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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

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

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HVC306C

Variable Capacitance Diode for VHF tuner

REJ03G0514-0200
(Previous: ADE-208-1600A)
Rev.2.00
Feb 08, 2005

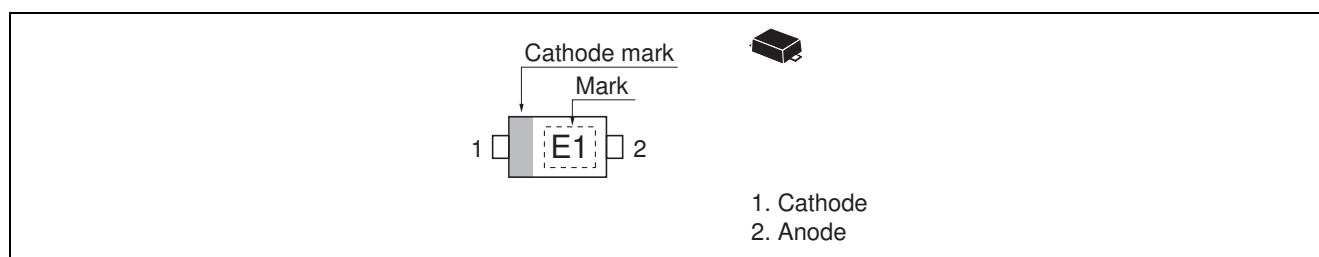
Features

- High capacitance ratio ($n = 11.0$ min).
- Low series resistance and good C-V linearity.
- Ultra small Flat Lead Package (UFP) is suitable for surface mount design.

Ordering Information

Type No.	Laser Mark	Renesas Code	Previous Code
HVC306C	E1	PWSF0002ZA-A	UFP

Pin Arrangement



Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Peak reverse voltage	V_{RM}^{*1}	35	V
Reverse voltage	V_R	34	V
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Note: 1. $R_L = 10\text{ k}\Omega$

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	29.5	—	34.0	pF	$V_R = 2\text{ V}$, $f = 1\text{ MHz}$
	C_{25}	2.57	—	2.90		$V_R = 25\text{ V}$, $f = 1\text{ MHz}$
Capacitance ratio	n	11.0	—	—	—	C_2 / C_{25}
Series resistance	r_s	—	—	0.75	Ω	$V_R = 5\text{ V}$, $f = 470\text{ MHz}$
Matching error	$\Delta C/C^{*1}$	—	—	2.0	%	$V_R = 2\text{ to }25\text{ V}$, $f = 1\text{ MHz}$

Note: 1. C.C system (Continuous Connected taping system) enable to make any 10 pcs of $\Delta C/C$ continuous in a reel , expect extension to another group.

Calculate Matching Error,

$$\Delta C/C = \frac{(C_{\max} - C_{\min})}{C_{\min}} \times 100 (\%)$$

Main Characteristic

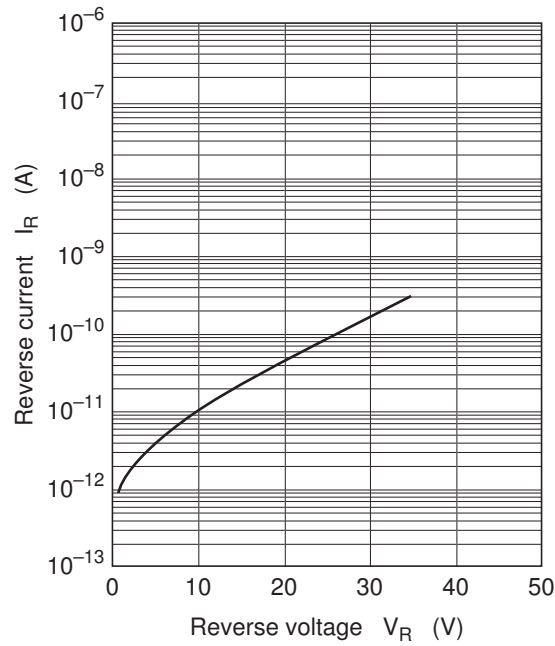


Fig.1 Reverse current vs. Reverse voltage

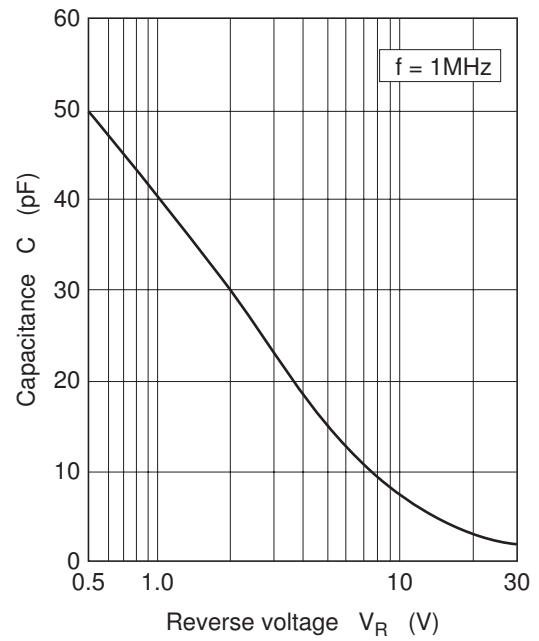


Fig.2 Capacitance vs. Reverse voltage

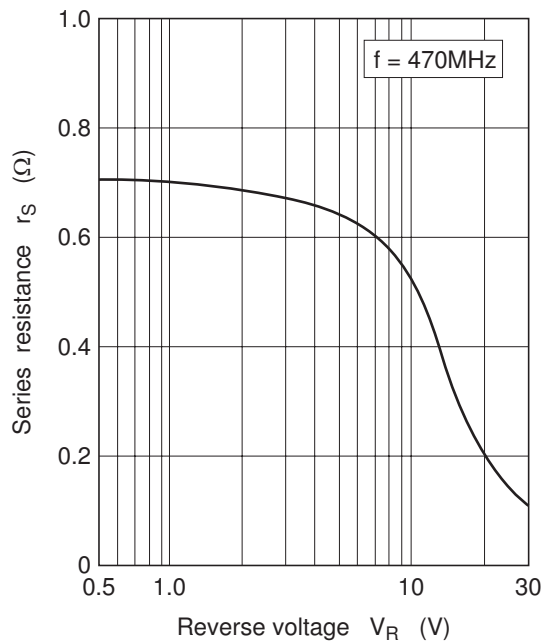


Fig.3 Series resistance vs. Reverse voltage

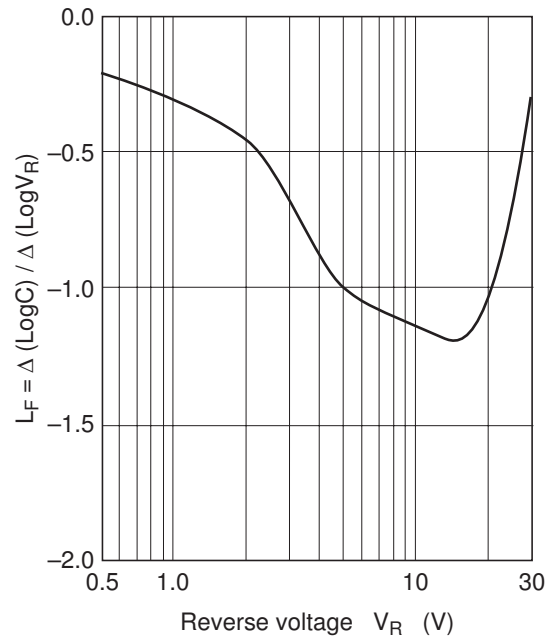
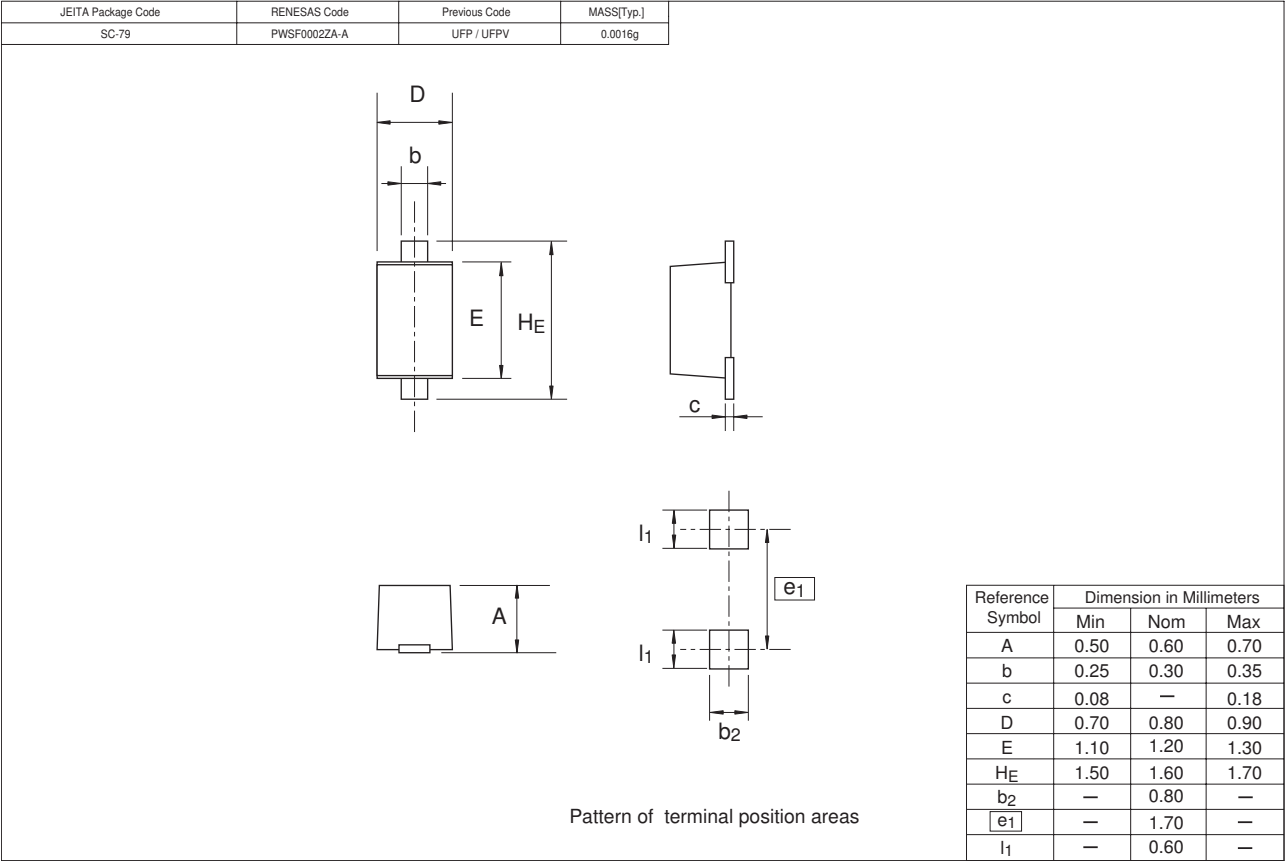


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions



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