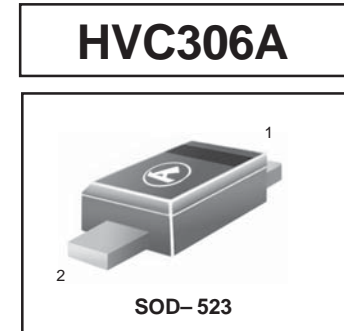


Variable Capacitance Diode for VHF Tuner

FEATURES

- High capacitance ratio (n=11.0min).
- Low series resistance and good C-V linearity.
- Ultra small Flat Package (UFP) is suitable for surface mount design



DEVICE MARKING

HVC306A = 3

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C)

| Item | Symbol | Value | Unit |
|----------------------|------------------|--------------|------|
| Reverse voltage | V _R | 32 | V |
| Junction temperature | T _j | 125 | °C |
| Storage temperature | T _{stg} | - 55 to +125 | °C |

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test Condition |
|-------------------|-----------------|------|-----|------|------|---|
| Reverse current | I _{R1} | - | - | 10 | nA | V _R = 30V |
| | I _{R2} | - | - | 100 | | V _R = 30V, T _A = 60°C |
| Capacitance | C ₂ | 29.3 | - | 34.2 | pF | V _R = 2V, f = 1 MHz |
| | C ₂₅ | 2.57 | - | 2.92 | | V _R = 25V, f = 1 MHz |
| Capacitance ratio | n | 11.0 | - | - | - | C ₂ / C ₂₅ |
| Series resistance | r _s | - | - | 0.75 | Ω | V _R = 5V, f = 470 MHz |
| Matching error | ΔC/C*1 | - | - | 2.0 | % | V _R = 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,

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

HVC306A

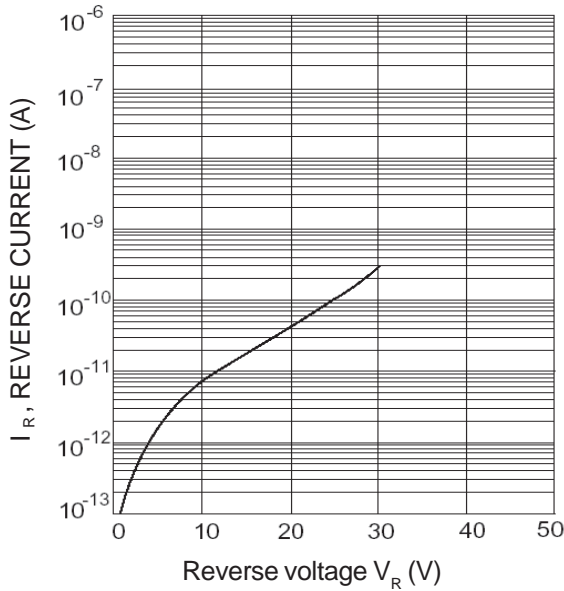


Fig.1 Reverse current Vs. Reverse voltage

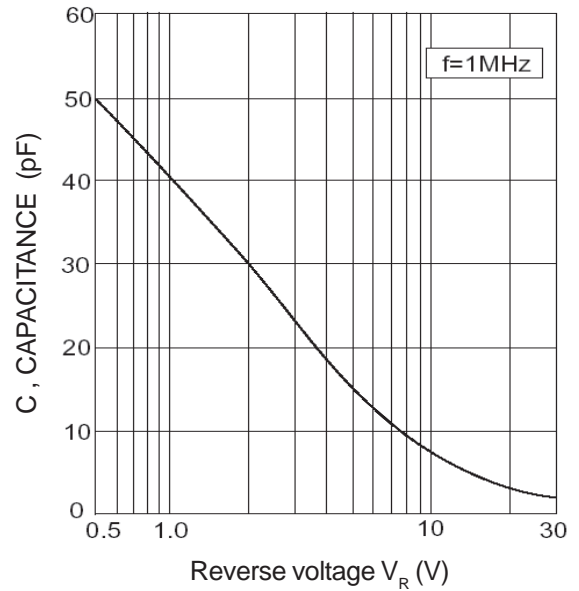


Fig.2 Capacitance Vs. Reverse voltage

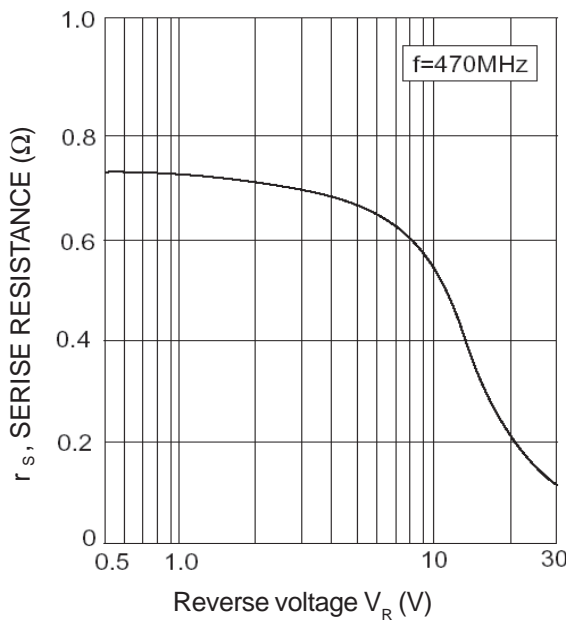


Fig.3 Series resistance Vs. Reverse voltage

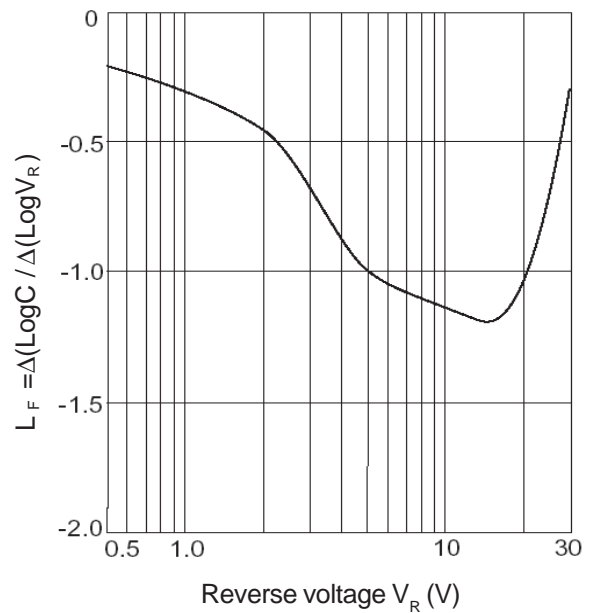


Fig.4 Linearity factor Vs. Reverse voltage