

# HVC306B

Variable Capacitance Diode for VHF tuner

REJ03G0098-0100Z  
(Previous: ADE-208-612)  
Rev.1.00  
Sep.23.2003

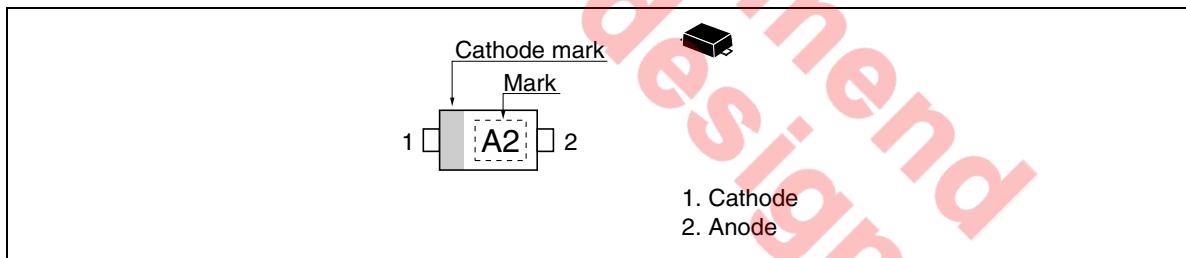
## Features

- 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 Flat Package (UFP) is suitable for surface mount design.

## Ordering Information

Type No.	Laser Mark	Package Code
HVC306B	A2	UFP

## Pin Arrangement



**Absolute Maximum Ratings**

(Ta = 25°C)

Item	Symbol	Value	Unit
Peak reverse voltage	V <sub>RM</sub> <sup>*1</sup>	35	V
Reverse voltage	V <sub>R</sub>	34	V
Junction temperature	T <sub>j</sub>	125	°C
Storage temperature	T <sub>stg</sub>	-55 to +125	°C

Note: 1. R<sub>L</sub> = 10 kΩ**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> = 32 V
	I <sub>R2</sub>	—	—	100		V <sub>R</sub> = 32 V, Ta = 60°C
Capacitance	C <sub>2</sub>	29.50	—	33.5	pF	V <sub>R</sub> = 2 V, f = 1 MHz
	C <sub>25</sub>	2.60	—	2.90		V <sub>R</sub> = 25 V, f = 1 MHz
Capacitance ratio	n	11.00	—	—		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
Matching error	ΔC/C <sup>*1</sup>	—	—	2.00	%	V <sub>R</sub> = 2 to 25 V, f = 1 MHz

Note: 1. C.C system (Continuous Connected taping system) enable to make any 10 pcs of ΔC/C continuous in a reel, expect extention to another group.

Calculate Matching Error,

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

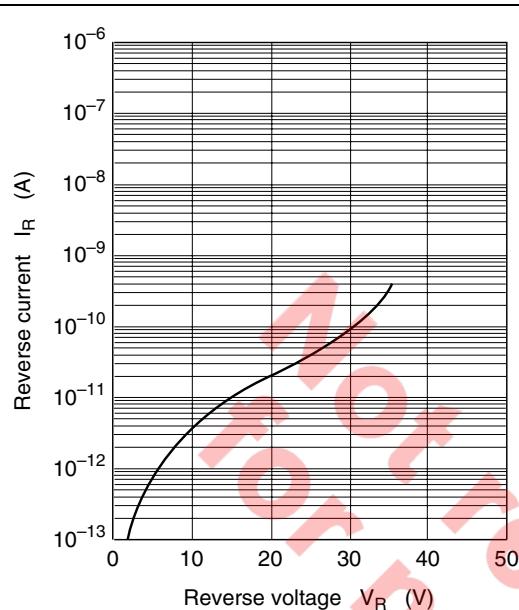
**Main Characteristic**

Fig.1 Reverse current vs. Reverse voltage

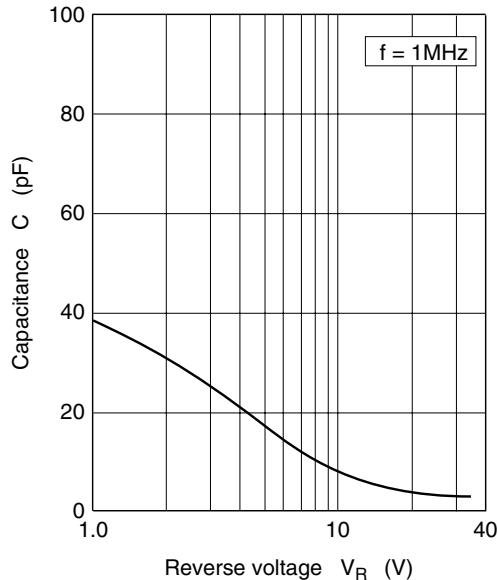


Fig.2 Capacitance vs. Reverse voltage

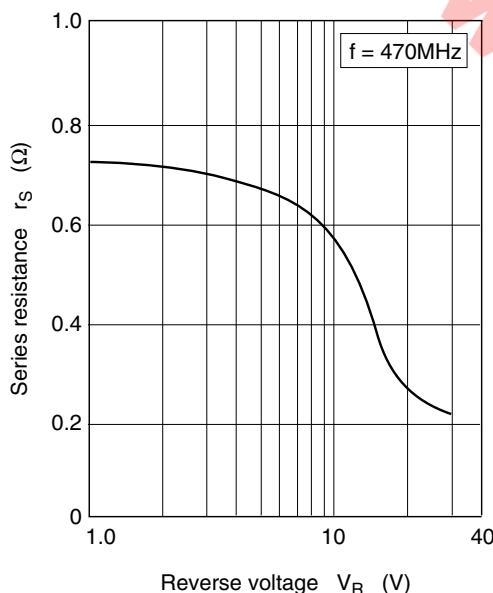


Fig.3 Series resistance vs. Reverse voltage

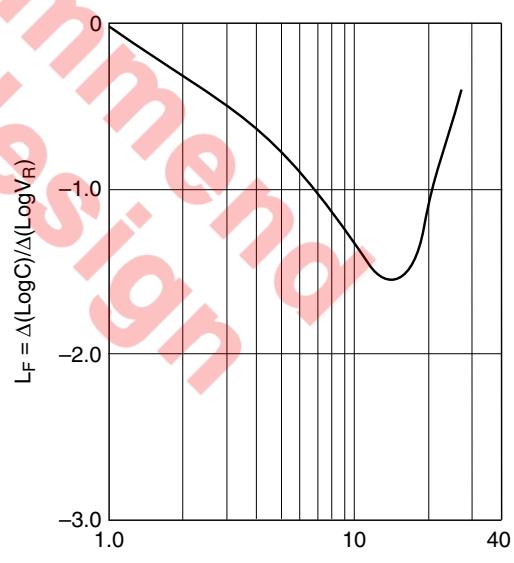
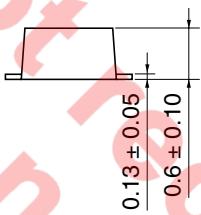
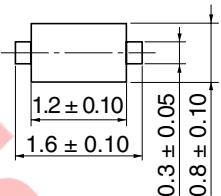


Fig.4 Linearity factor vs. Reverse voltage

**Package Dimensions**

As of January, 2003  
Unit: mm



Package Code	UFP
JEDEC	—
JEITA	Conforms
Mass (reference value)	0.0016 g

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