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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

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Keep safety first in your circuit designs!

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Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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HVU417C

Variable Capacitance Diode for tuner

RENESAS

ADE-208-1521 (Z)

Rev.0
Apr. 2002

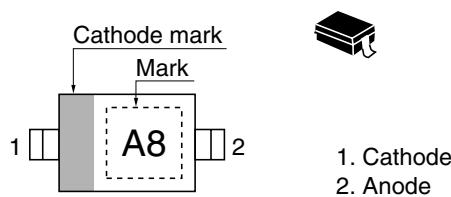
Features

- High capacitance ratio. ($n = 13.0$ min)
- Ultra small Resin Package (URP) is suitable for surface mount design.

Ordering Information

Type No.	Laser Mark	Package Code
HVU417C	A8	URP

Pin Arrangement



Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	V _R	30	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 = 25 V
	I _{R2}	—	—	100		V _R = 25 V, Ta = 60°C
Capacitance	C ₁	7.8	—	9.4	pF	V _R = 1 V, f = 1 MHz
	C ₂₅	0.5	—	0.6		V _R = 25 V, f = 1 MHz
Capacitance ratio	n	13.0	—	—	—	C ₁ /C ₂₅
Series resistance	r _s	—	—	1.5	Ω	V _R = 5 V, f = 470 MHz
Matching error	ΔC/C * ¹	—	—	6.0	%	V _R = 1 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

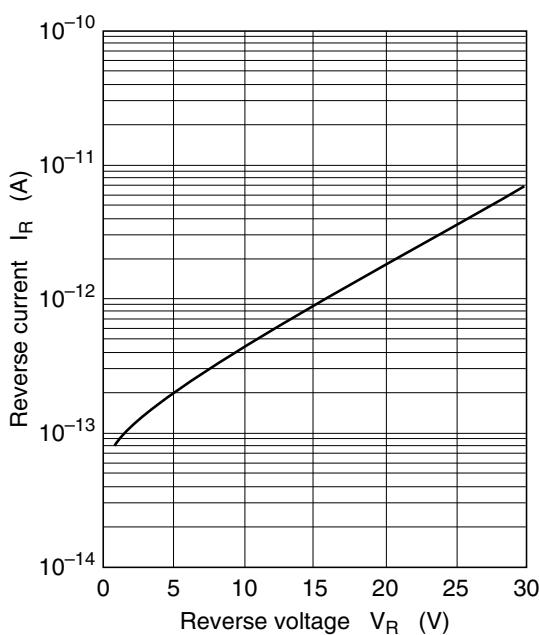


Fig.1 Reverse current vs. Reverse voltage

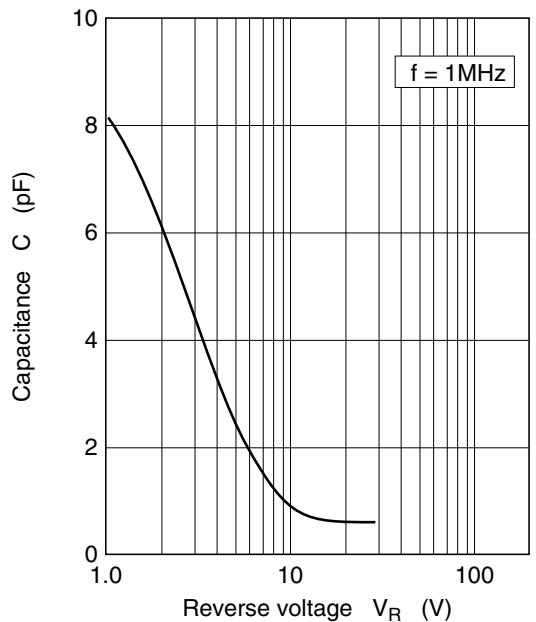


Fig.2 Capacitance vs. Reverse voltage

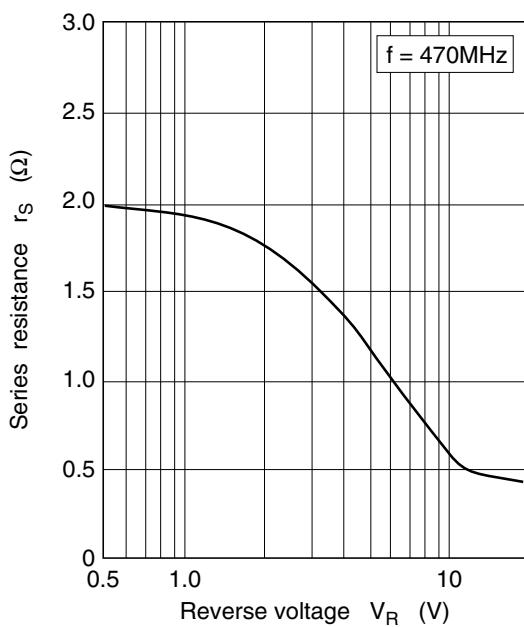


Fig.3 Series resistance vs. Reverse voltage

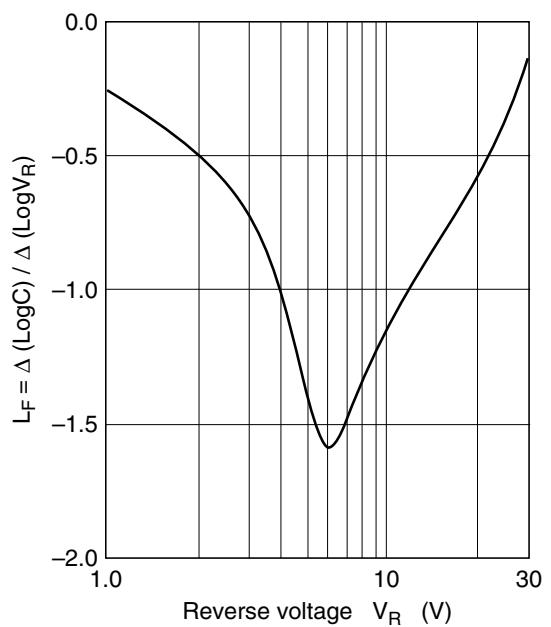
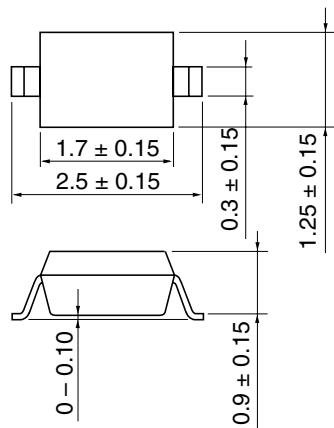


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions

As of January, 2002

Unit: mm



Hitachi Code	URP
JEDEC	Conforms
JEITA	—
Mass (reference value)	0.004 g

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Colophon 6.0