
HVU306B

Variable Capacitance Diode for VHF tuner

HITACHI

ADE-208-611 (Z)

Rev 0

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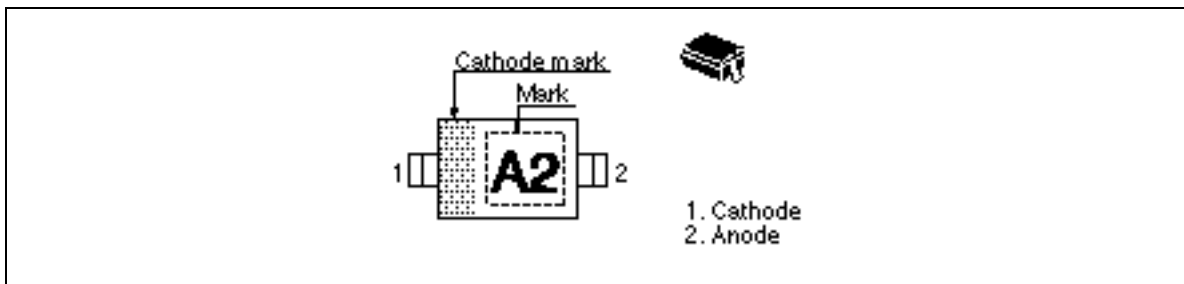
Features

- Low matching error. ($\Delta C/C = 2.0\%$ max)
- High capacitance ratio. ($n = 11.0$ min)
- Low series resistance. ($r_s = 0.75\%$ max)
- Ultra small Resin Package (URP) is suitable for surface mount design.

Ordering Information

| Type No. | Laser Mark | Package Code |
|----------|------------|--------------|
| HVU306B | A2 | URP |

Outline



HVU306B

Absolute Maximum Ratings (Ta = 25°C)

| Item | Symbol | Value | Unit |
|----------------------|---------------|-------------|------|
| Peak reverse voltage | V_{RM}^{*1} | 35 | V |
| Reverse voltage | V_R | 34 | V |
| Junction temperature | T_j | 125 | °C |
| Storage temperature | T_{stg} | -55 to +125 | °C |

Note 1. $RL=10K\frac{1}{2}$

Electrical Characteristics (Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test Condition |
|-------------------|-------------------|------|-----|------|---------------|-----------------------------|
| Reverse current | I_{R1} | — | — | 10 | nA | $V_R = 32V$ |
| | I_{R2} | — | — | 100 | | $V_R = 32V, T_a = 60°C$ |
| Capacitance | C_2 | 29.5 | — | 33.5 | pF | $V_R = 2V, f = 1MHz$ |
| | C_{25} | 2.60 | — | 2.90 | | $V_R = 25V, f = 1MHz$ |
| Capacitance ratio | n | 11.0 | — | — | — | C_2/C_{25} |
| Series resistance | r_s | — | — | 0.75 | $\frac{1}{2}$ | $V_R = 5V, f = 470MHz$ |
| Matching error | $\Delta C/C^{*1}$ | — | — | 2.0 | % | $V_R = 2\sim 25V, f = 1MHz$ |

Note 1. C.C system (Continuous Connected taping system) enable to make any 10 pcs of $\Delta C/C$ continuous in a reel, expect extension to another group.
Calculate Matching Error,

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

Main Characteristic

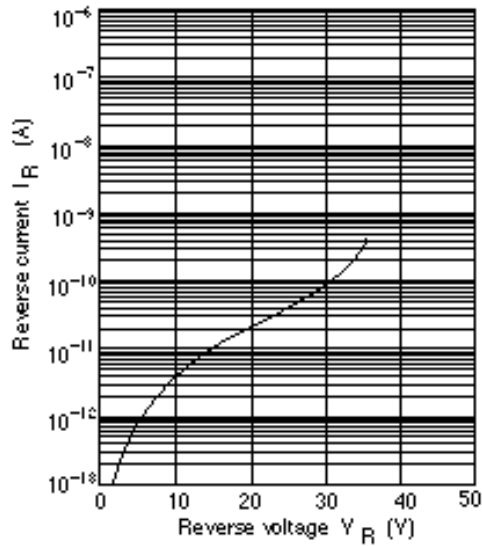


Fig.1 Reverse current I_R (A) vs. Reverse voltage V_R (V)

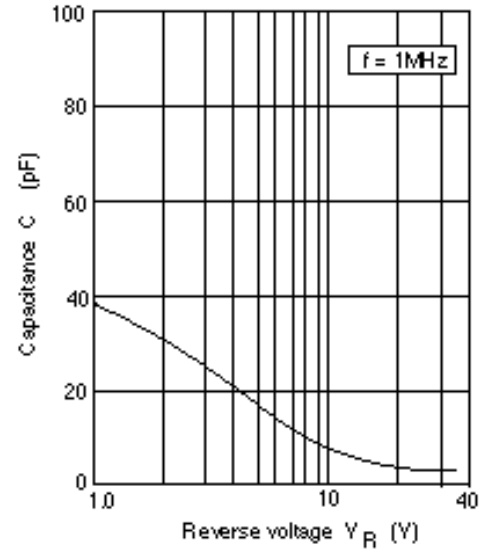


Fig.2 Capacitance C (pF) vs. Reverse voltage V_R (V)

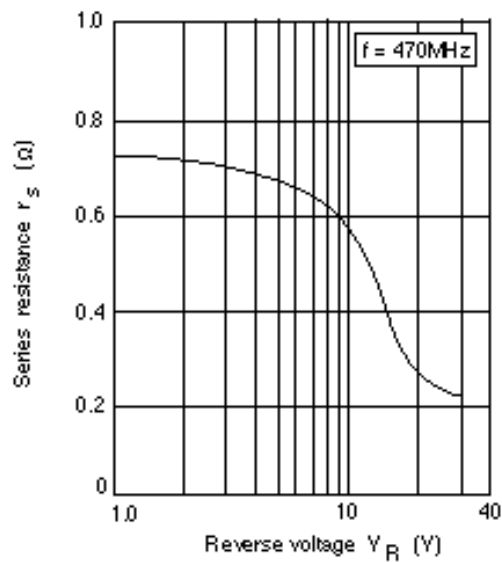


Fig.3 Series resistance r_s (Ω) vs. Reverse voltage V_R (V)

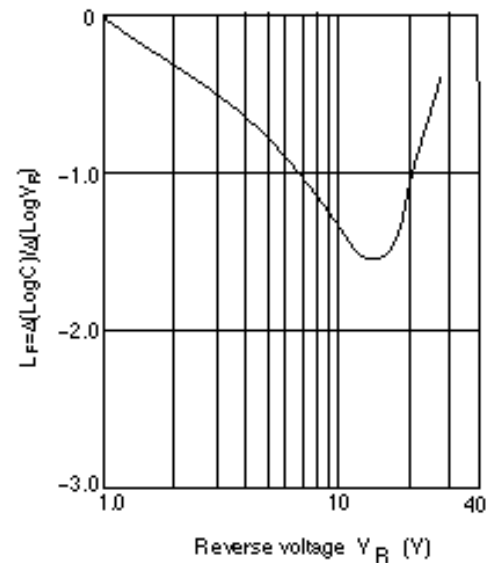
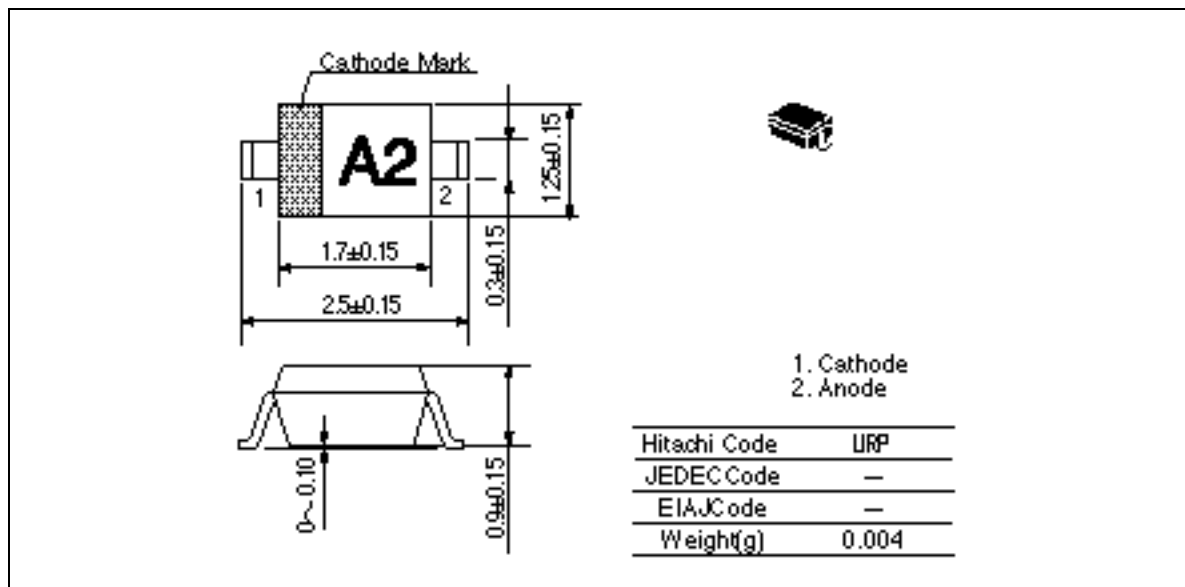


Fig.4 Linearity factor $L_F = 4(\text{Log } C)/\Delta(\text{Log } V_R)$ vs. Reverse voltage V_R (V)

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Package Dimensions

Unit : mm



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