

# HVU306A

## Variable Capacitance Diode for VHF tuner

# HITACHI

Rev. 4  
Nov. 1994

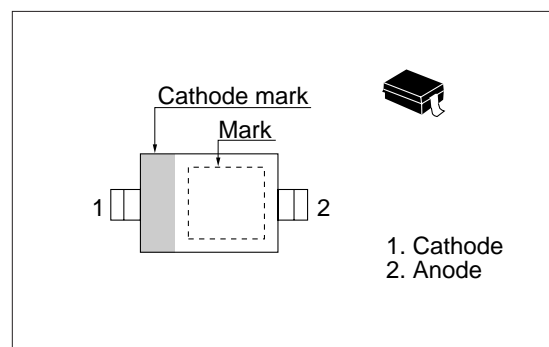
### Features

- High capacitance ratio. ( $n=11.0$ min)
- Low series resistance and good C-V linearity.
- Ultra small Resin Package (URP) is suitable for surface mount design.

### Ordering Information

Type No.	Laser Mark	Package Code
HVU306A	3	URP

### Outline



### 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	$T_{\text{stg}}$	-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	nA	$V_R = 30\text{ V}$ , $T_a = 60\text{ }^\circ\text{C}$
Capacitance	$C_2$	29.3	—	34.2	pF	$V_R = 2\text{ V}$ , $f = 1\text{ MHz}$
	$C_{25}$	2.57	—	2.92	pF	$V_R = 25\text{ V}$ , $f = 1\text{ MHz}$
	$\Delta C/C^*$	—	—	2.0	%	$C_2, C_{25}$
Capacitance ratio	$n$	11.0	—	—	—	$C_2 / C_{25}$
Series resistance	$r_s$	—	—	0.75	$\Omega$	$V_R = 5\text{ V}$ , $f = 470\text{ MHz}$

\* A set of HVU306A is of uniform C-V characteristics.

Measure max. value and min. value of capacitance .

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

\*\* Each group shall uniform a multiple of 4 diodes.

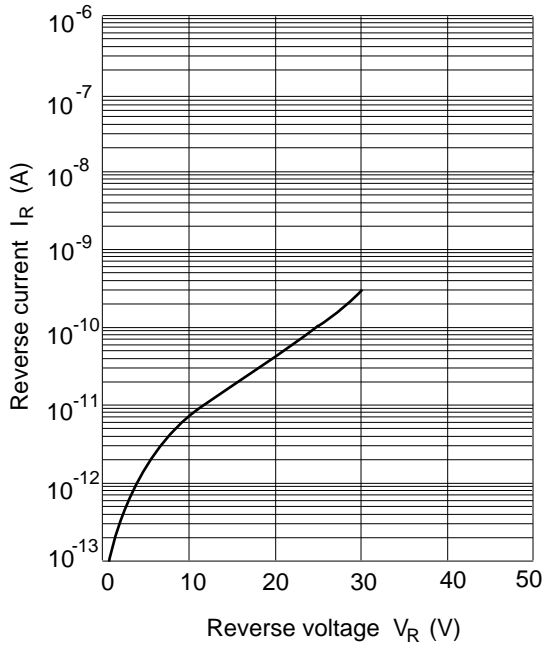


Fig.1 Reverse current Vs. Reverse voltage

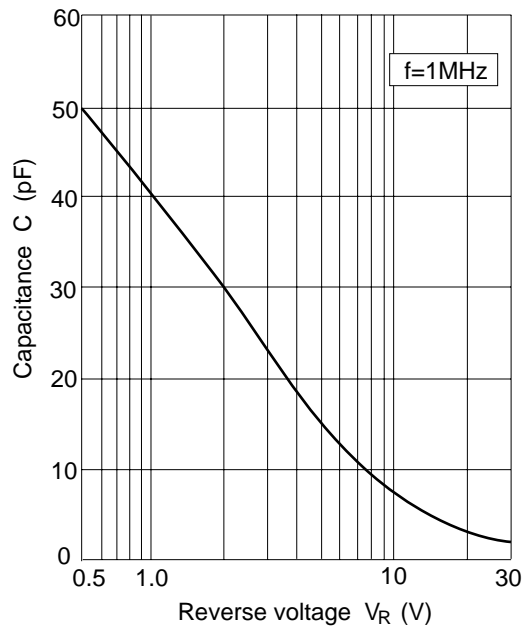


Fig.2 Capacitance Vs. Reverse voltage

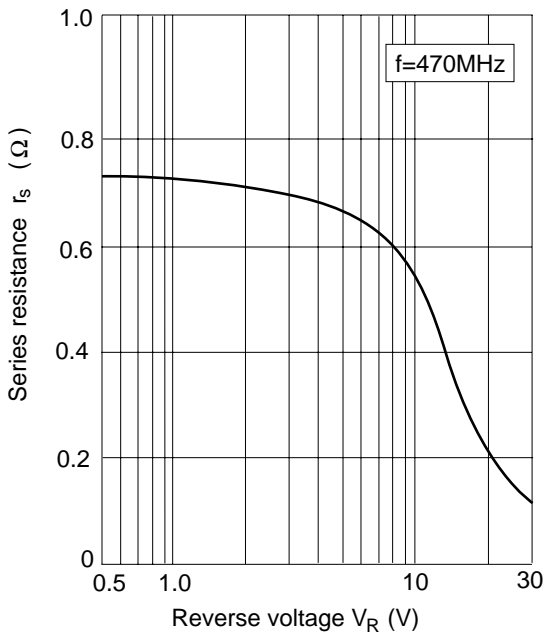


Fig.3 Series resistance Vs. Reverse voltage

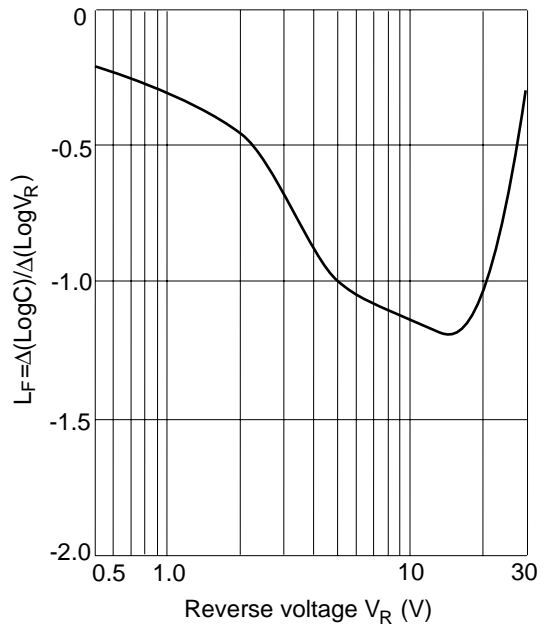
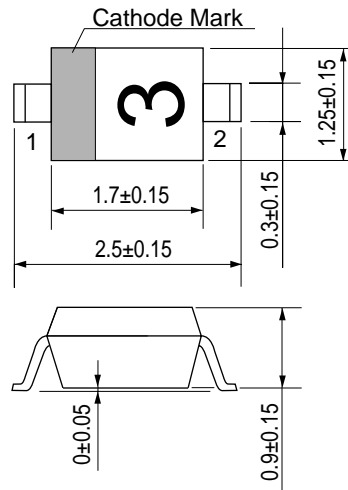


Fig.4 Linearity factor Vs. Reverse voltage

Package Dimensions

Unit: mm



- 1 Cathode
- 2 Anode

HITACHI Code	URP
JEDEC Code	—
EIAJ Code	—
Weight (g)	0.004