

HVD376B

Variable Capacitance Diode for VCO

REJ03G0540-0300

Rev.3.00

Feb 03, 2006

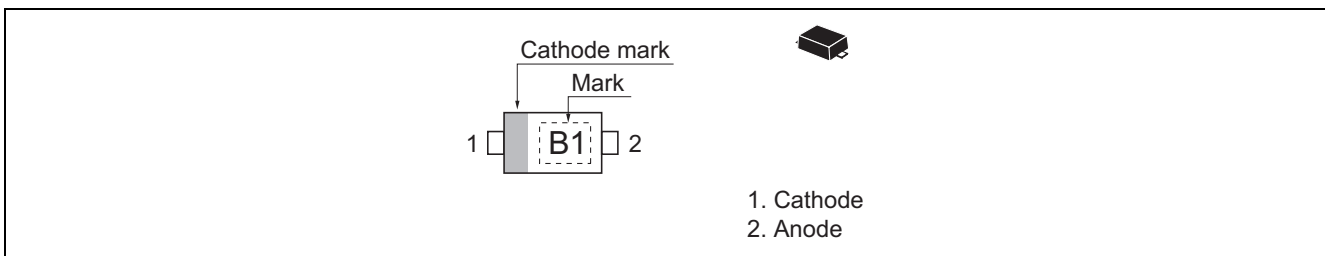
Features

- High capacitance ratio ($n = 4.3\text{min}$) and good C-V linearity.
- High Q circuit can be composed due to low series resistance. ($r_s = 0.8 \Omega \text{ max}$)
- To be usable at low voltage.
- Super small Flat Lead Package (SFP) is suitable for surface mount design.

Ordering Information

Type No.	Laser Mark	Package Name	Package Code
HVD376B	B1	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	$V_R = 10\text{ V}$
	I_{R2}	—	—	100		$V_R = 10\text{ V}, T_a = 60^\circ\text{C}$
Capacitance	$C_{0.2}$	39.5	—	44.5	pF	$V_R = 0.2\text{ V}, f = 1\text{ MHz}$
	C_1	25.0	—	28.5		$V_R = 1\text{ V}, f = 1\text{ MHz}$
	$C_{2.3}$	8.75	—	12.05		$V_R = 2.3\text{ V}, f = 1\text{ MHz}$
	C_4	4.80	—	6.80		$V_R = 4\text{ V}, f = 1\text{ MHz}$
Capacitance ratio	n_1	4.30	—	—	—	C_1/C_4
	n_2	3.55	—	—	—	$C_{0.2}/C_{2.3}$
Series resistance	r_s	—	—	0.8	Ω	$V_R = 1\text{ V}, f = 470\text{ MHz}$

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

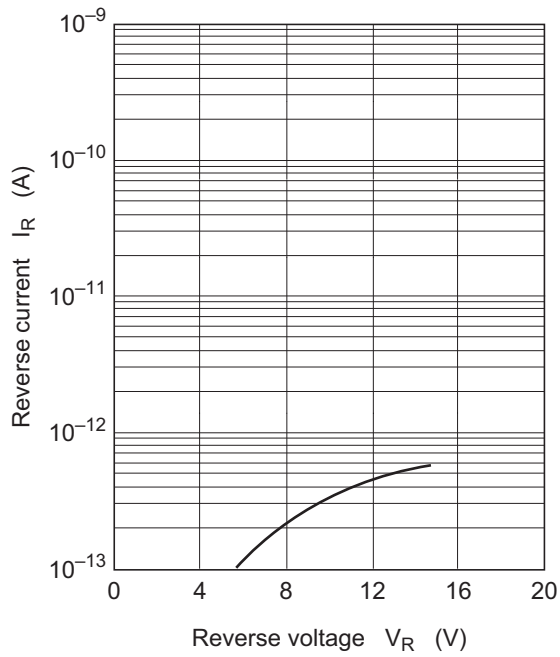


Fig.1 Reverse current vs. Reverse voltage

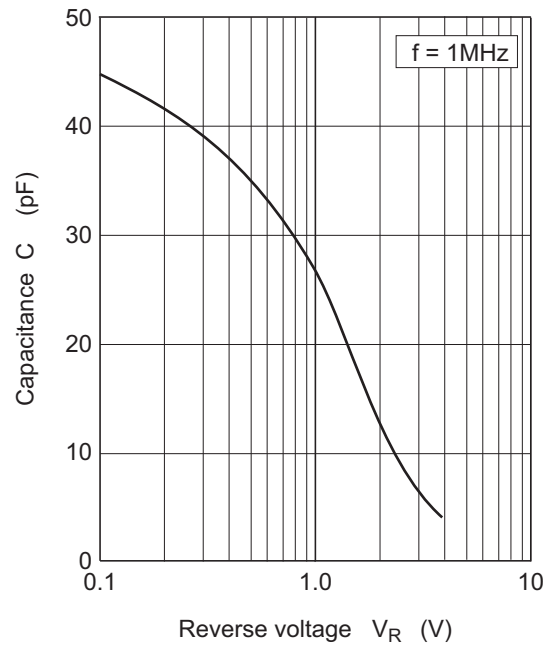


Fig.2 Capacitance vs. Reverse voltage

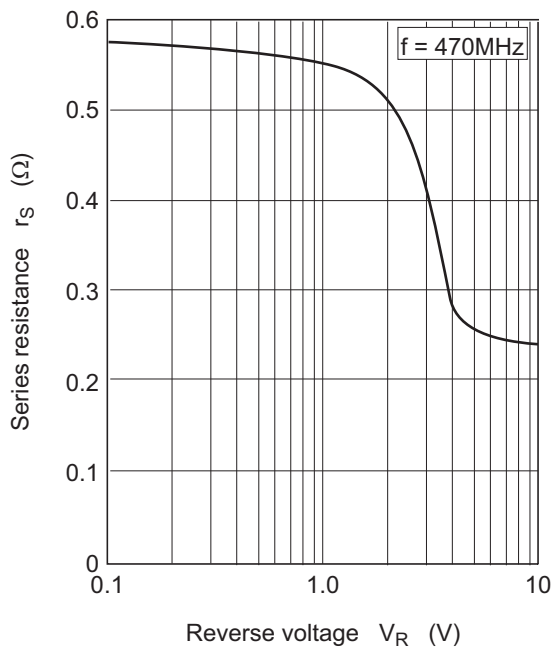
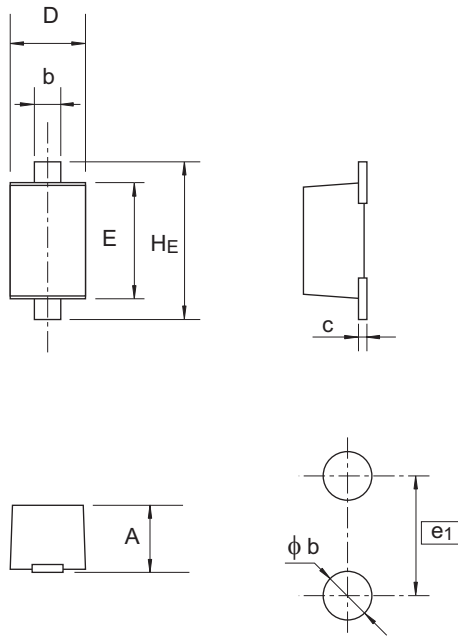


Fig.3 Series resistance vs. Reverse voltage

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
ϕb	—	0.50	—
e_1	—	1.40	—

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