

## HVC306B

Variable Capacitance Diode for VHF tuner

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

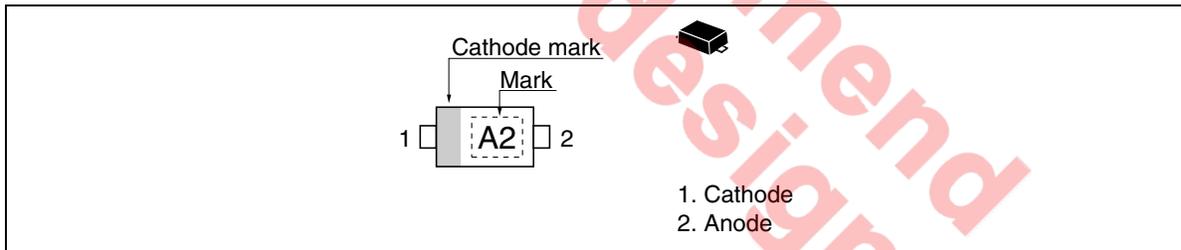
### Features

- Low matching error. ( $\Delta C/C = 2.0\%$  max)
- High capacitance ratio. ( $n = 11.0$  min)
- Low series resistance. ( $r_s = 0.75 \Omega$  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	$V_{RM}^{*1}$	35	V
Reverse voltage	$V_R$	34	V
Junction temperature	Tj	125	°C
Storage temperature	Tstg	-55 to +125	°C

Note: 1.  $R_L = 10\text{ k}\Omega$ 

## Electrical Characteristics

(Ta = 25°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	$C_2$	29.50	—	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	11.00	—	—	—	$C_2/C_{25}$
Series resistance	$r_s$	—	—	0.75	$\Omega$	$V_R = 5\text{ V}, f = 470\text{ MHz}$
Matching error	$\Delta C/C^{*1}$	—	—	2.00	%	$V_R = 2\text{ to }25\text{ V}, f = 1\text{ MHz}$

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,

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

Main Characteristic

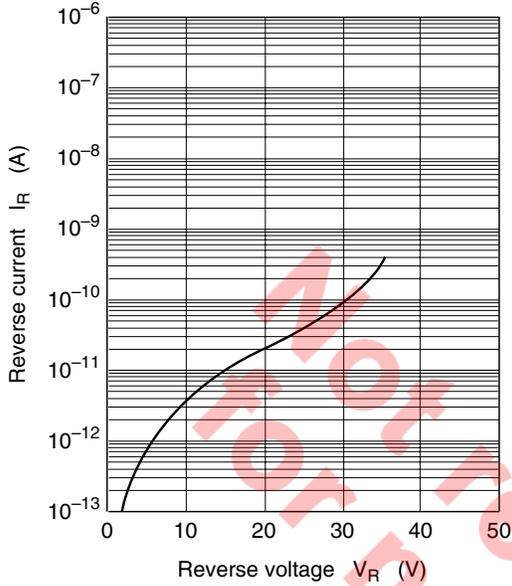


Fig.1 Reverse current vs. Reverse voltage

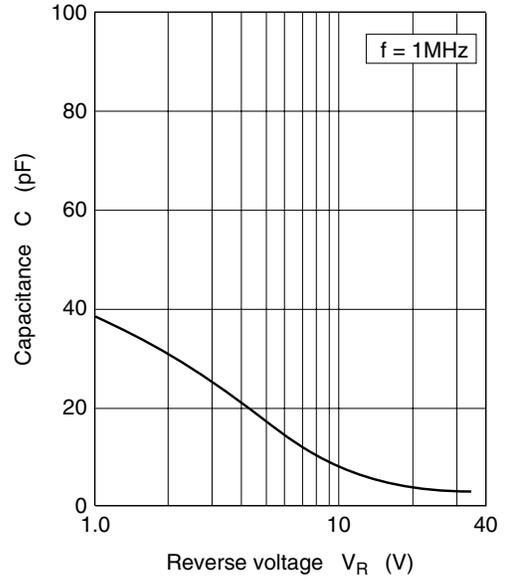


Fig.2 Capacitance vs. Reverse voltage

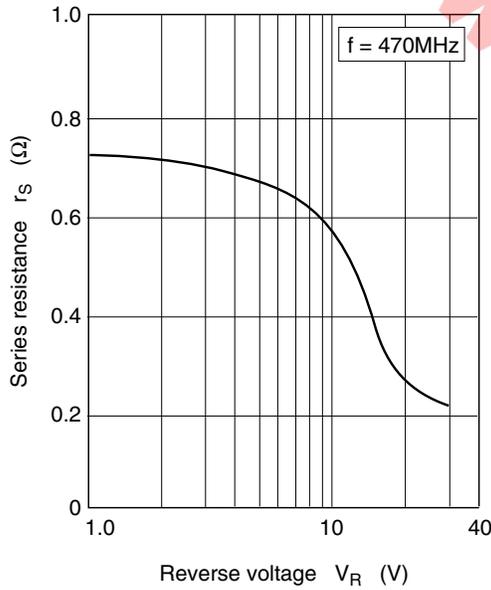


Fig.3 Series resistance vs. Reverse voltage

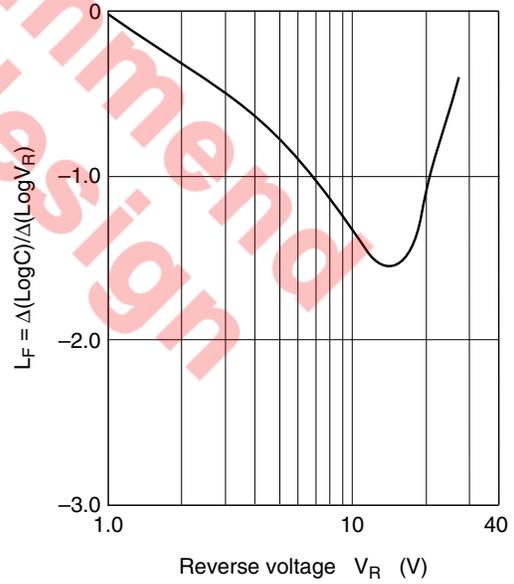
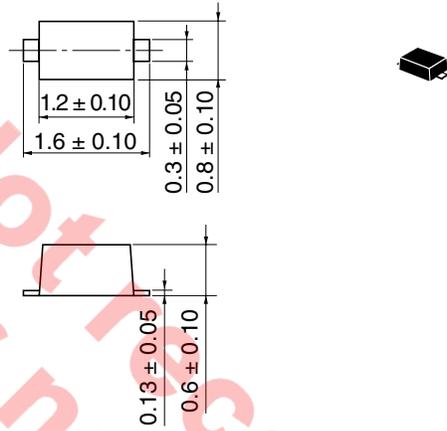


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions

As of January, 2003  
Unit: mm



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

Not for new design

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