To all our customers

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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

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Keep safety first in your circuit designs!

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   Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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HVC316

Variable Capacitance Diode for BS/CS tuner

ADE-208-1124 (Z)

Rev. 0
Apr. 2001

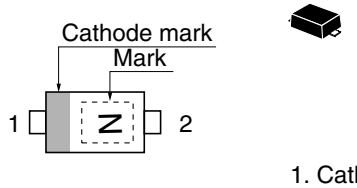
Features

- High capacitance ratio (n=9.0min)
- Low series resistance. (rs=2.2Ωmax)
- Ultra small Flat Package (UFP) is suitable for surface mount design .

Ordering Information

Type No.	Laser Mark	Package Code
HVC316	N	UFP

Pin Arrangement



1. Cathode
2. Anode

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	V_R	30	V
Junction temperature	Tj	125	°C
Storage temperature	Tstg	–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_1	5.16	—	7.22	pF	V_R = 1V, f = 1MHz
	C_{25}	0.48	—	0.76		V_R = 25V, f = 1MHz
Capacitance ratio	n	9.0	—	—	—	C_1/C_{25}
Series resistance	r_S	—	—	2.2	Ω	V_R = 5V, f = 470MHz
Matching error	$\Delta C/C^{*1}$	—	—	6.0	%	V_R = 1 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,

$$\Delta C/C = \frac{(Cmax - Cmin)}{Cmin} \times 100\ (\%)$$

Main Characteristic

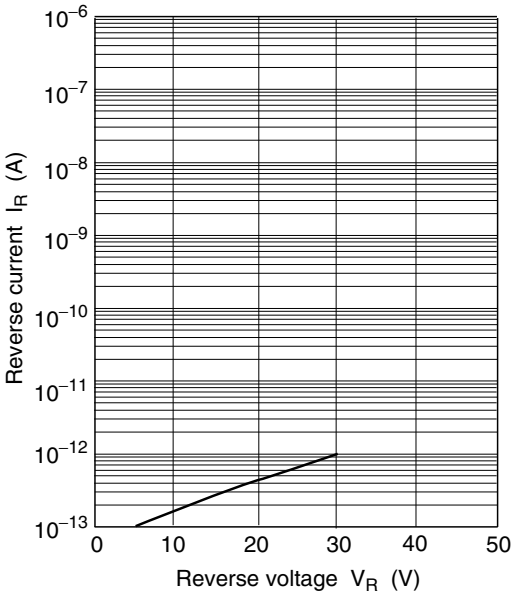


Fig.1 Reverse current vs. Reverse voltage

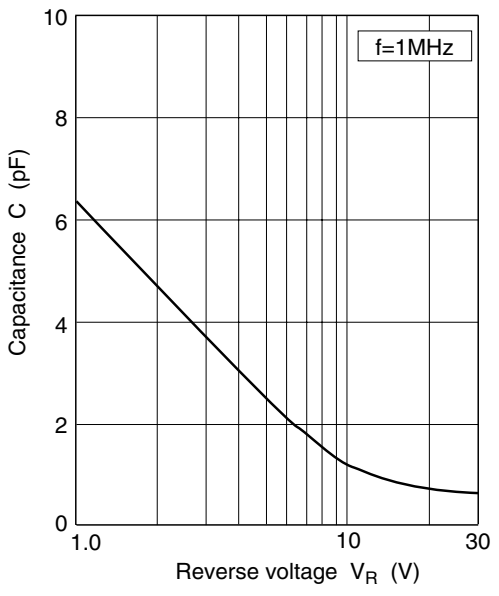


Fig.2 Capacitance vs. Reverse voltage

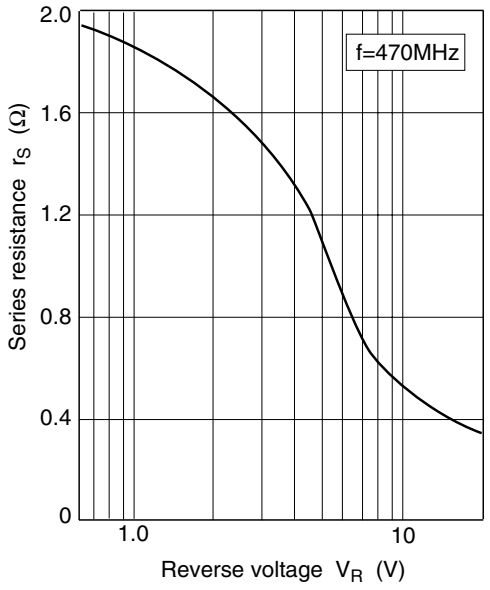


Fig.3 Series resistance vs. Reverse voltage

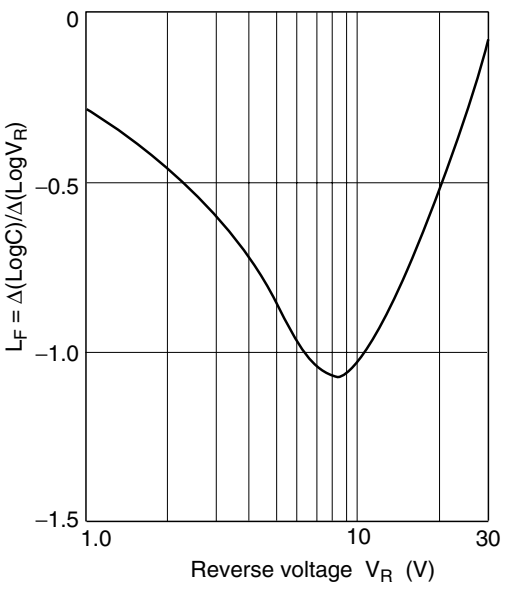
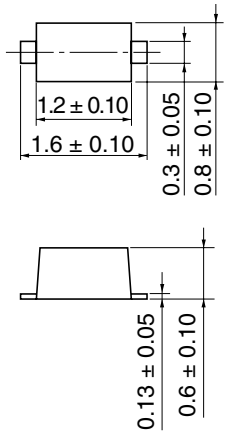


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions

As of January, 2001
Unit: mm



Hitachi Code	UFP
JEDEC	Ñ
EIAJ	Conforms
Mass (reference value)	0.0016 g

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