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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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HVU300B

Variable Capacitance Diode for VHF tuner

REJ03G0106-0100Z
(Previous: ADE-208-408)
Rev.1.00
Sep.29.2003

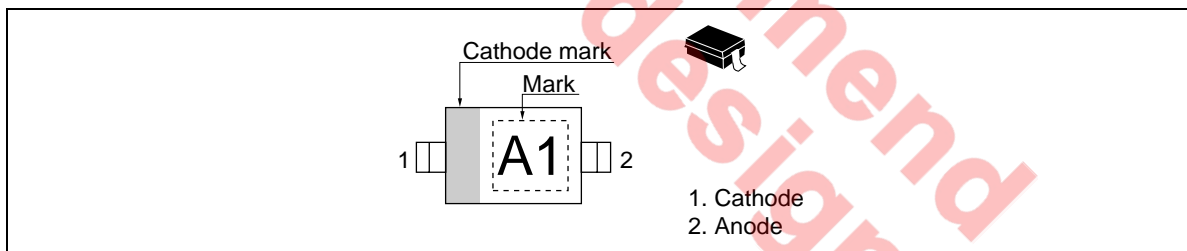
Features

- Low matching error. ($\Delta C/C = 2.0\%$ max)
- High capacitance ratio. ($n = 17.0$ min)
- Low series resistance. ($r_s = 1.1 \Omega$ max)
- Ultra small Resin Package (URP) is suitable for surface mount design.

Ordering Information

Type No.	Laser Mark	Package Code
HVU300B	A1	URP

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	Tj	125	°C
Storage temperature	Tstg	-55 to +125	°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	47.0	—	53.0	pF	$V_R = 2\text{ V}, f = 1\text{ MHz}$
	C_{25}	2.65	—	3.00		$V_R = 25\text{ V}, f = 1\text{ MHz}$
Capacitance ratio	n	17.0	—	—	—	C_2/C_{25}
Series resistance	r_s	—	—	1.1	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 extention to another group.
Calculate Matching Error,

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

Main Characteristic

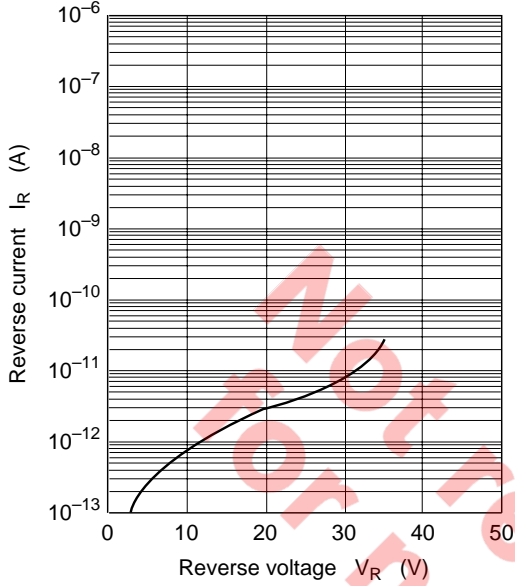


Fig.1 Reverse current vs. Reverse voltage

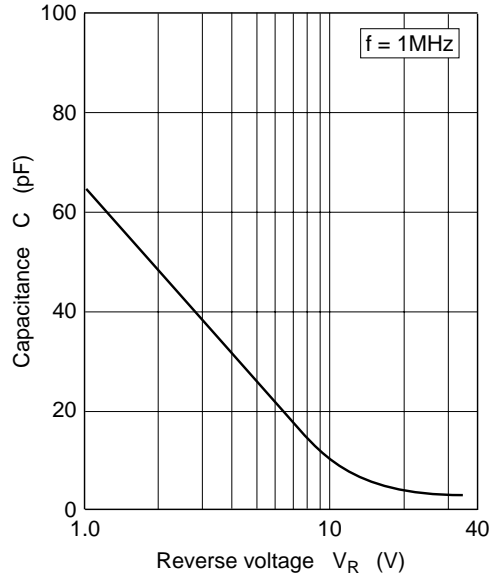


Fig.2 Capacitance vs. Reverse voltage

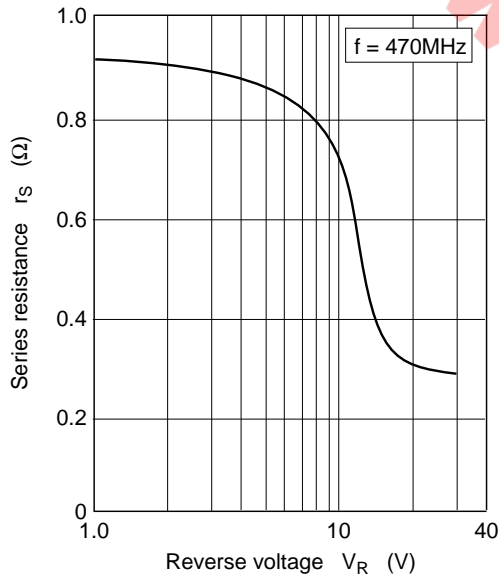


Fig.3 Series resistance vs. Reverse voltage

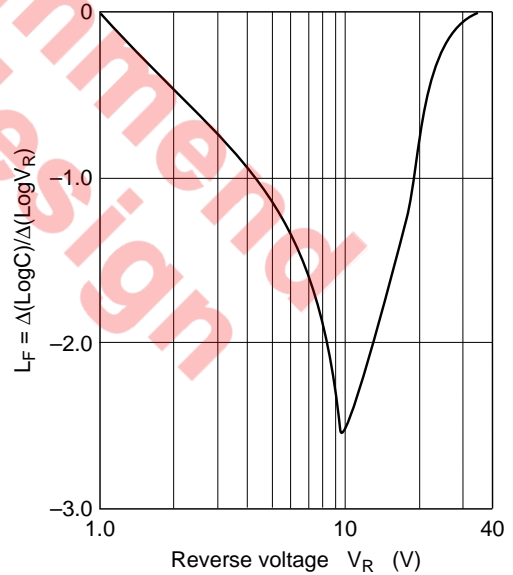
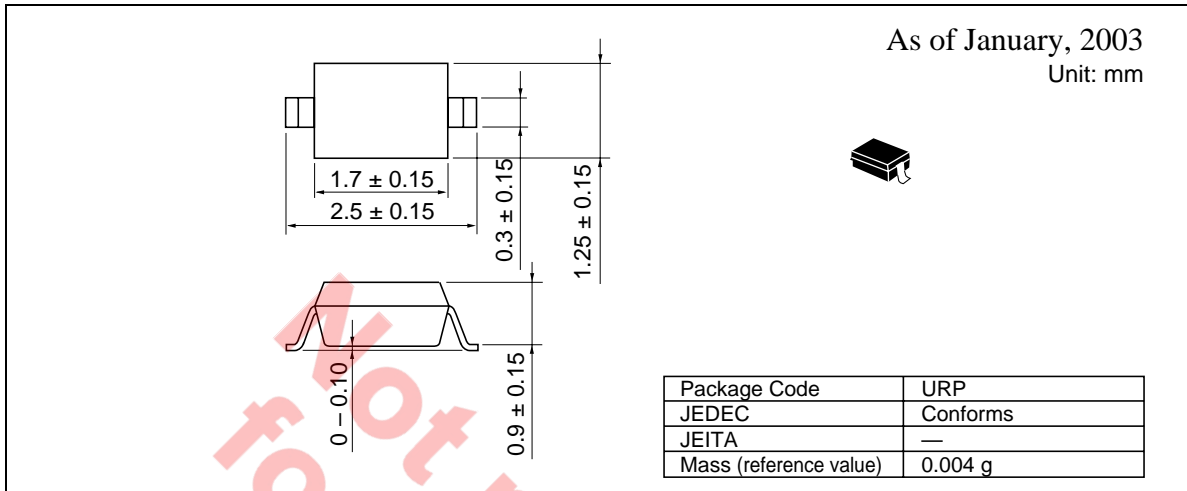


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions



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