

# HVC306A Variable Capacitance Diode for VHF tuner

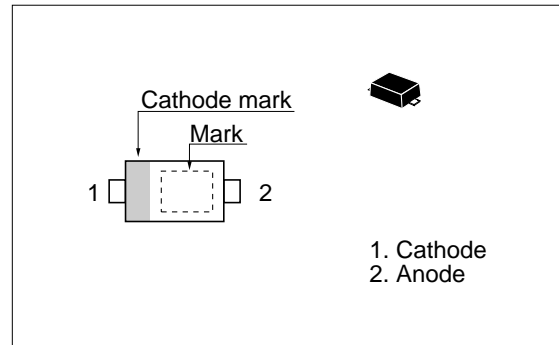
## HITACHI

Rev. 0  
Nov. 1995

### Features

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

### Outline



### Ordering Information

Type No.	Laser Mark	Package Code
HVC306A	3	UFP

### Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	V <sub>R</sub>	32	V
Junction temperature	T <sub>j</sub>	125	°C
Storage temperature	T <sub>stg</sub>	-55 to +125	°C

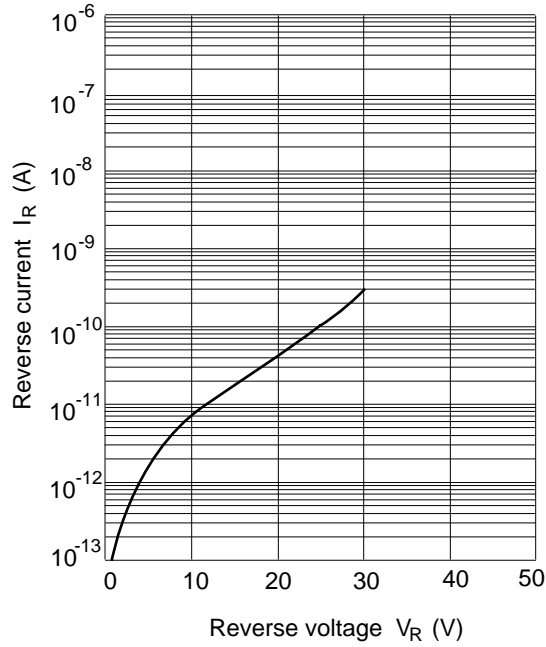
### Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse current	I <sub>R1</sub>	—	—	10	nA	V <sub>R</sub> = 30 V
	I <sub>R2</sub>	—	—	100		V <sub>R</sub> = 30 V, Ta = 60 °C
Capacitance	C <sub>2</sub>	29.3	—	34.2	pF	V <sub>R</sub> = 2 V, f = 1 MHz
	C <sub>25</sub>	2.57	—	2.92		V <sub>R</sub> = 25 V, f = 1 MHz
	ΔC/C*	—	—	2.0		%
Capacitance ratio	n	11.0	—	—	—	C <sub>2</sub> / C <sub>25</sub>
Series resistance	r <sub>s</sub>	—	—	0.75	Ω	V <sub>R</sub> = 5 V, f = 470 MHz

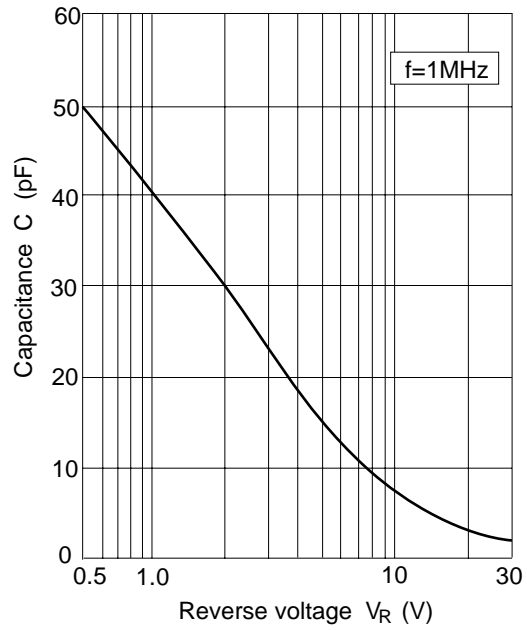
\* A set of HVC306A is of uniform C-V characteristics.  
Measure max. value and min. value of capacitance .  
Calculate Matching Error,  $\Delta C/C = \frac{(C_{max}-C_{min})}{C_{min}} \times 100 (\%)$

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

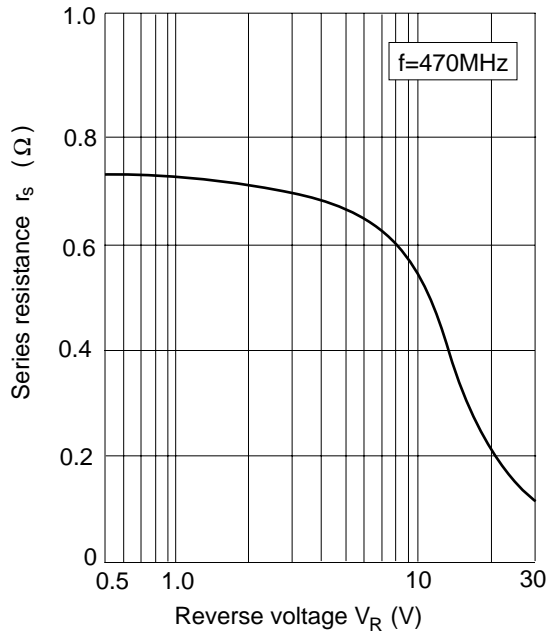
## HVC306A



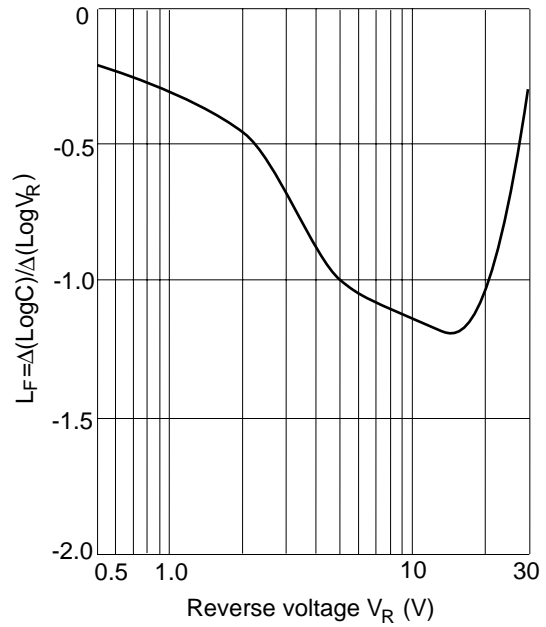
**Fig.1 Reverse current Vs. Reverse voltage**



**Fig.2 Capacitance Vs. Reverse voltage**



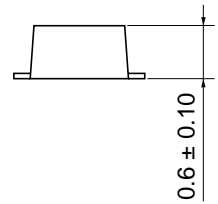
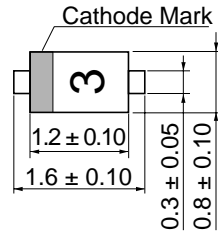
**Fig.3 Series resistance Vs. Reverse voltage**



**Fig.4 Linearity factor Vs. Reverse voltage**

### Package Dimensions

Unit: mm



- 1 Cathode
- 2 Anode

HITACHI Code	UFP
JEDEC Code	—
EIAJ Code	SC-79
Weight (g)	0.0016