

HVU300B

Variable Capacitance Diode for VHF tuner

REJ03G0106-0100Z
(Previous: ADE-208-408)
Rev.1.00
Sep.29.2003

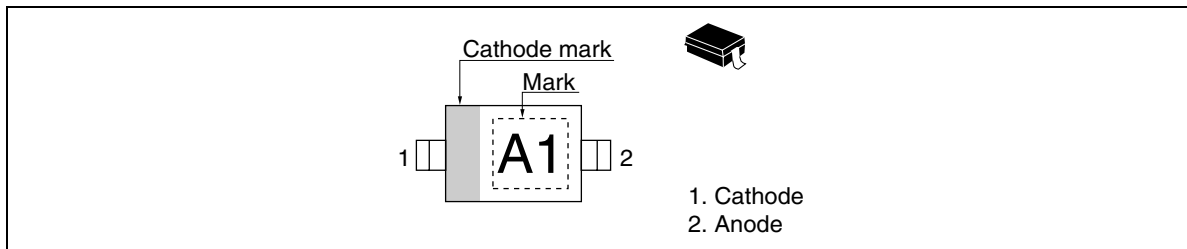
Features

- Low matching error. ($\Delta C/C = 2.0\%$ max)
- High capacitance ratio. ($n = 17.0$ min)
- Low series resistance. ($r_s = 1.1 \Omega$ max)
- Ultra small Resin Package (URP) is suitable for surface mount design.

Ordering Information

| Type No. | Laser Mark | Package Code |
|----------|------------|--------------|
| HVU300B | A1 | URP |

Pin Arrangement



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 | Tj | 125 | °C |
| Storage temperature | Tstg | -55 to +125 | °C |

Note: 1. $R_L = 10\text{ k}\Omega$

Electrical Characteristics

(Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test Condition |
|-------------------|-------------------|------|-----|------|----------|---|
| Reverse current | I_{R1} | — | — | 10 | nA | $V_R = 32\text{ V}$ |
| | I_{R2} | — | — | 100 | | $V_R = 32\text{ V}, T_a = 60^\circ\text{C}$ |
| Capacitance | C_2 | 47.0 | — | 53.0 | pF | $V_R = 2\text{ V}, f = 1\text{ MHz}$ |
| | C_{25} | 2.65 | — | 3.00 | | $V_R = 25\text{ V}, f = 1\text{ MHz}$ |
| Capacitance ratio | n | 17.0 | — | — | — | C_2/C_{25} |
| Series resistance | r_s | — | — | 1.1 | Ω | $V_R = 5\text{ V}, f = 470\text{ MHz}$ |
| Matching error | $\Delta C/C^{*1}$ | — | — | 2.0 | % | $V_R = 2\text{ to }25\text{ V}, f = 1\text{ MHz}$ |

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

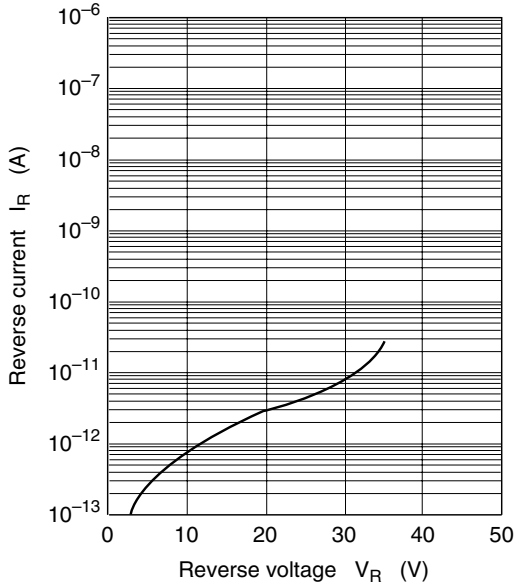


Fig.1 Reverse current vs. Reverse voltage

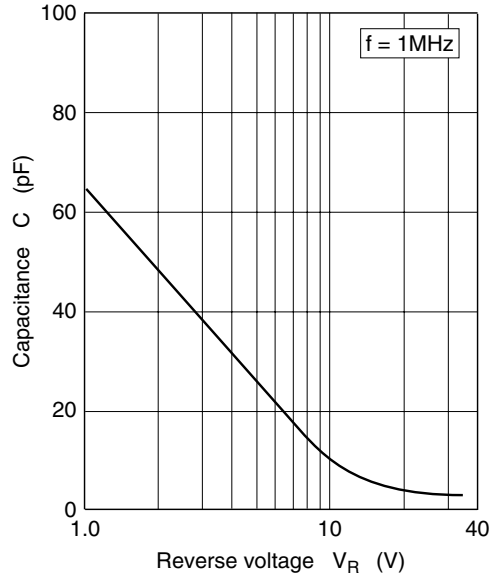


Fig.2 Capacitance vs. Reverse voltage

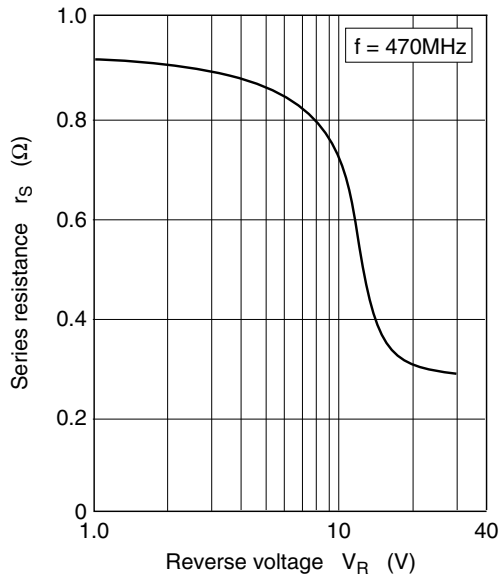


Fig.3 Series resistance vs. Reverse voltage

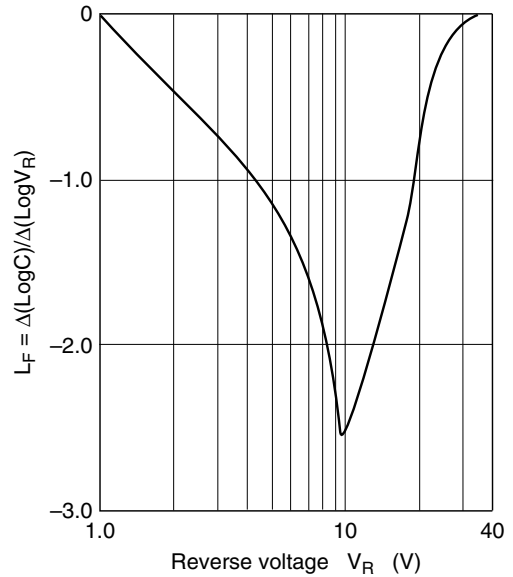
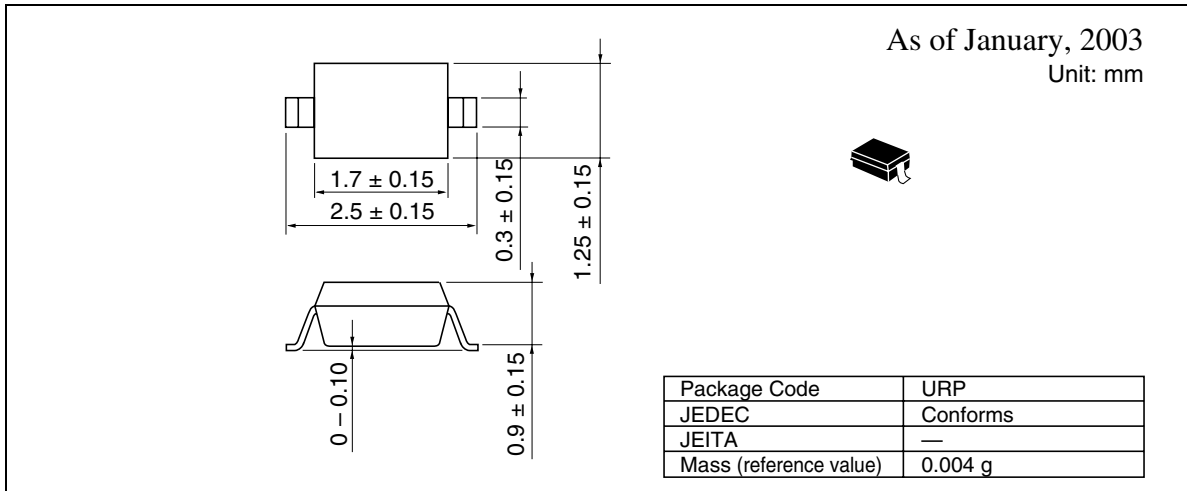


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions



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