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April 1st, 2010 Renesas Electronics Corporation

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

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HVC307

Variable Capacitance Diode for VHF tuner

REJ03G0515-0100

(Previous: ADE-208-962)

Rev.1.00

Feb 10, 2005

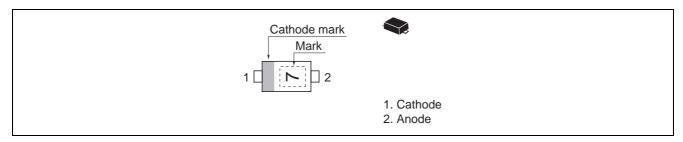
Features

- High capacitance ratio (n = 12.0 min).
- Low series resistance. (rs = 0.85Ω max).
- Ultra small Flat Lead Package (UFP) is suitable for surface mount design.

Ordering Information

Type No.	Laser Mark	Renesas Code	Previous Code
HVC307	7	PWSF0002ZA-A	UFP

Pin Arrangement



Absolute Maximum Ratings

 $(Ta = 25^{\circ}C)$

Item	Symbol	Value	Unit
Reverse voltage	V_R	32	V
Junction temperature	Tj	125	°C
Storage temperature	Tstg	−55 to +125	°C

Electrical Characteristics

 $(Ta = 25^{\circ}C)$

Item	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse current	I _{R1}	_	_	10	nA	V _R = 30 V
	I _{R2}	_	_	100		V _R = 30 V, Ta = 60°C
Capacitance	C ₂	32.2	_	37.5	pF	V _R = 2 V, f = 1 MHz
	C ₂₅	2.57	_	3.00		V _R = 25V, f = 1 MHz
Capacitance ratio	n	12.0	12.5	_	_	C ₂ / C ₂₅
Series resistance	rs	_	_	0.85	Ω	V _R = 5 V, f = 470 MHz
Matching error	ΔC/C *1	_	_	2.00	%	V _R = 2 to 25 V, f = 1 MHz

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

Calculate Matching Error,

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

Main Characteristic

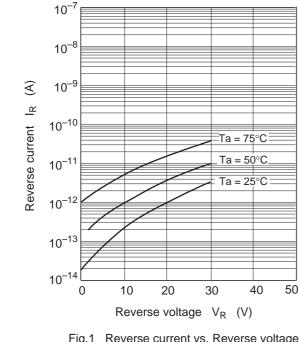


Fig.1 Reverse current vs. Reverse voltage

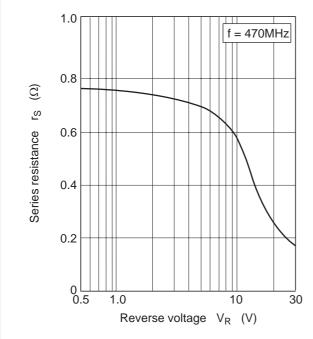


Fig.3 Series resistance vs. Reverse voltage

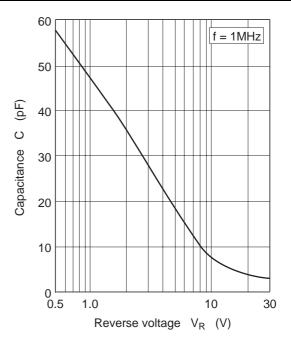


Fig.2 Capacitance vs. Reverse voltage

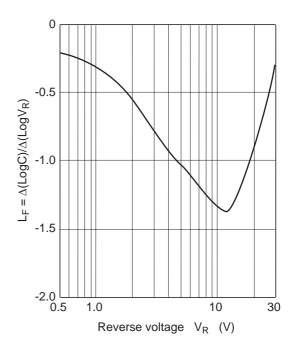
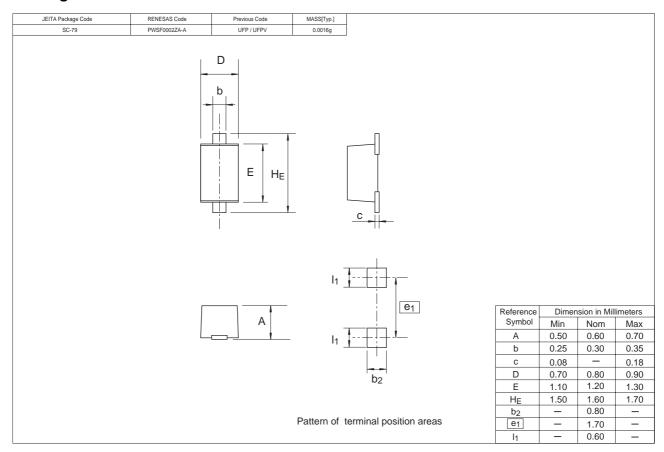


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions



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- (ii) use of nontrammaple material of (iii) prevention against any maintention or misnap.

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