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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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HVC307

Variable Capacitance Diode for VHF tuner

REJ03G0515-0100
 (Previous: ADE-208-962)
 Rev.1.00
 Feb 10, 2005

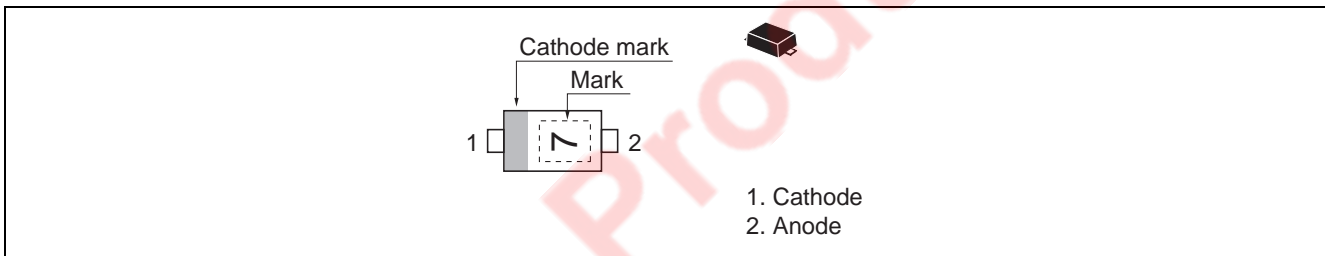
Features

- High capacitance ratio ($n = 12.0$ min) .
- Low series resistance. ($r_s = 0.85\Omega$ 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°C)

Item	Symbol	Value	Unit
Reverse voltage	V _R	32	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 = 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	r _s	—	—	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 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

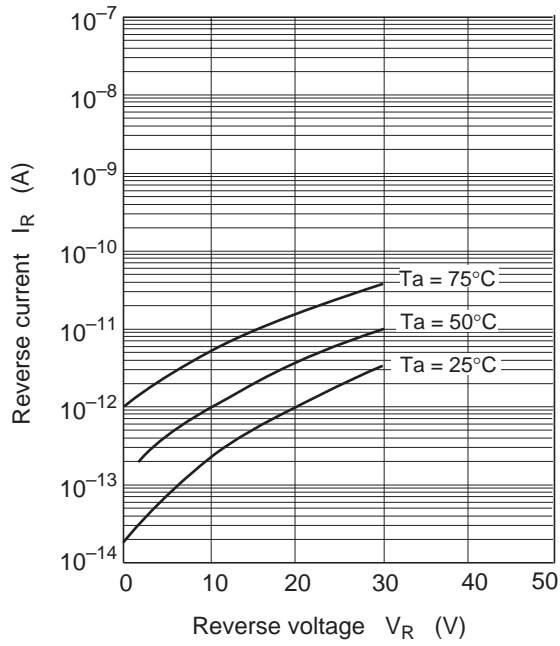


Fig.1 Reverse current vs. Reverse voltage

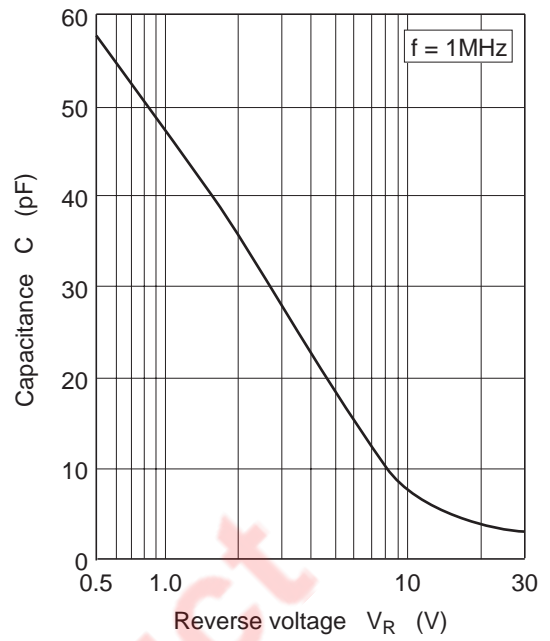


Fig.2 Capacitance vs. Reverse voltage

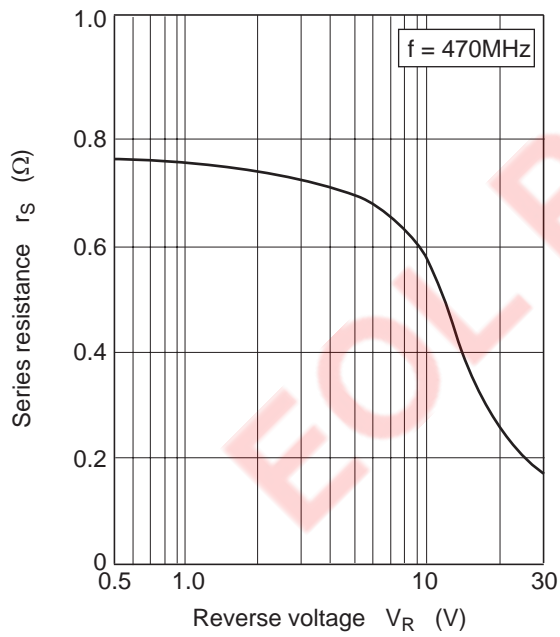


Fig.3 Series resistance vs. Reverse voltage

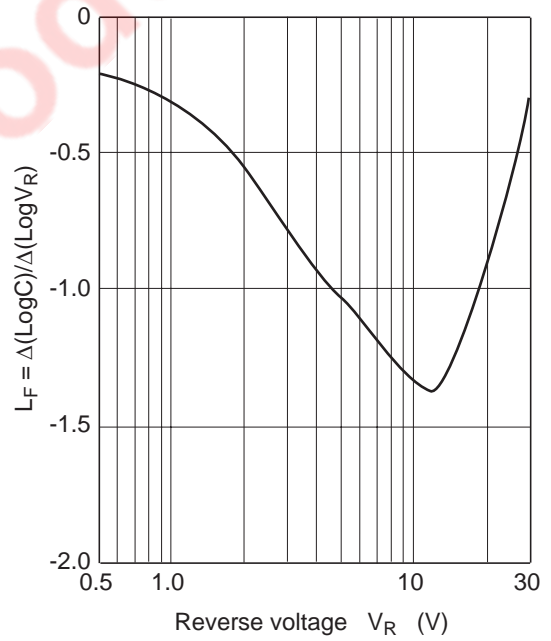
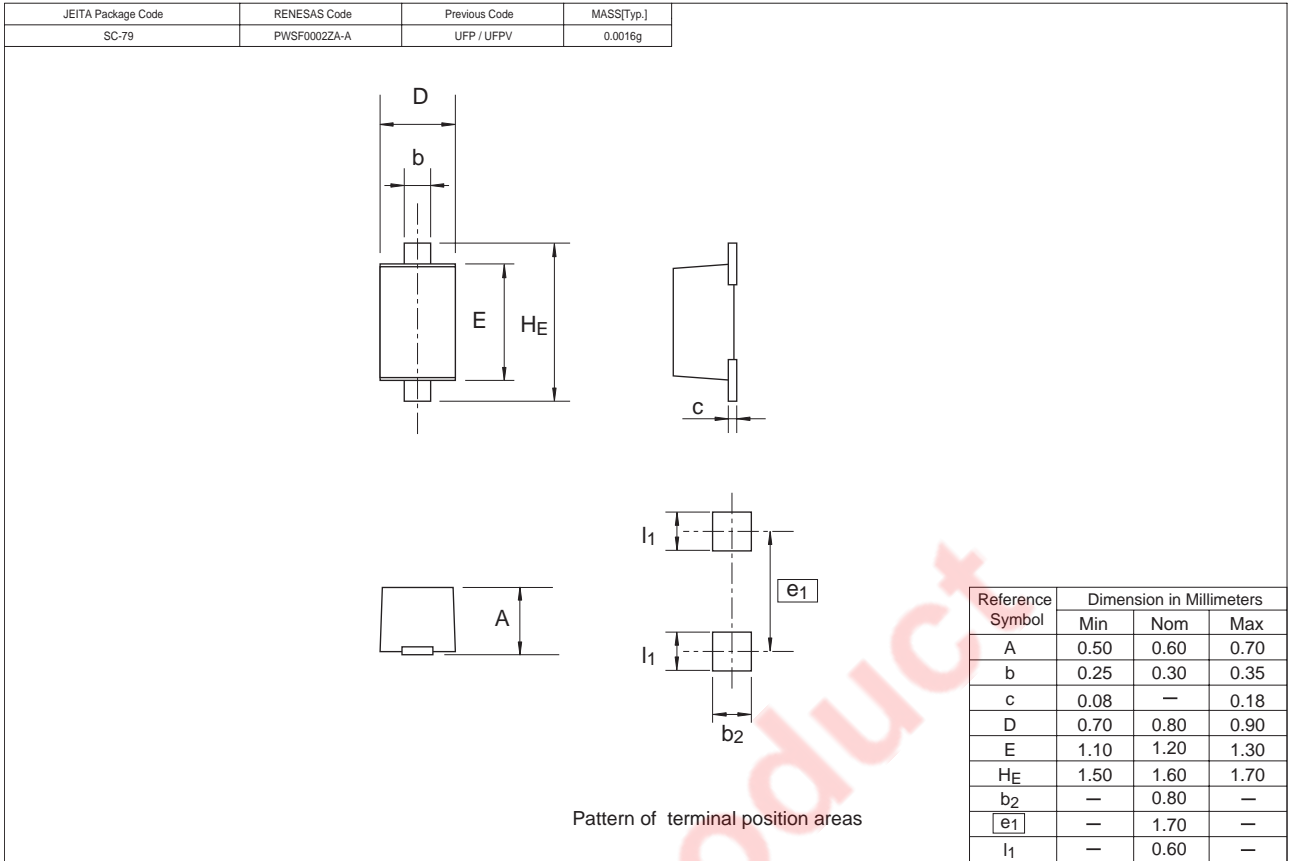


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions



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