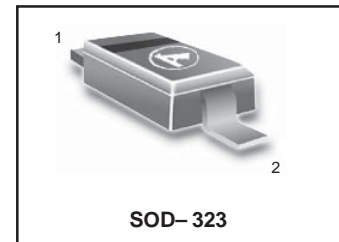


Variable Capacitance Diode for VHF Tuner

FEATURES

- Low matching error. ($\Delta C/C = 2.0\% \text{max}$)
- High capacitance ratio. ($n = 11.0 \text{min}$)
- Low series resistance. ($r_s = 0.75\Omega \text{max}$)
- Ultra small Resin Package (URP) is suitable for surface mount design.

HVU306B



DEVICEMARKING

HVU306B = A2

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

Item	Symbol	Value	Unit
Peak reverse voltage	V_{RM}^{*1}	35	V
Reverse voltage	V_R	34	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	$V_R = 32\text{V}$
	I_{R2}	-	-	100		$V_R = 32\text{V}, T_A = 60^\circ\text{C}$
Capacitance	C_2	29.5	-	33.5	pF	$V_R = 2\text{V}, f = 1\text{ MHz}$
	C_{25}	2.60	-	2.90		$V_R = 25\text{V}, f = 1\text{ MHz}$
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,

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

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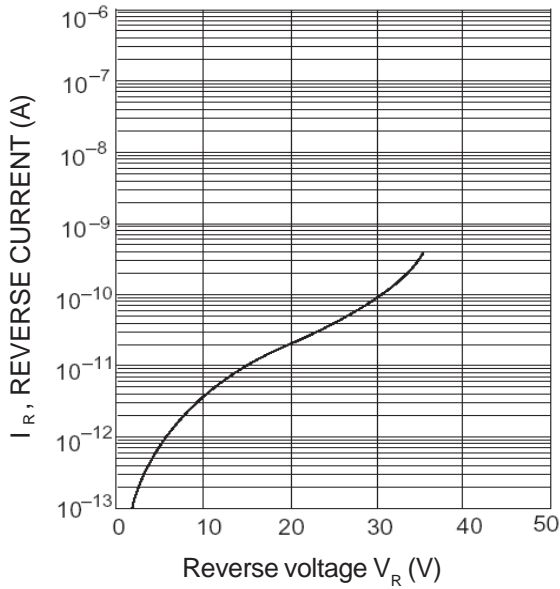


Fig.1 Reverse current Vs. Reverse voltage

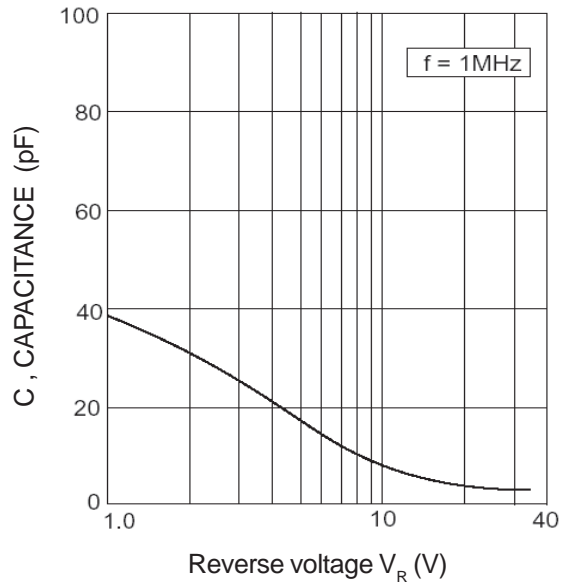


Fig.2 Capacitance Vs. Reverse voltage

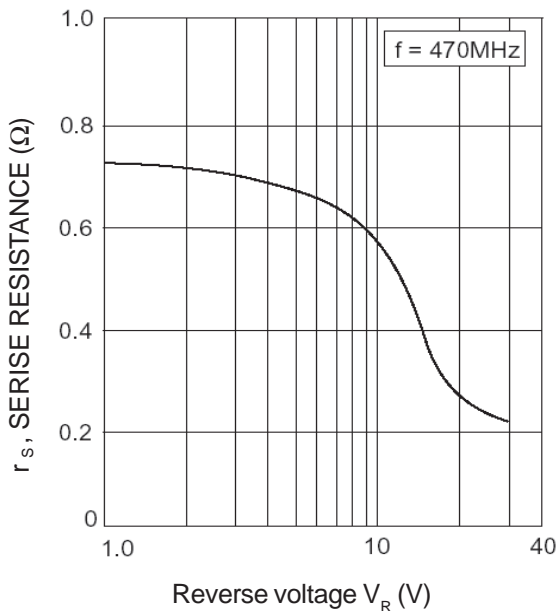


Fig.3 Series resistance Vs. Reverse voltage

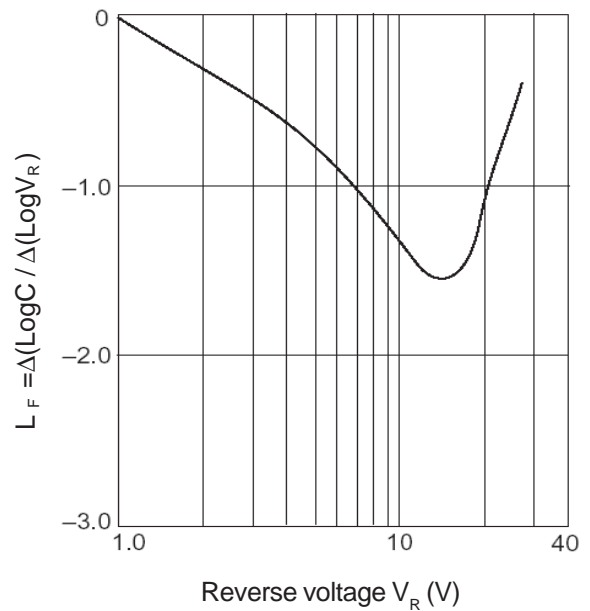


Fig.4 Linearity factor Vs. Reverse voltage