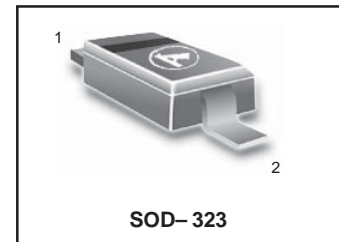


# Variable Capacitance Diode for VHF Tuner

**HVU306A**



## FEATURES

- Low series resistance. ( $r_s=11.0 \Omega_{max}$ )
- Low series resistance and good C-V linearity.
- Ultra small Resin Package (URP) is suitable for surface mount design.



## DEVICEMARKING

HVU306A = 3

## ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ )

Item	Symbol	Value	Unit
Reverse voltage	$V_R$	32	V
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature	$T_{stg}$	- 55 to +125	$^\circ\text{C}$

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ )

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse current	$I_{R1}$	-	-	10	nA	$V_R = 30\text{V}$
	$I_{R2}$	-	-	100		$V_R = 30\text{V}, T_A = 60^\circ\text{C}$
Capacitance	$C_2$	29.3	-	34.2	pF	$V_R = 2\text{V}, f = 1 \text{ MHz}$
	$C_{25}$	2.57	-	2.92		$V_R = 25\text{V}, f = 1 \text{ MHz}$
Capacitance ratio	n	11.0	-	-	-	$C_2 / C_{25}$
Series resistance	$r_s$	-	-	0.75	$\Omega$	$V_R = 5\text{V}, f = 470 \text{ MHz}$
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 extension to another group.

Calculate Matching Error,

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

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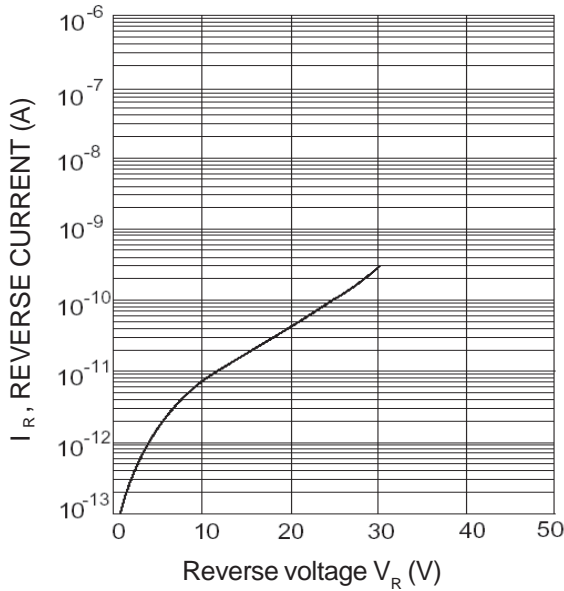


Fig.1 Reverse current Vs. Reverse voltage

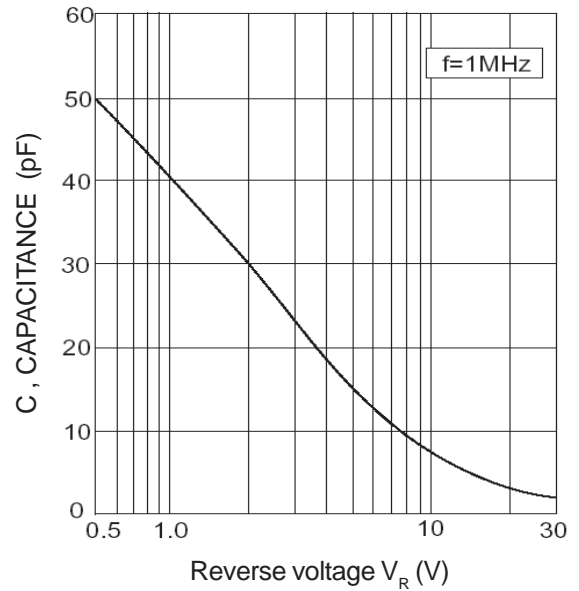


Fig.2 Capacitance Vs. Reverse voltage

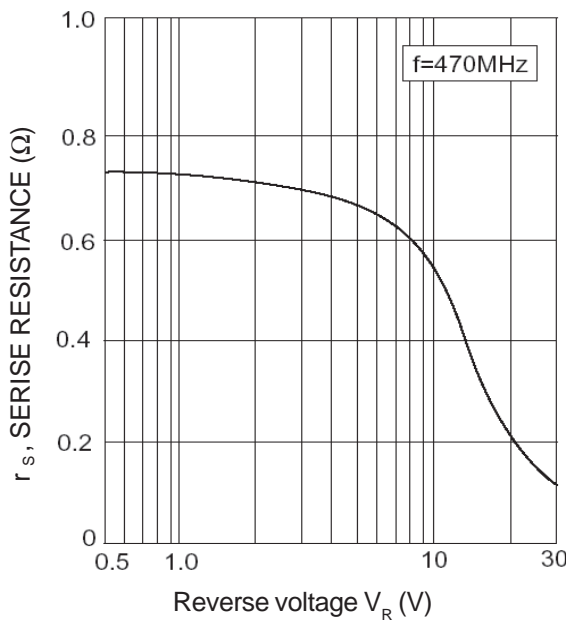


Fig.3 Series resistance Vs. Reverse voltage

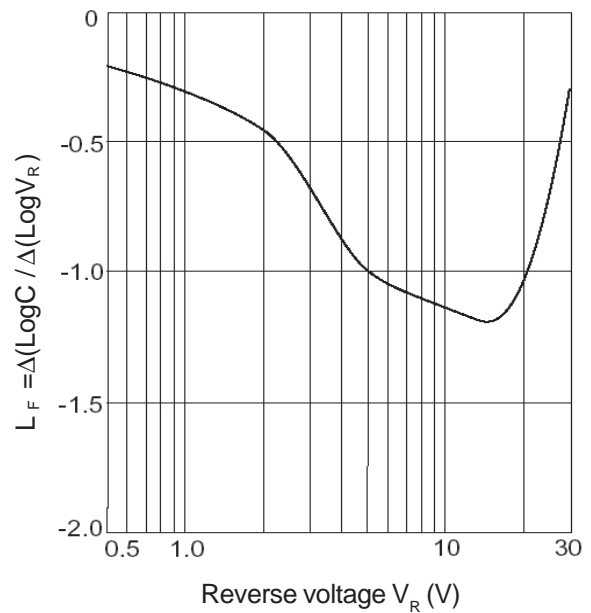


Fig.4 Linearity factor Vs. Reverse voltage