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April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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Not recommended
for new design

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HVC202A

Variable Capacitance Diode for UHF/VHF tuner

REJ03G0095-0200Z
(Previous: ADE-208-405A)
Rev.2.00
Sep.23.2003

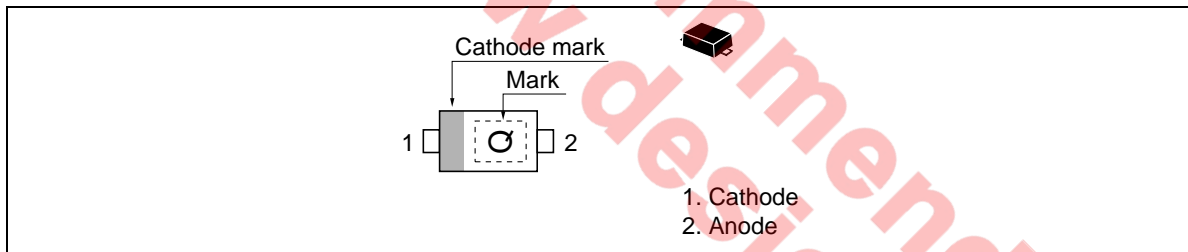
Features

- 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
HVC202A	Q	UFP

Pin Arrangement



Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	V_R	34	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	$V_R = 32\text{ V}$
	I_{R2}	—	—	100		$V_R = 32\text{ V}, T_a = 60^\circ\text{C}$
Capacitance	C_2	14.11	—	16.47	pF	$V_R = 2\text{ V}, f = 1\text{ MHz}$
	C_{25}	2.06	—	2.35		$V_R = 25\text{ V}, f = 1\text{ MHz}$
Capacitance ratio	n	6.20	—	—	—	C_2/C_{25}
Series resistance	r_s	—	—	0.57	Ω	$V_R = 5\text{ V}, f = 470\text{ MHz}$
Matching error	$\Delta C/C^{*1}$	—	—	2.00	%	$V_R = 2\text{ to }25\text{ V}, f = 1\text{ MHz}$

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

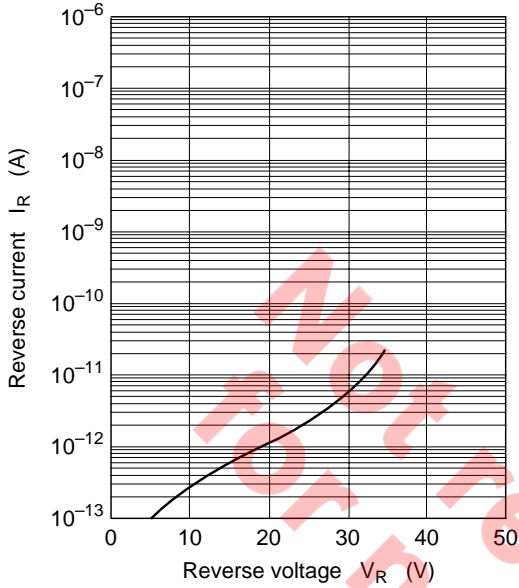


Fig.1 Reverse current vs. Reverse voltage

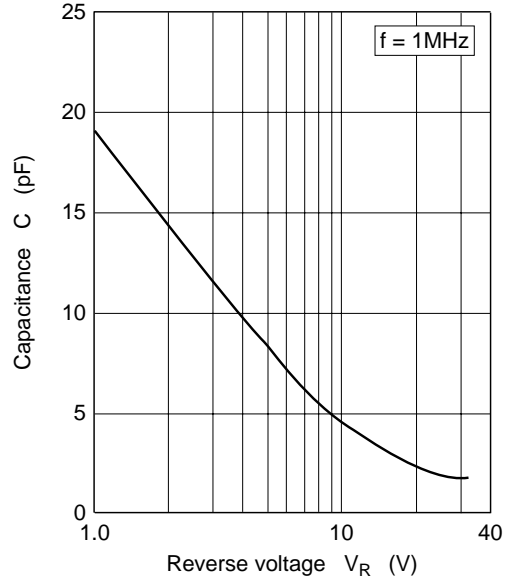


Fig.2 Capacitance vs. Reverse voltage

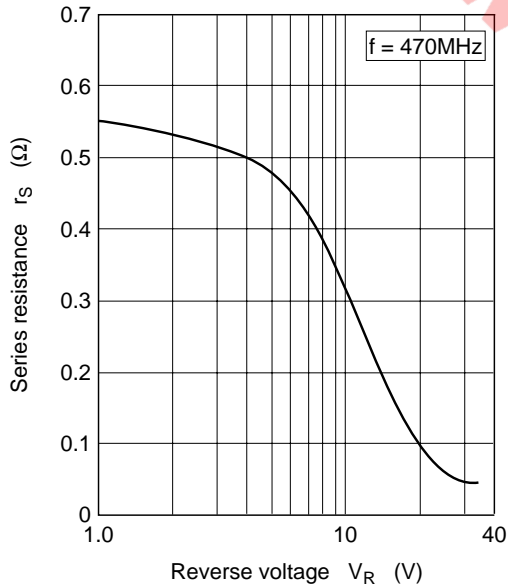


Fig.3 Series resistance vs. Reverse voltage

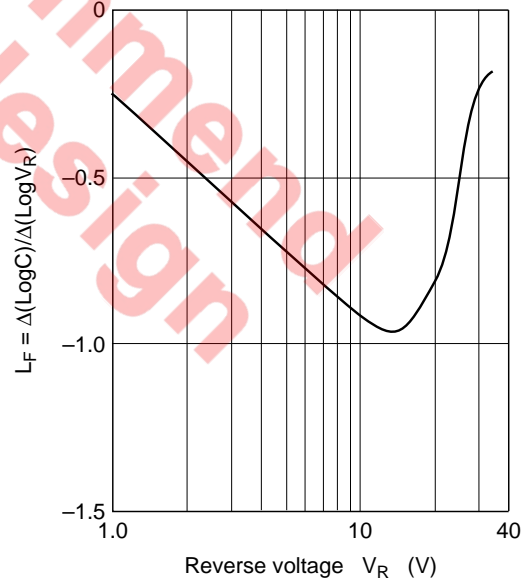
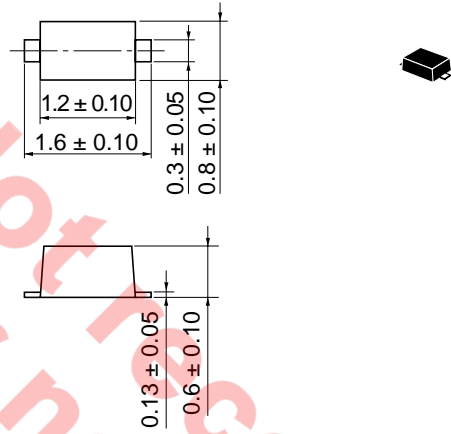


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions

As of January, 2003
Unit: mm



Package Code	UFP
JEDEC	—
JEITA	Conforms
Mass (reference value)	0.0016 g

Not for new design

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