

# HVD380B

## Variable Capacitance Diode for VCO

REJ03G0504-0200

Rev.2.00

Mar 27, 2006

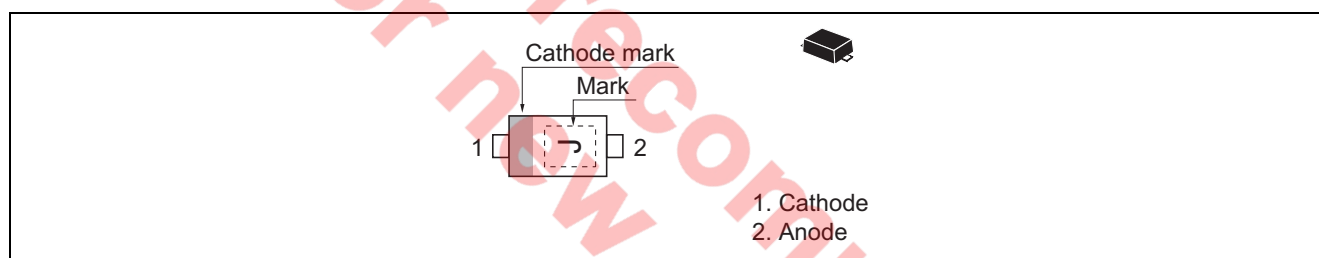
### Features

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

### Ordering Information

Type No.	Laser Mark	Package Name	Package Code
HVD380B	J	SFP	PUSF0002ZB-A

### Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	$V_R$	15	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	$V_R = 15\text{ V}$
	$I_{R2}$	—	—	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	$\Omega$	$V_R = 1\text{ V}, f = 470\text{ MHz}$

Note: For SFP package, the material of lead is exposed for cutting plane. There for, soldering nature of lead tip part is considered as unquestioned. Please kindly consider soldering nature.

## Main Characteristic

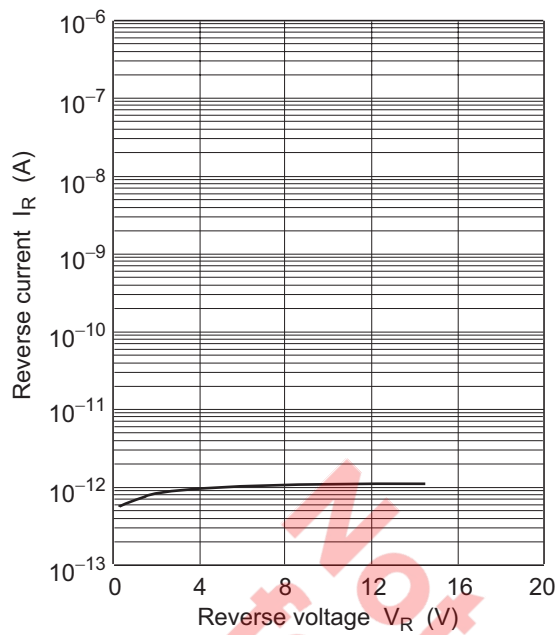


Fig.1 Reverse current vs. Reverse voltage

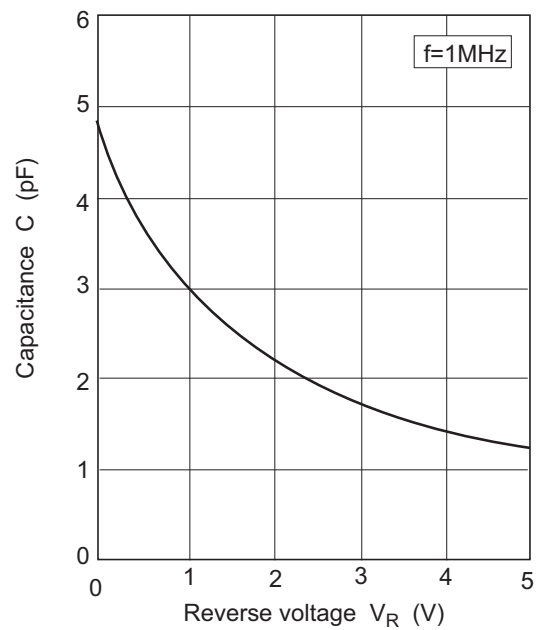


Fig.2 Capacitance vs. Reverse voltage

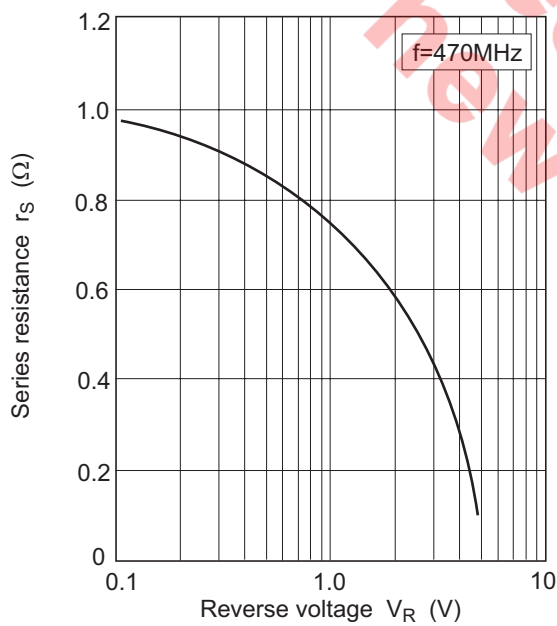
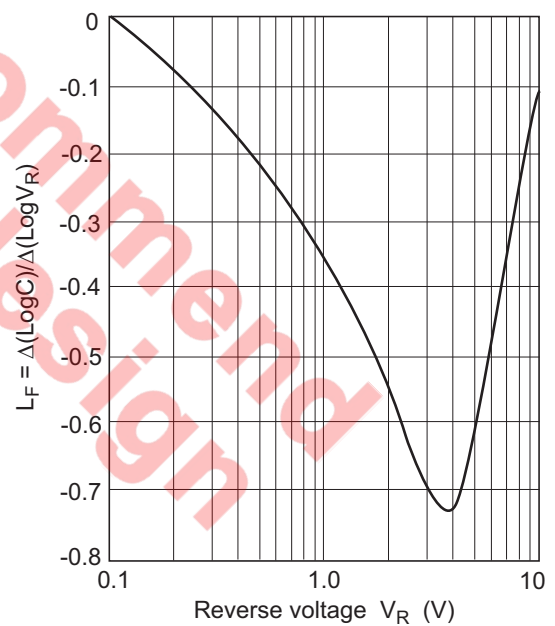
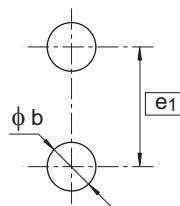
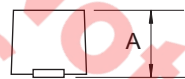
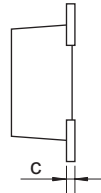
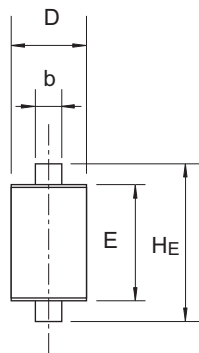


Fig.3 Series resistance vs. Reverse voltage

Fig.4  $L_F$  vs. Reverse voltage

## Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
SFP	—	PUSF0002ZB-A	SFP / SFPV	0.0010g



Pattern of terminal position areas

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
A	0.50	—	0.55
b	0.25	0.30	0.35
c	0.08	0.13	0.18
D	0.55	0.60	0.65
E	0.90	1.00	1.10
HE	1.30	1.40	1.50
phi b	—	0.50	—
e1	—	1.40	—

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Tel: <86> (21) 5877-1818, Fax: <86> (21) 6887-7898

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Kukje Center Bldg. 18th Fl., 191, 2-ka, Hangang-ro, Yongsan-ku, Seoul 140-702, Korea  
Tel: <82> (2) 796-3115, Fax: <82> (2) 796-2145

#### **Renesas Technology Malaysia Sdn. Bhd**

Unit 906, Block B, Menara Amcorp, Amcorp Trade Centre, No.18, Jalan Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia  
Tel: <603> 7955-9390, Fax: <603> 7955-9510