

Variable Capacitance Diode for VHF Tuner

HVU306A



SOD-323

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	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 extension to another group.

Calculate Matching Error,

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

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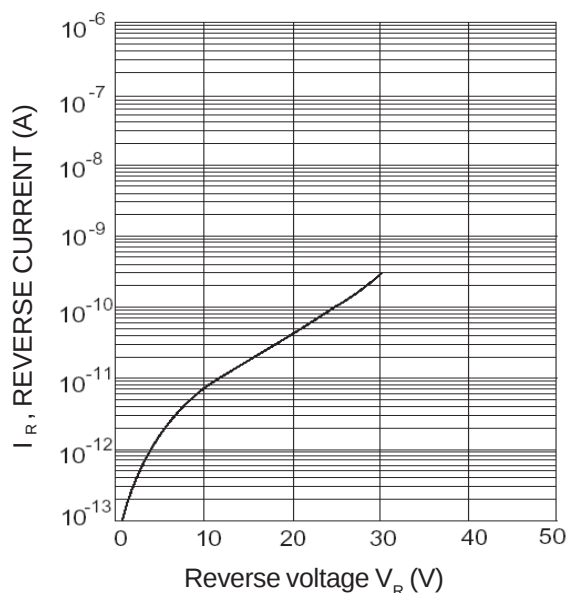


Fig.1 Reverse current Vs. Reverse voltage

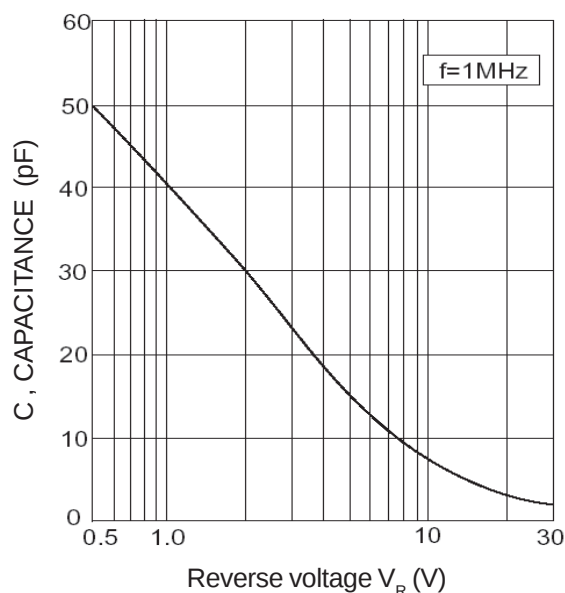


Fig.2 Capacitance Vs. Reverse voltage

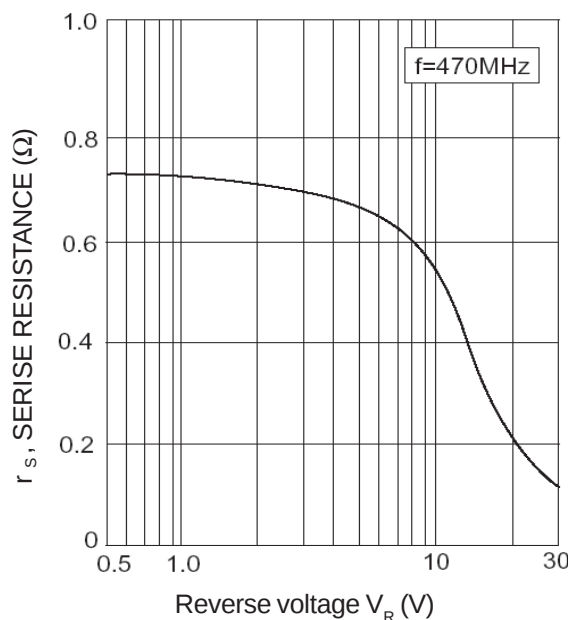


Fig.3 Series resistance Vs. Reverse voltage

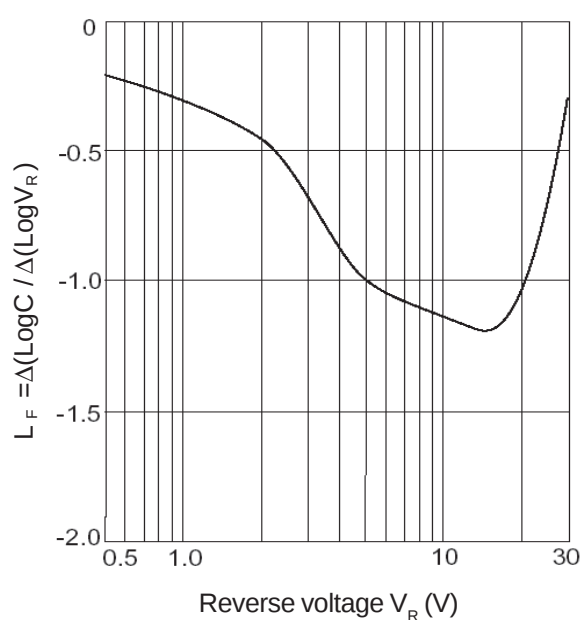


Fig.4 Linearity factor Vs. Reverse voltage