

# HVC316

## Variable Capacitance Diode for BS/CS tuner

REJ03G0516-0100  
(Previous: ADE-208-1124)  
Rev.1.00  
Feb 16, 2005

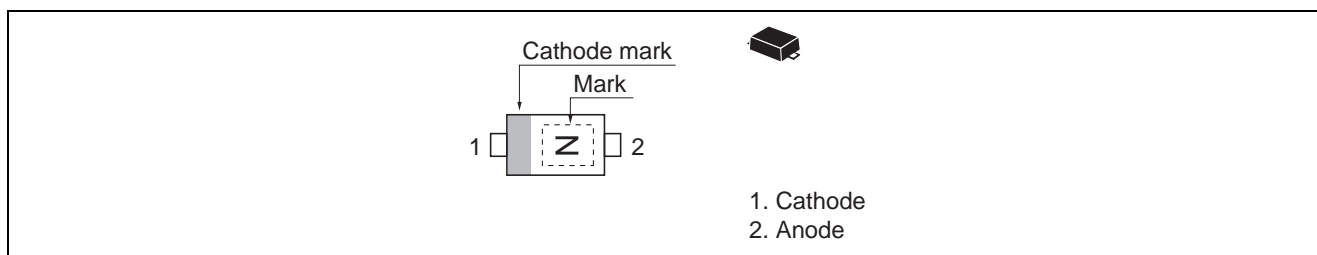
### Features

- High capacitance ratio ( $n = 9.0$  min)
- Low series resistance. ( $r_s = 2.2 \Omega$  max)
- Ultra small Flat Lead Package (UFP) is suitable for surface mount design.

### Ordering Information

Type No.	Laser Mark	Renesas Code	Previous Code
HVC316	N	PWSF0002ZA-A	UFP

### Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	V <sub>R</sub>	30	V
Junction temperature	T <sub>j</sub>	125	°C
Storage temperature	T <sub>stg</sub>	-55 to +125	°C

## Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse current	I <sub>R1</sub>	—	—	10	nA	V <sub>R</sub> = 30 V
	I <sub>R2</sub>	—	—	100		V <sub>R</sub> = 30 V, Ta = 60°C
Capacitance	C <sub>1</sub>	5.16	—	7.22	pF	V <sub>R</sub> = 1 V, f = 1 MHz
	C <sub>25</sub>	0.48	—	0.76		V <sub>R</sub> = 25V, f = 1 MHz
Capacitance ratio	n	9.0	—	—	—	C <sub>1</sub> / C <sub>25</sub>
Series resistance	r <sub>s</sub>	—	—	2.20	Ω	V <sub>R</sub> = 1 V, f = 470 MHz
Matching error	ΔC/C *1	—	—	6.00	%	V <sub>R</sub> = 1 to 25 V, 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

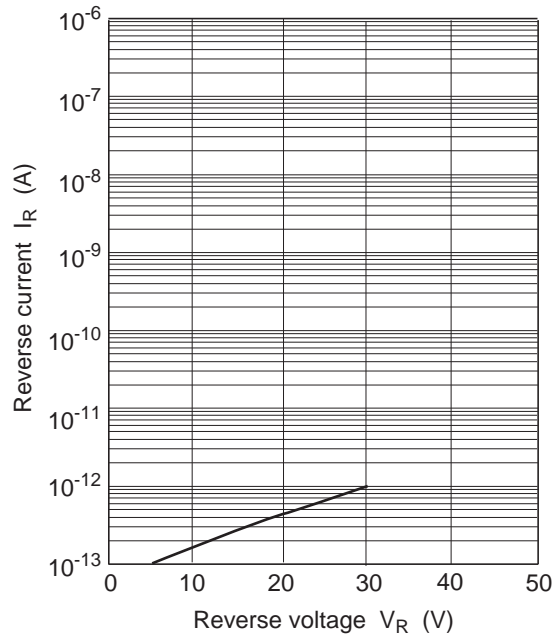


Fig.1 Reverse current vs. Reverse voltage

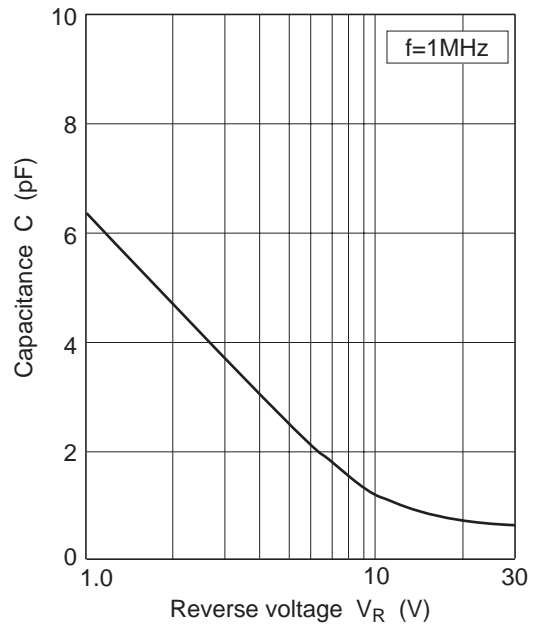


Fig.2 Capacitance vs. Reverse voltage

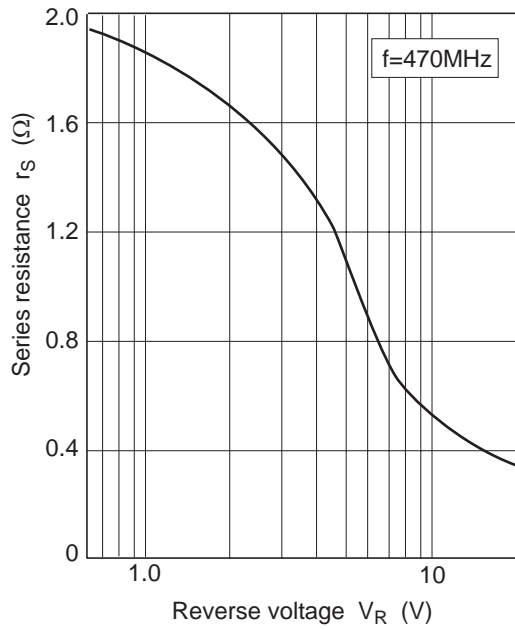


Fig.3 Series resistance vs. Reverse voltage

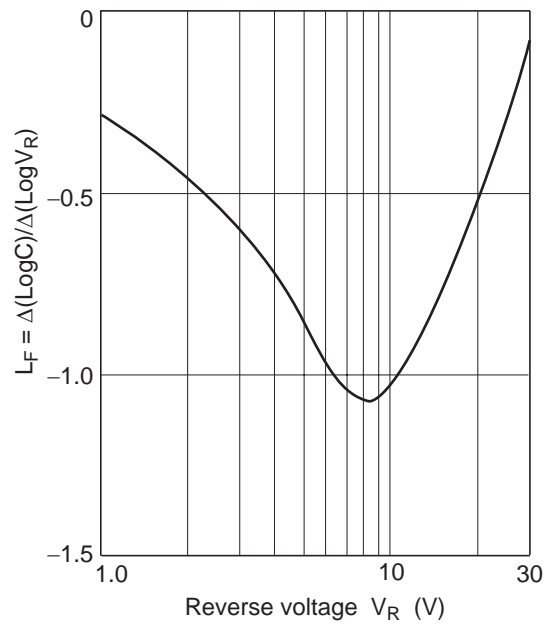
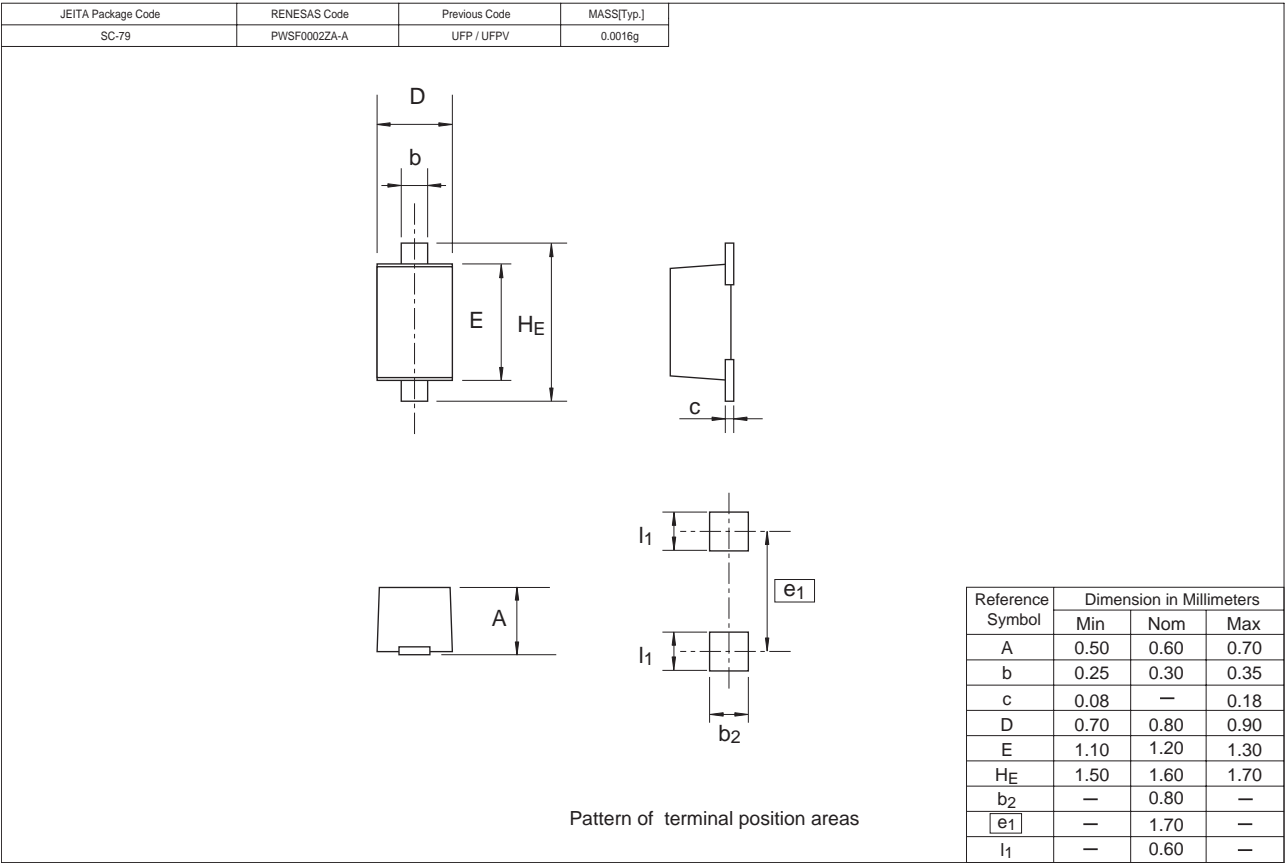


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions



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