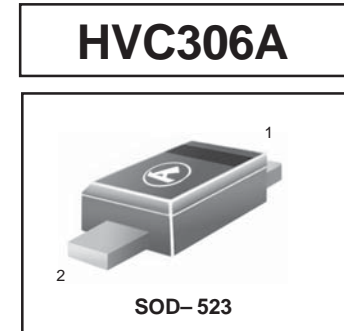


# Variable Capacitance Diode for VHF Tuner

## 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<sub>A</sub> = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	V <sub>R</sub>	32	V
Junction temperature	T <sub>j</sub>	125	°C
Storage temperature	T <sub>stg</sub>	- 55 to +125	°C

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)

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

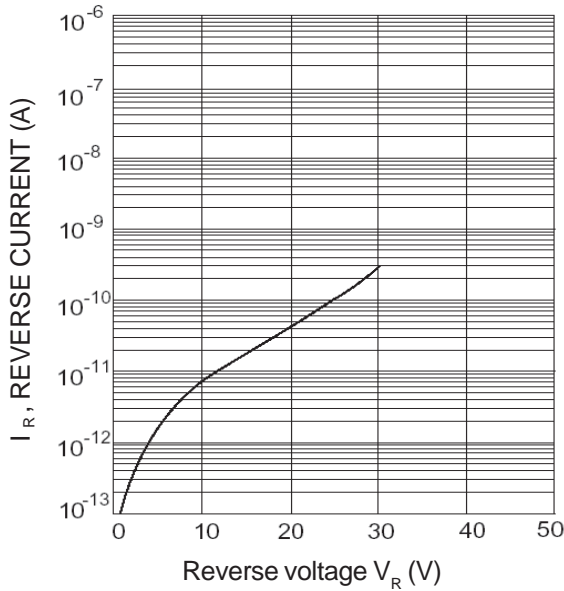


Fig.1 Reverse current Vs. Reverse voltage

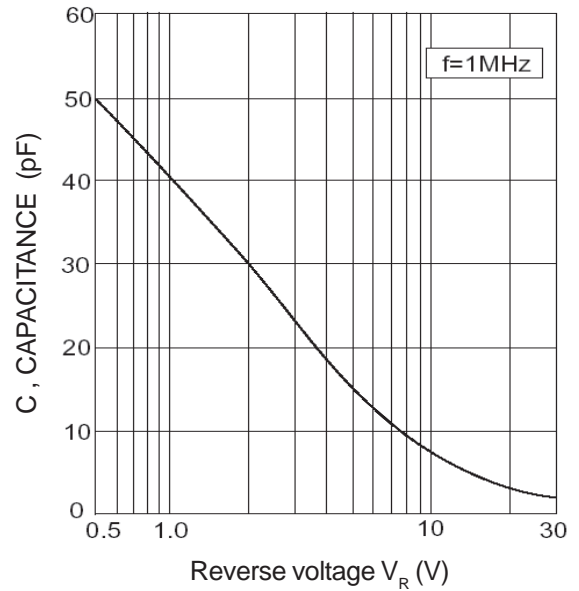


Fig.2 Capacitance Vs. Reverse voltage

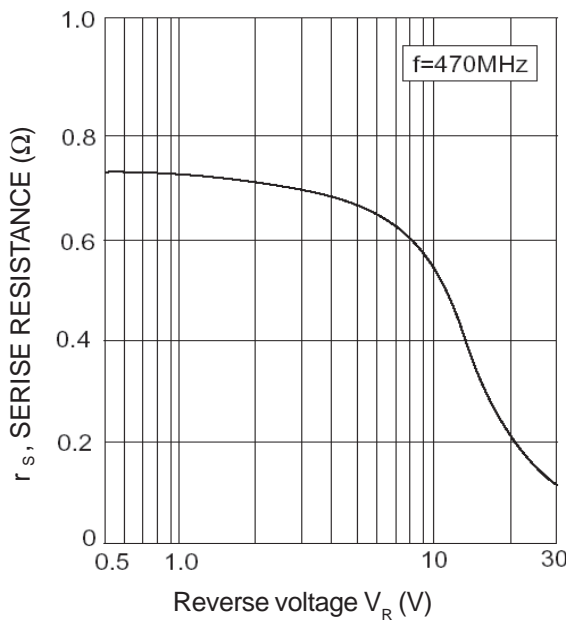


Fig.3 Series resistance Vs. Reverse voltage

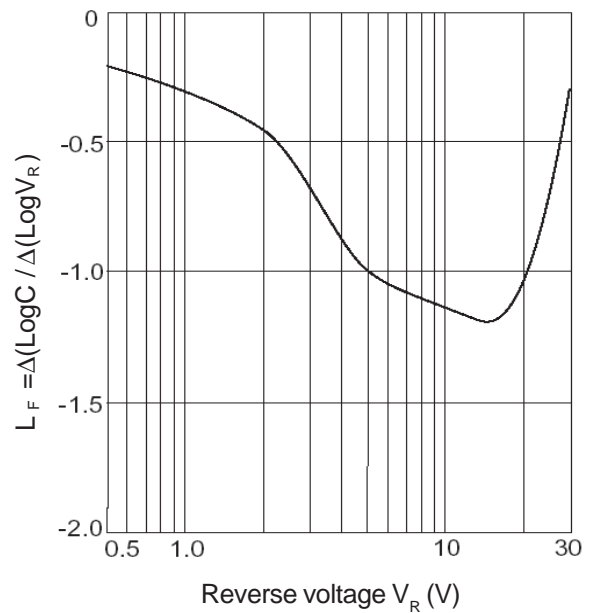


Fig.4 Linearity factor Vs. Reverse voltage