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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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HVD380B

Variable Capacitance Diode for VCO

RENESAS

ADE-208-1168 (Z)

Rev. 0
Apr. 2001

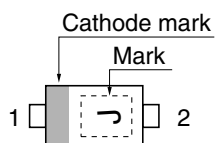
Features

- High capacitance ratio. ($n = 1.70$ min)
- Low series resistance. ($r_s = 0.80 \Omega$ max)
- Super small Flat Package (SFP) is suitable for surface mount design.

Ordering Information

Type No.	Laser Mark	Package Code
HVD380B	J	SFP

Pin Arrangement



1. Cathode
2. Anode

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	V_R	15	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}	—	—	10.0	nA	$V_R = 15\text{ V}$
	I_{R2}	—	—	100		$V_R = 15\text{ V}, T_a = 60^\circ\text{C}$
Capacitance	C_1	2.880	—	3.120	pF	$V_R = 1\text{ V}, f = 1\text{ MHz}$
	C_3	1.660	—	1.795		$V_R = 3\text{ V}, f = 1\text{ MHz}$
	C_4	1.360	—	1.471		$V_R = 4\text{ V}, f = 1\text{ MHz}$
Capacitance ratio	n_1	1.70	—	1.84	—	C_1 / C_3
	n_2	2.08	—	2.25		C_1 / C_4
Series resistance	r_s	—	—	0.80	Ω	$V_R = 1\text{ V}, f = 470\text{ MHz}$

Note: Please do not use the soldering iron due to avoid high stress to the SFP package.

Main Characteristic

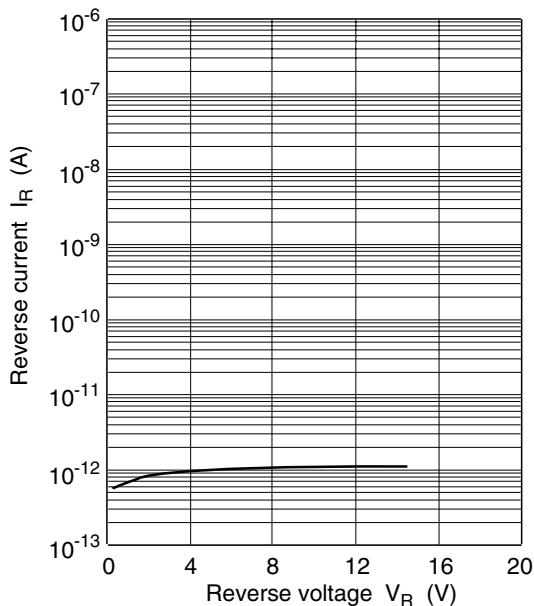


Fig.1 Reverse current vs. Reverse voltage

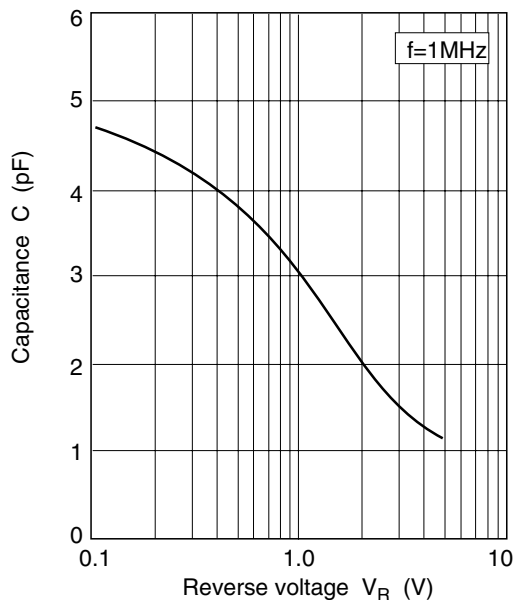


Fig.2 Capacitance vs. Reverse voltage

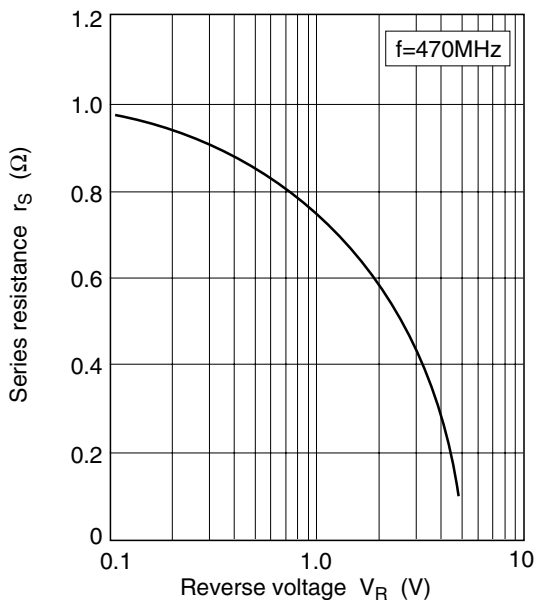


Fig.3 Series resistance vs. Reverse voltage

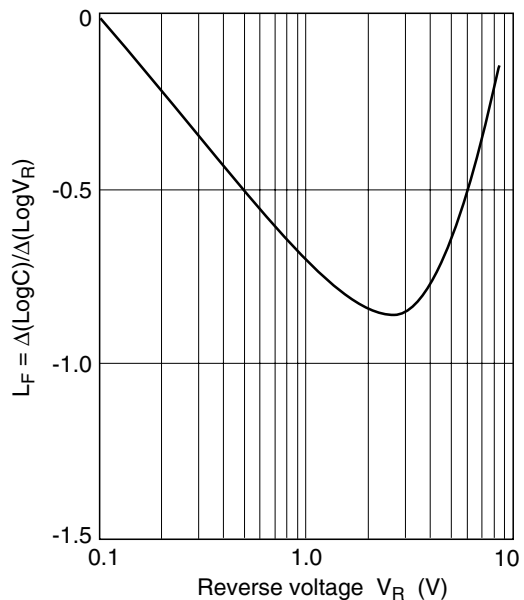
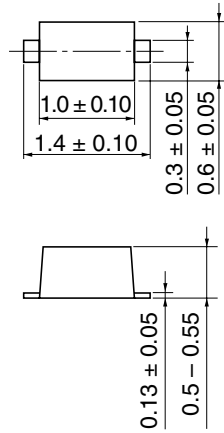


Fig.4 L_F vs. Reverse voltage

Package Dimensions

As of January, 2001

Unit: mm



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

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