

HVC300A

Variable Capacitance Diode for VHF tuner

HITACHI

ADE-208-407A(Z)

Rev 1

Dec. 1998

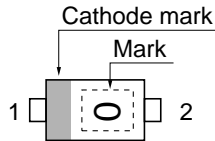
Features

- 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



1. Cathode
2. Anode

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, Ta = 60 °C
Capacitance	C ₂	39.5	—	47.4	pF	V _R = 2V, f = 1 MHz
	C ₂₅	2.60	—	3.03		V _R = 25V, f = 1 MHz
Capacitance ratio	n	14.5	—	—	—	C ₂ /C ₂₅
Series resistance	r _s	—	—	1.10	Ω	V _R = 5V, f = 470 MHz
Matching error	ΔC/C ⁺¹	—	—	2.0	%	V _R = 2 to 25V, 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

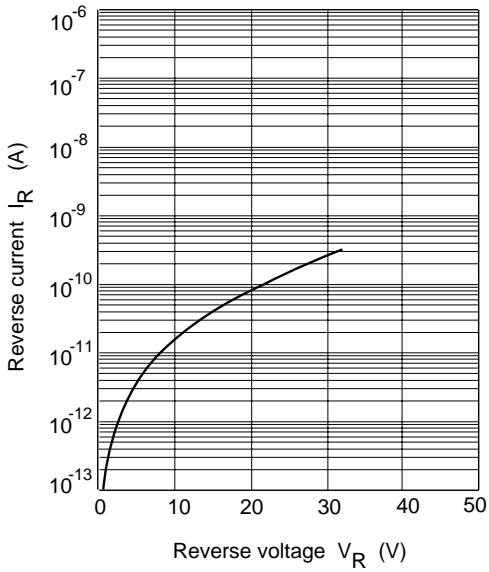


Fig.1 Reverse current Vs. Reverse voltage

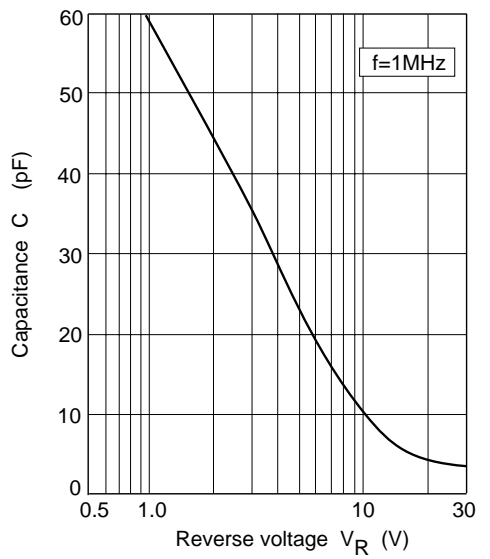


Fig.2 Capacitance Vs. Reverse voltage

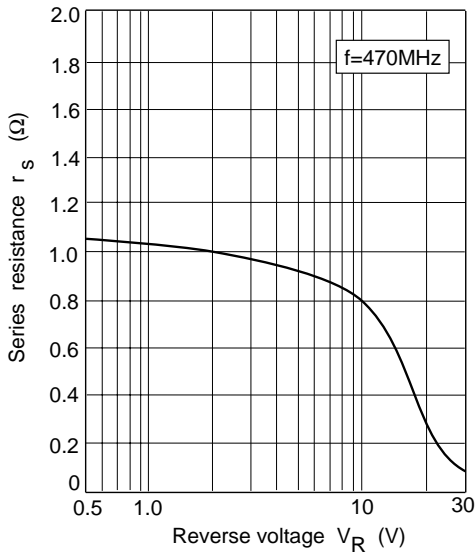


Fig.3 Series resistance Vs. Reverse voltage

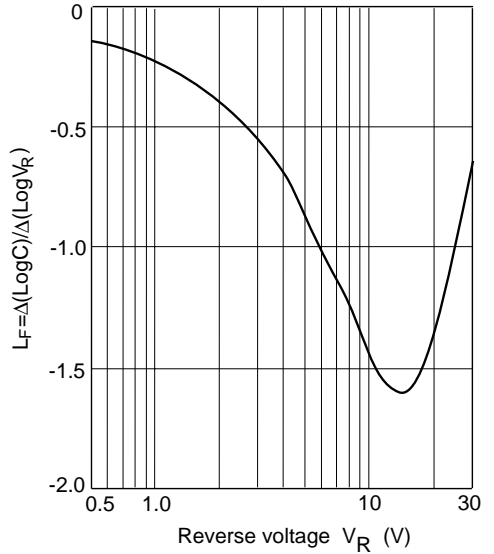
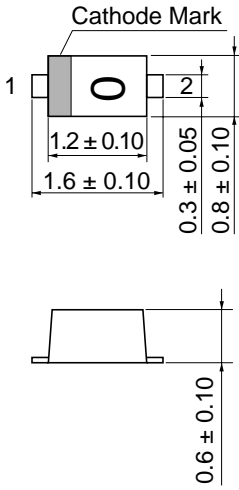


Fig.4 Linearity factor Vs. Reverse voltage

Package Dimensions

Unit : mm



- 1. Cathode
- 2. Anode

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

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