

# HVC300A

Variable Capacitance Diode for VHF tuner

# HITACHI

ADE-208-407A(Z)

Rev 1

Dec. 1998

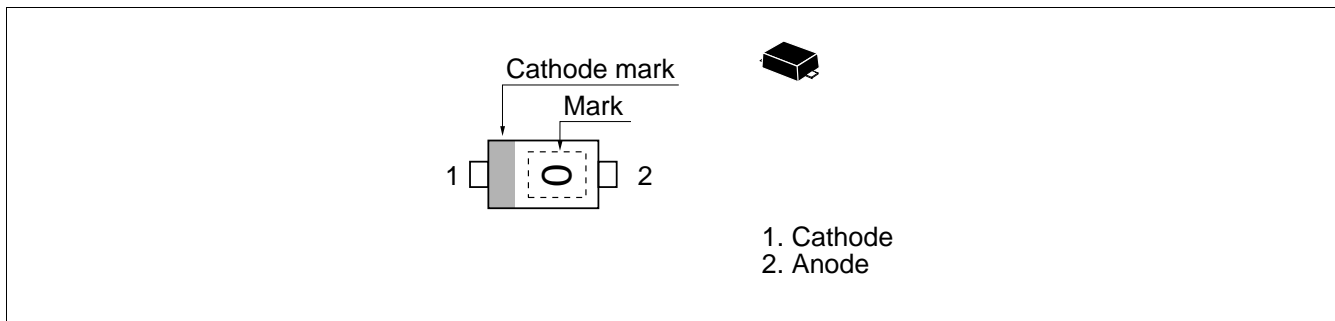
## Features

- High capacitance ratio ( $n=14.5\text{min}$ ) and suitable for wide band tuner.
- Low series resistance and good C-V linearity.
- Ultra small Flat Package (UFP) is suitable for surface mount design.

## Ordering Information

Type No.	Laser Mark	Package Code
HVC300A	0	UFP

## Outline



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

Item	Symbol	Value	Unit
Reverse voltage	$V_R$	32	V
Junction temperature	$T_j$	125	°C
Storage temperature	$T_{stg}$	-55 to +125	°C

## Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse current	$I_{R1}$	—	—	10	nA	$V_R = 30V$
	$I_{R2}$	—	—	100		$V_R = 30V, T_a = 60\text{ °C}$
Capacitance	$C_2$	39.5	—	47.4	pF	$V_R = 2V, f = 1\text{ MHz}$
	$C_{25}$	2.60	—	3.03		$V_R = 25V, f = 1\text{ MHz}$
Capacitance ratio	$n$	14.5	—	—	—	$C_2 / C_{25}$
Series resistance	$r_s$	—	—	1.10	$\Omega$	$V_R = 5V, f = 470\text{ MHz}$
Matching error	$\Delta C/C^1$	—	—	2.0	%	$V_R = 2\text{ to }25V, f = 1\text{ MHz}$

Note 1. C.C system (Continuous Connected taping system) enable to make any 10 pcs of  $\Delta C/C$  continuous in a reel , expect extention to another group.  
Calculate Matching Error,

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

Main Characteristic

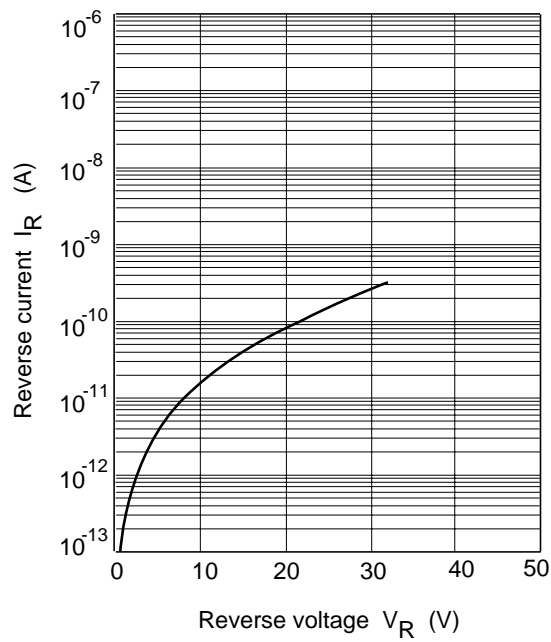


Fig.1 Reverse current Vs. Reverse voltage

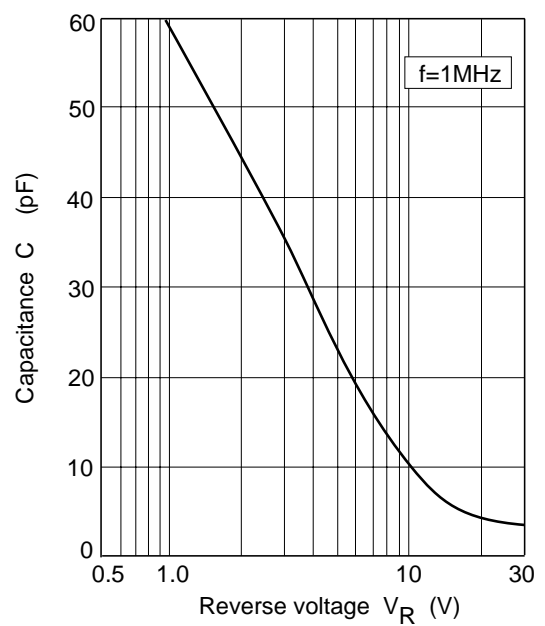


Fig.2 Capacitance Vs. Reverse voltage

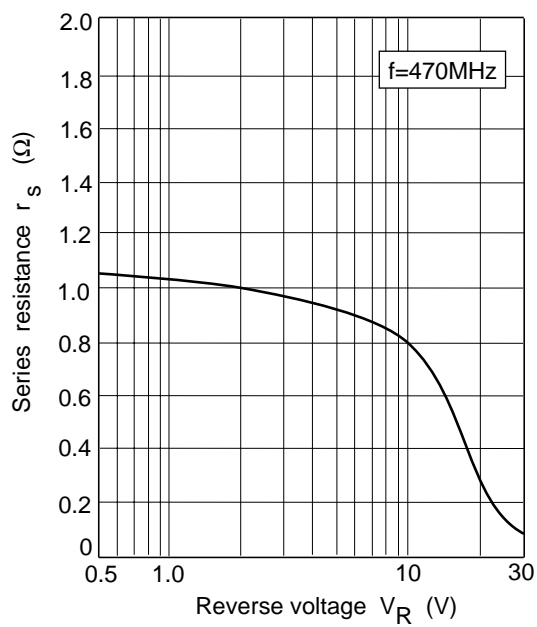


Fig.3 Series resistance Vs. Reverse voltage

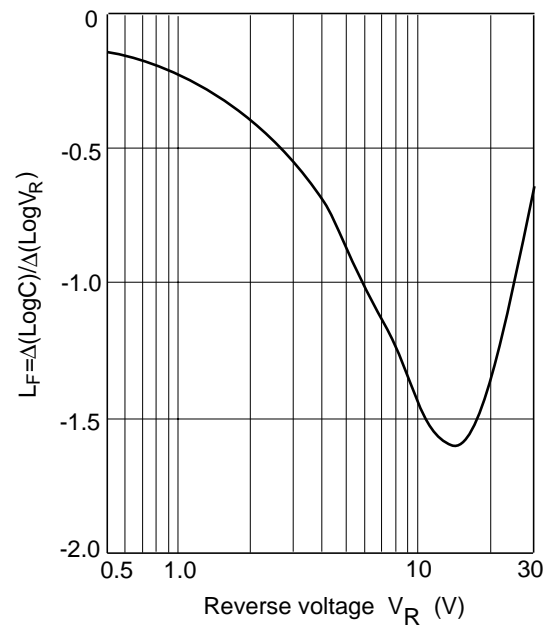
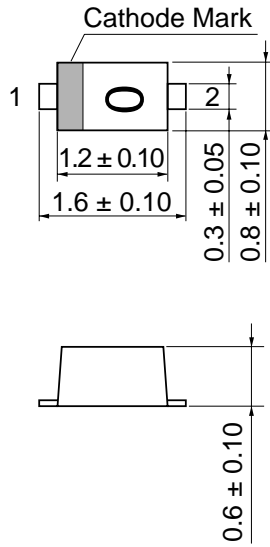


Fig.4 Linearity factor Vs. Reverse voltage

## Package Dimensions

Unit : mm



1. Cathode
2. Anode

Hitachi Code	<i>UFP</i>
JEDECCode	—
EIAJCode	SC-79
Weight(g)	0.0016

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