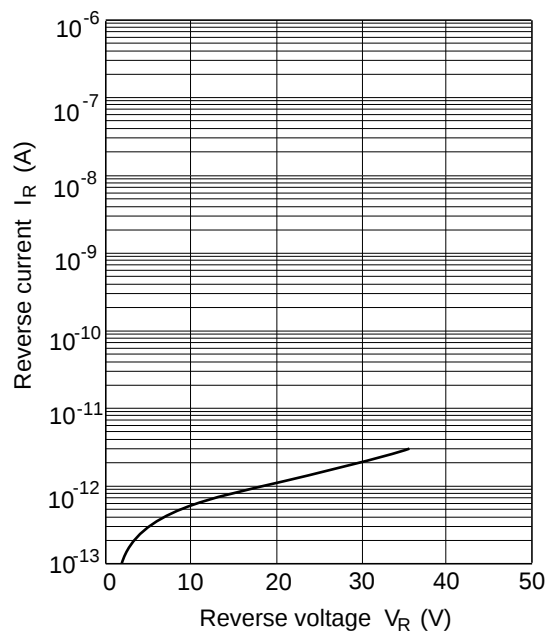


Fig.1 Reverse current Vs. Reverse voltage

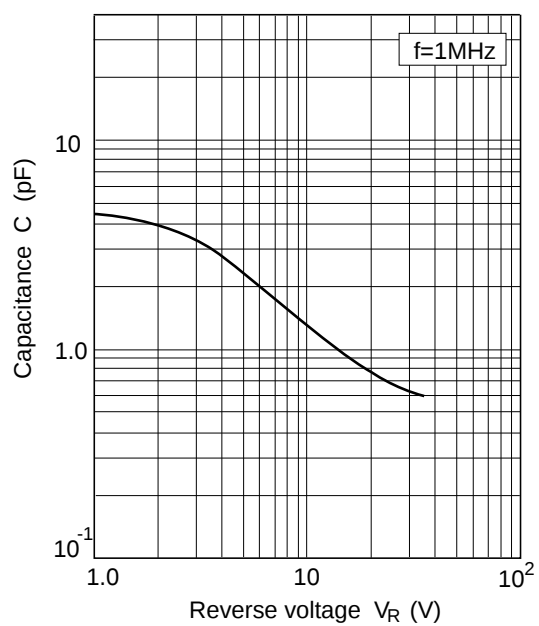


Fig.2 Capacitance Vs. Reverse voltage

HVU12

Package Dimensions

Unit : mm

