To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: http://www.renesas.com

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (http://www.renesas.com)

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HVD380B

Variable Capacitance Diode for VCO

REJ03G0504-0200
Rev.2.00
Mar 27, 2006

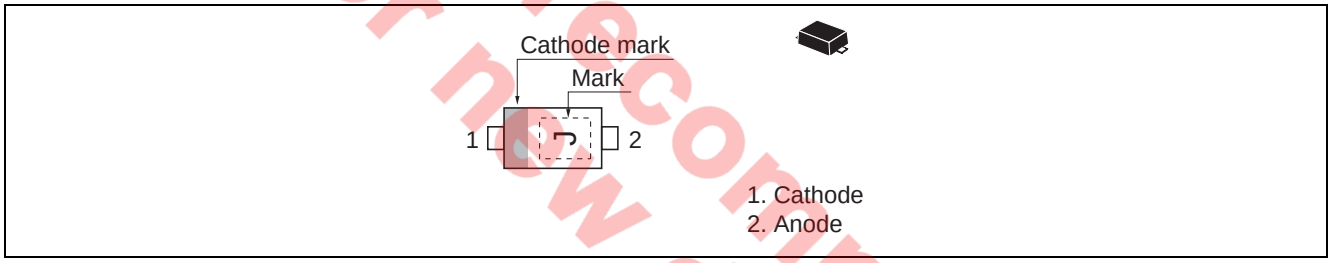
Features

- High capacitance ratio. (n = 1.70 min)
- Low series resistance. (r_s = 0.80 Ω 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	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 =15 V
	I_{R2}	—	—	100		V_R = 15 V, Ta = 60°C
Capacitance	C_1	2.880	—	3.120	pF	V_R = 1 V, f = 1 MHz
	C_3	1.660	—	1.795		V_R = 3 V, f = 1 MHz
	C_4	1.360	—	1.471		V_R = 4 V, f = 1 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 V, f = 470 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

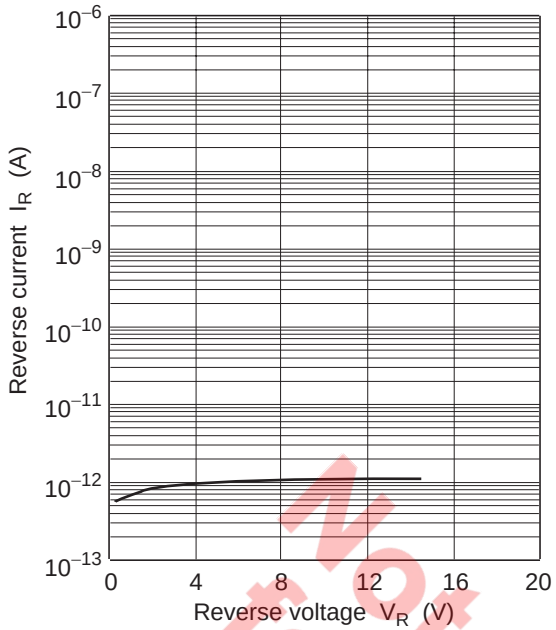


Fig.1 Reverse current vs. Reverse voltage

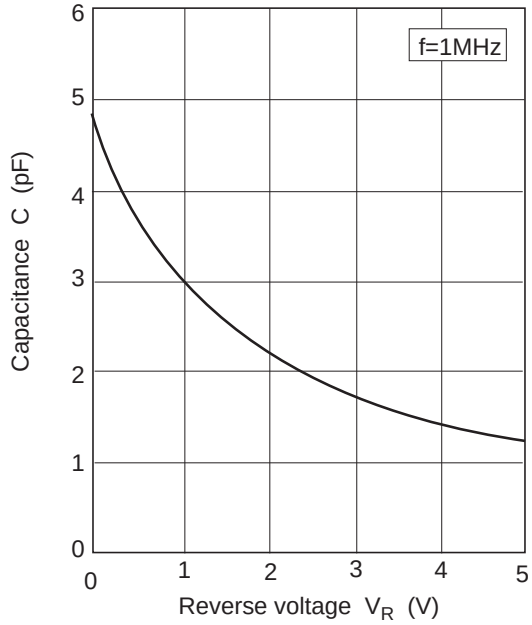


Fig.2 Capacitance vs. Reverse voltage

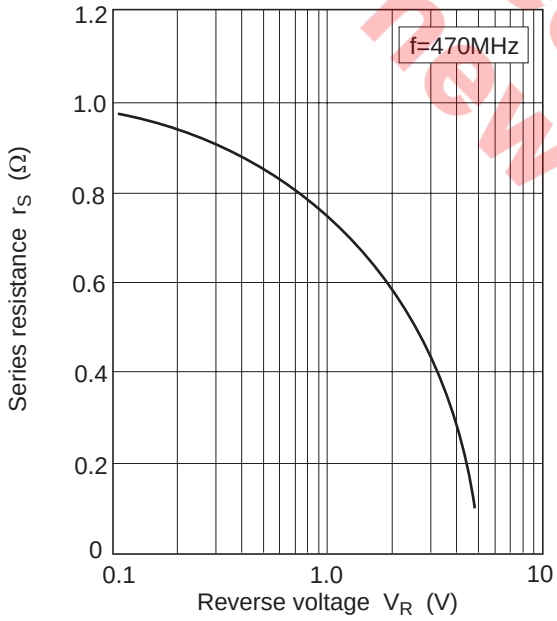


Fig.3 Series resistance vs. Reverse voltage

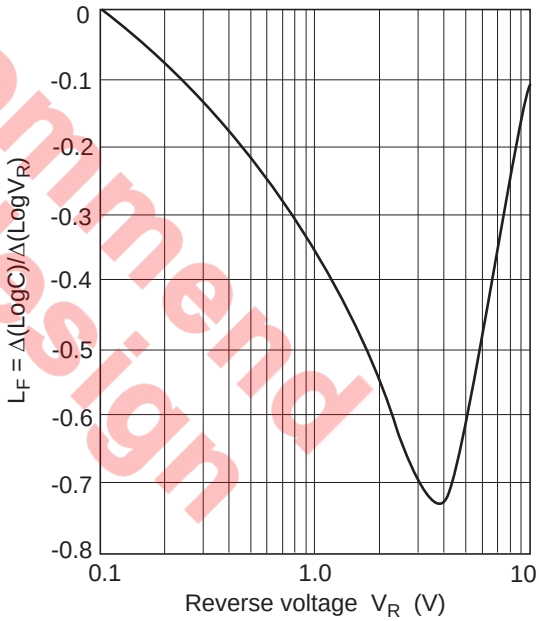
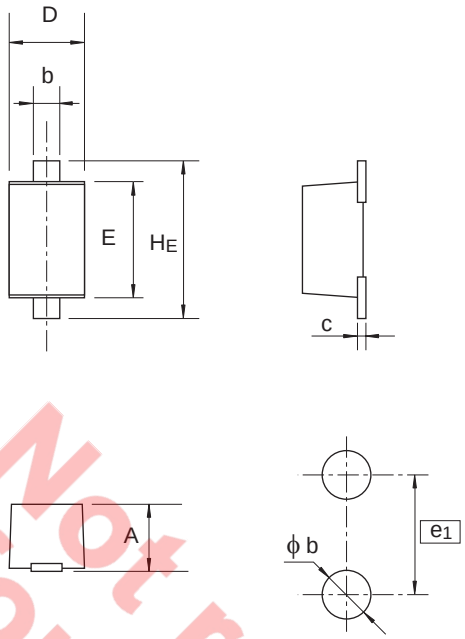


Fig.4 L_F vs. Reverse voltage

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
H_E	1.30	1.40	1.50
ϕ b	—	0.50	—
e_1	—	1.40	—

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