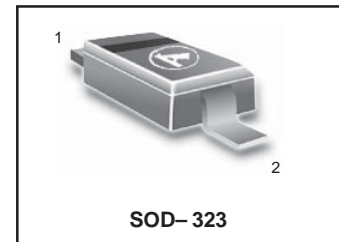


# Variable Capacitance Diode for UHF/VHF Tuner

## HVU202B



### FEATURES

- Low matching error. ( $\Delta C/C = 1.8\% \max$ )
- High capacitance ratio. ( $n = 6.3 \min$ )
- Low series resistance. ( $r_s = 0.57 \Omega \max$ )
- Ultra small Resin Package (URP) is suitable for surface mount design.



### DEVICEMARKING

HVU202B = A0

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

Item	Symbol	Value	Unit
Peak reverse voltage	$V_{RM}^{*1}$	35	V
Reverse voltage	$V_R$	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	$C_2$	14.15	-	15.75	pF	$V_R = 2\text{V}, f = 1\text{ MHz}$
	$C_{25}$	2.06	-	2.35		$V_R = 25\text{V}, f = 1\text{ MHz}$
Capacitance ratio	n	6.30	-	-	-	$C_2 / C_{25}$
Series resistance	$r_s$	-	-	0.57	$\Omega$	$V_R = 5\text{V}, f = 470\text{ MHz}$
Matching error	$\Delta C/C^{*1}$	-	-	1.8	%	$V_R = 2\text{ to }25\text{V}, f = 1\text{ MHz}$

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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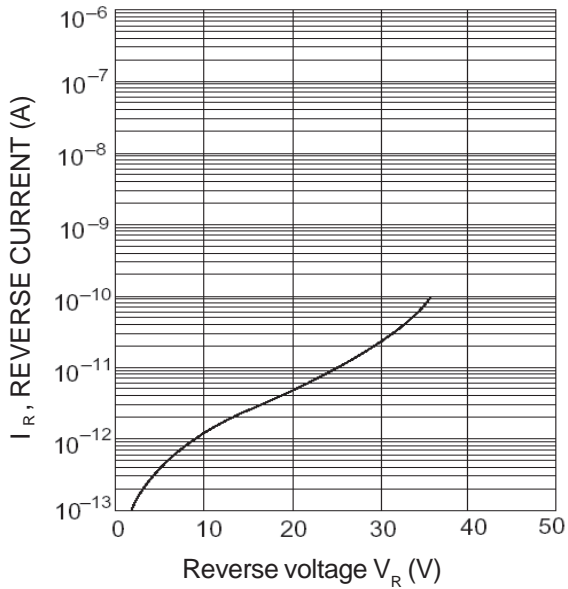


Fig.1 Reverse current Vs. Reverse voltage

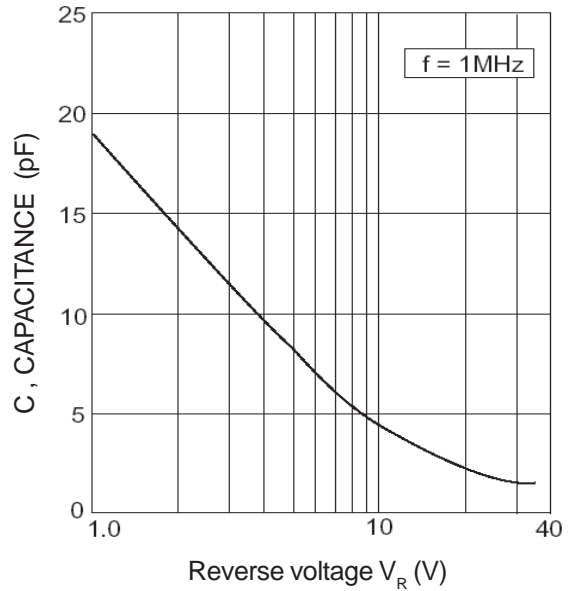


Fig.2 Capacitance Vs. Reverse voltage

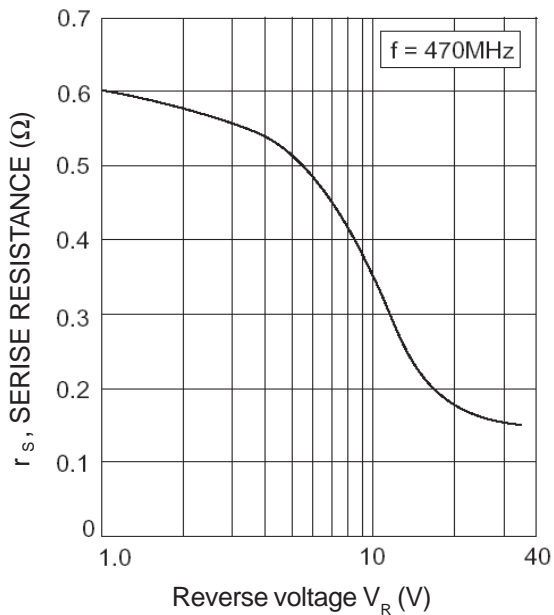


Fig.3 Series resistance Vs. Reverse voltage

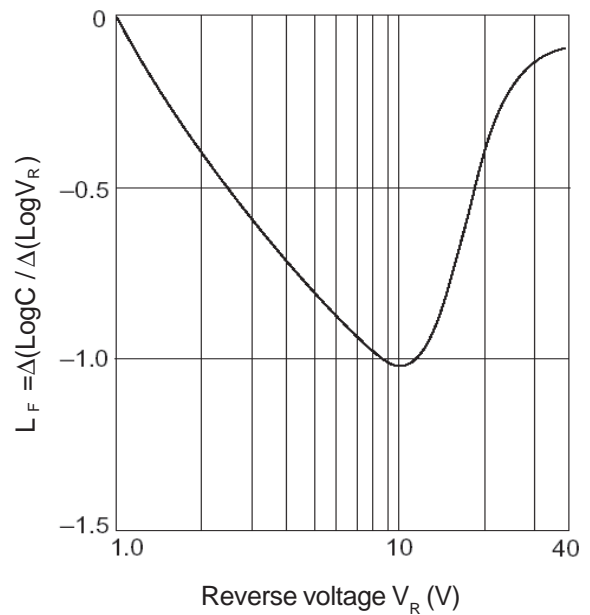


Fig.4 Linearity factor Vs. Reverse voltage