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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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HVD385B

Variable Capacitance Diode for VCO



ADE-208-1407A (Z)

Rev. 1
Feb. 2002

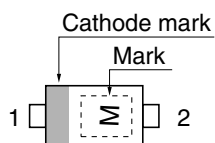
Features

- High capacitance ratio. ($n = 2.43$ min)
- Low series resistance. ($r_s = 0.75 \Omega$ max)
- Super small Flat Package (SFP) is suitable for surface mount design.

Ordering Information

Type No.	Laser Mark	Package Code
HVD385B	M	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	nA	$V_R = 10\text{ V}$
	I_{R2}	—	—	100		$V_R = 10\text{ V}$, Ta = 60°C
Capacitance	$C_{0.5}$	7.20	—	7.70	pF	$V_R = 0.5\text{ V}$, f = 1 MHz
	$C_{2.5}$	2.70	—	3.20		$V_R = 2.5\text{ V}$, f = 1 MHz
Capacitance ratio	n	2.43	—	2.57	—	$C_{0.5}/C_{2.5}$
Series resistance	r_s	—	—	0.75	Ω	$V_R = 1\text{ V}$, f = 470 MHz

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

Main Characteristic

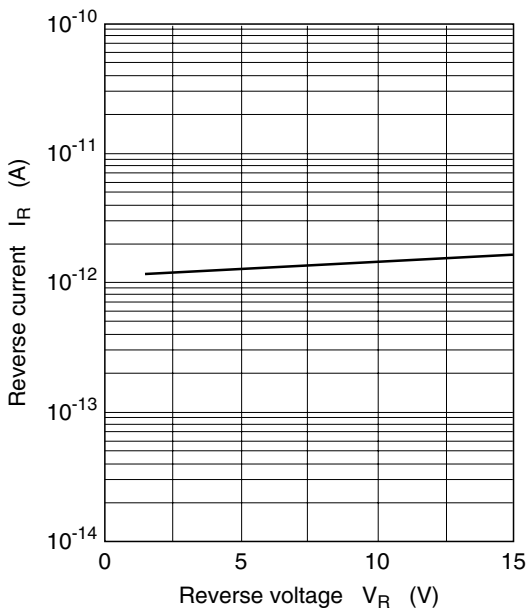


Fig.1 Reverse current vs. Reverse voltage

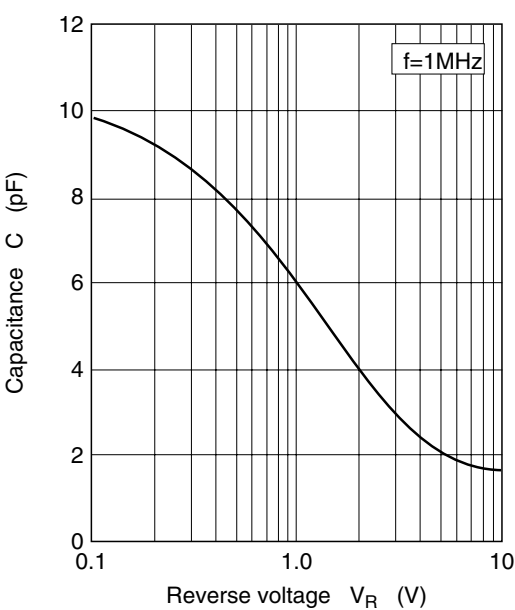


Fig.2 Capacitance vs. Reverse voltage

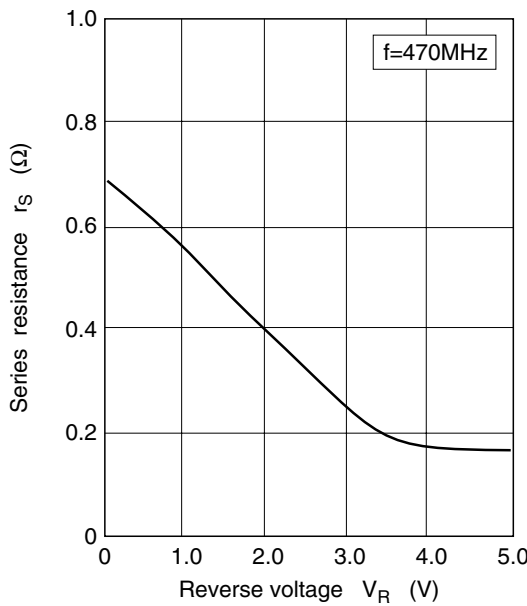


Fig.3 Series resistance vs. Reverse voltage

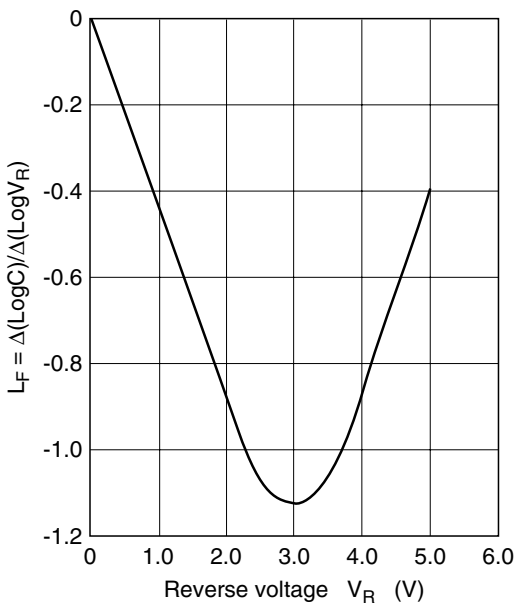
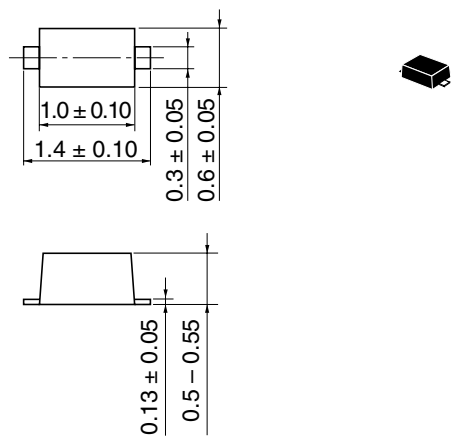


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions

As of July, 2001
Unit: mm



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

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