

# HVC321B

Variable Capacitance Diode for ET tuner

# HITACHI

ADE-208-845(Z)

Rev 0

Mar. 2000

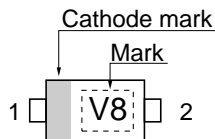
## Features

- Low voltage type (tuning voltage 1 to 10V), it is suitable for ET without DC/DC converter.
- High capacitance ratio. ( $n = 10.5$  min)
- Low series resistance. ( $r_s = 1.0 \Omega$  max) and good C-V linearity.
- Ultra small Flat Package (UFP) is suitable for surface mount design.

## Ordering Information

Type No.	Laser Mark	Package Code
HVC321B	V8	UFP

## Outline



1. Cathode
2. Anode

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

Item	Symbol	Value	Unit
Reverse voltage	$V_R$	15	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	$V_R = 15V$
	$I_{R2}$	—	—	100		$V_R = 15V, T_a = 60°C$
Capacitance	$C_1$	29.0	—	33.0	pF	$V_R = 1V, f = 1MHz$
	$C_{10}$	2.55	—	2.90		$V_R = 10V, f = 1MHz$
Capacitance ratio	n	10.5	—	—	—	$C_1/C_{10}$
Series resistance	$r_s$	—	—	1.0	$\Omega$	$V_R = 5V, f = 470MHz$
Matching error	$\Delta C/C^{*1}$	—	—	2.0	%	$V_R = 1 \text{ to } 10V, f = 1 \text{ MHz}$

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

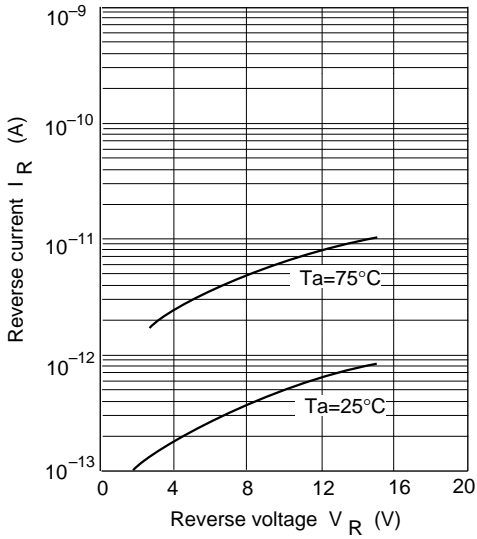


Fig.1 Reverse current Vs. Reverse voltage

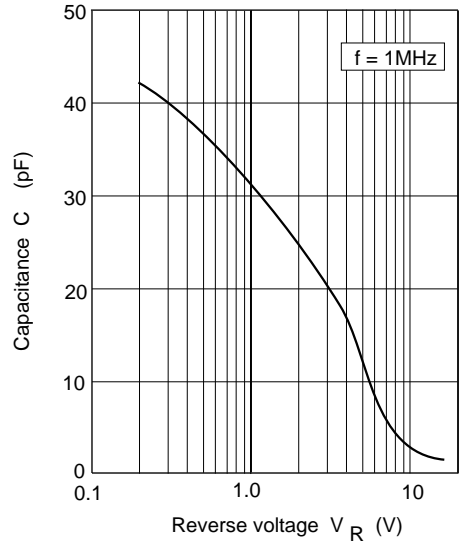


Fig.2 Capacitance Vs. Reverse voltage

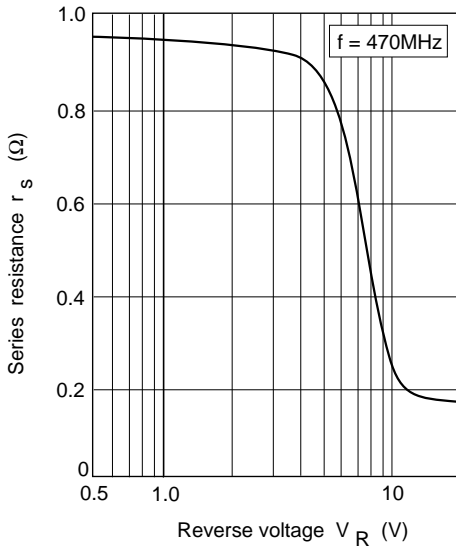
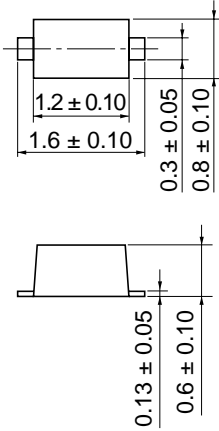


Fig.3 Series resistance Vs. Reverse voltage

## Package Dimensions

Unit: mm



Hitachi Code	UFP
JEDEC	—
EIAJ	Conforms
Mass	0.0016 g

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