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

Cautions

Keep safety first in your circuit designs!

1. Renesas Technology Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage.

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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HVD396C

Variable Capacitance Diode for VCO

RENESAS

ADE-208-1511 (Z)

Rev.0
Jan. 2003

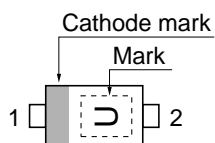
Features

- High capacitance ratio. ($n = 2.30$ min)
- Good linearity of C-V curve.
- Super small Flat Package (SFP) is suitable for surface mount design.

Ordering Information

Type No.	Laser Mark	Package Code
HVD396C	U	SFP

Pin Arrangement



1. Cathode
2. Anode

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	V_R	10	V
Junction temperature	Tj	125	°C
Storage temperature	Tstg	-55 to +125	°C

Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse current	I_{R1}	—	—	10	nA	$V_R = 10\text{ V}$
	I_{R2}	—	—	50		$V_R = 10\text{ V}, T_a = 60^\circ\text{C}$
Capacitance	C_1	14.5	—	17.5	pF	$V_R = 1\text{ V}, f = 1\text{ MHz}$
	C_4	5.20	—	6.5		$V_R = 4\text{ V}, f = 1\text{ MHz}$
Capacitance ratio	n	2.30	—	—	—	C_1/C_4
Series resistance	r_s	—	—	0.4	Ω	$V_R = 1\text{ V}, f = 470\text{ MHz}$

- Notes: 1. Please do not use the soldering iron due to avoid high stress to the EFP package.
2. The material of lead is exposed for cutting plane. Therefore, soldering nature of lead tip part is considered as unquestioned. Please kindly consider soldering nature.

Main Characteristic

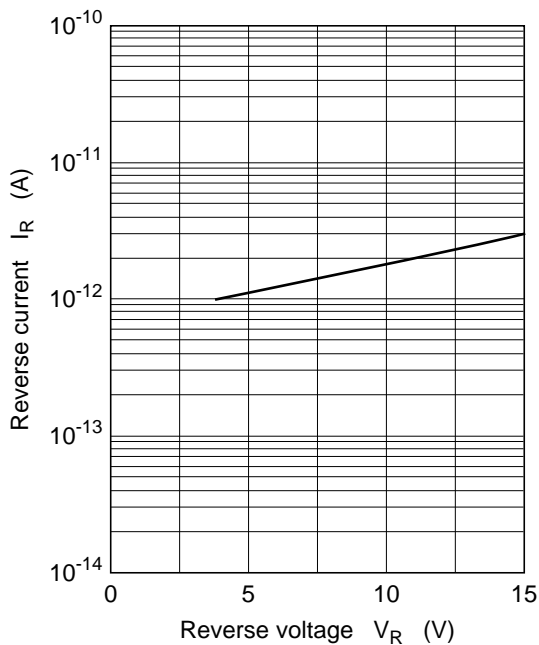


Fig.1 Reverse current vs. Reverse voltage

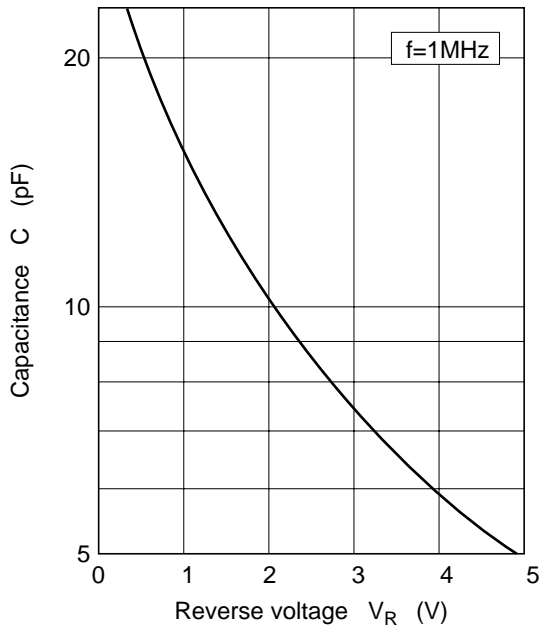


Fig.2 Capacitance vs. Reverse voltage

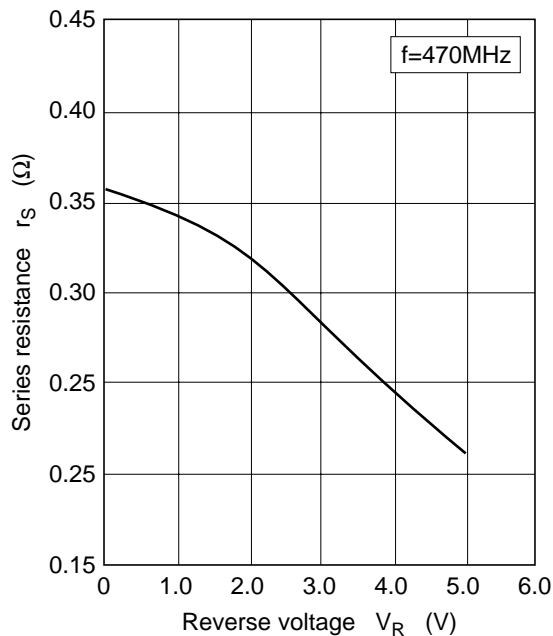


Fig.3 Series resistance vs. Reverse voltage

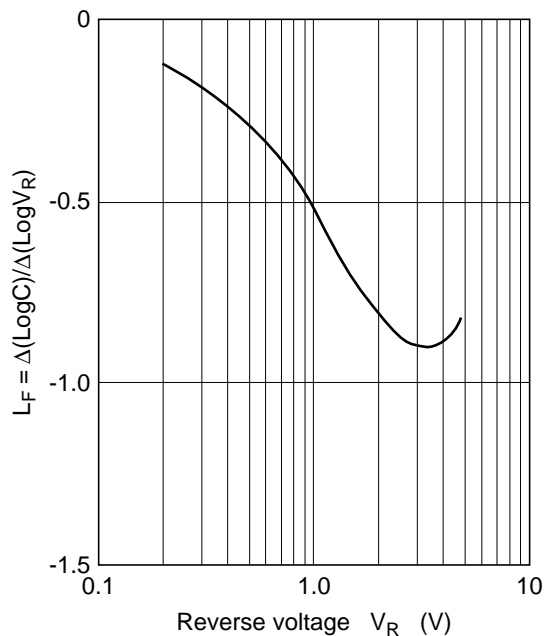
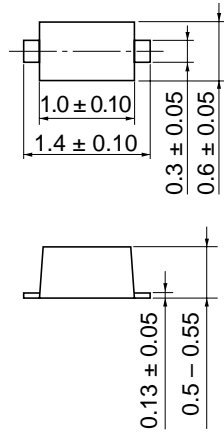


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions

As of July, 2002

Unit: mm



Hitachi Code	SFP
JEDEC	—
JEITA	—
Mass (reference value)	0.0010 g

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