

To our customers,

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## Old Company Name in Catalogs and Other Documents

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April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

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# HVD328C

## Variable Capacitance Diode for VHF tuner

REJ03G0219-0200  
Rev.2.00  
Mar 31, 2006

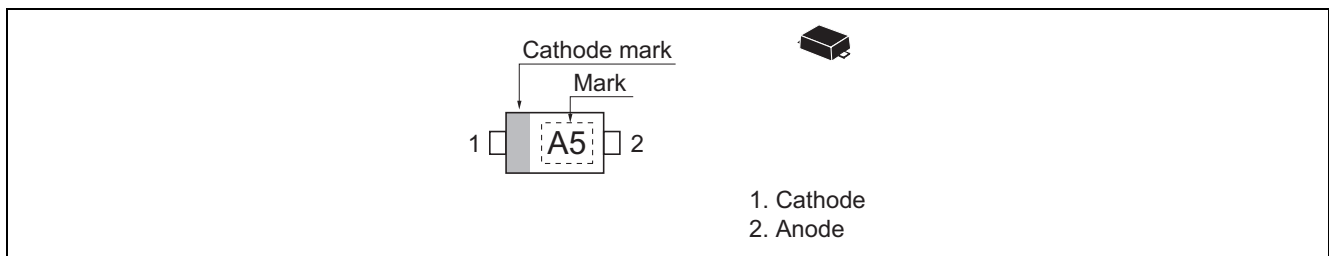
### Features

- Low voltage type (tuning voltage 1 to 10 V), it is suitable for ET without DC/DC converter.
- High capacitance ratio ( $n = 14.5$  min) and suitable for wide band tuner.
- Low series resistance and good C-V linearity.
- Super small Flat Lead Package (SFP) is suitable for surface mount design.

### Ordering Information

Type No.	Laser Mark	Package Name	Package Code
HVD328C	A5	SFP	PUSF0002ZB-A

### Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	V <sub>R</sub>	15	V
Junction temperature	T <sub>J</sub>	125	°C
Storage temperature	T <sub>stg</sub>	-55 to +125	°C

## Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse current	I <sub>R1</sub>	—	—	10	nA	V <sub>R</sub> = 10 V
	I <sub>R2</sub>	—	—	100		V <sub>R</sub> = 10 V, Ta = 60°C
Capacitance	C <sub>1</sub>	41.0	—	45.0	pF	V <sub>R</sub> = 1 V, f = 1 MHz
	C <sub>10</sub>	2.6	—	2.9		V <sub>R</sub> = 10 V, f = 1 MHz
Capacitance ratio	n	14.5	—	—	—	C <sub>1</sub> / C <sub>10</sub>
Series resistance	r <sub>s</sub>	—	—	1.2	Ω	V <sub>R</sub> = 5 V, f = 470 MHz
Matching error	ΔC/C *1	—	—	2.0	%	V <sub>R</sub> = 1 to 10 V, f = 1 MHz

Notes: 1. C.C system (Continuous Connected taping system) enable to make any 10 pcs of C/C continuous in a reel , expect extention to another group.

Calculate Matching

$$\Delta C/C = \frac{(C_{max} - C_{min})}{C_{min}} \times 100 (\%)$$

2. 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

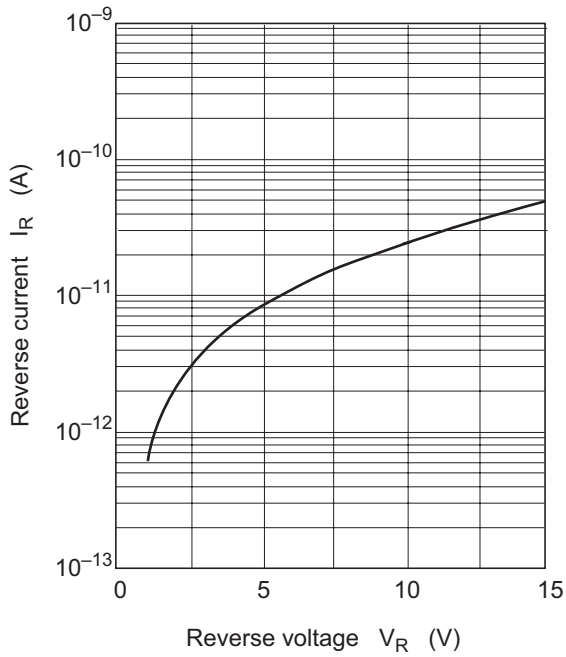


Fig.1 Reverse current vs. Reverse voltage

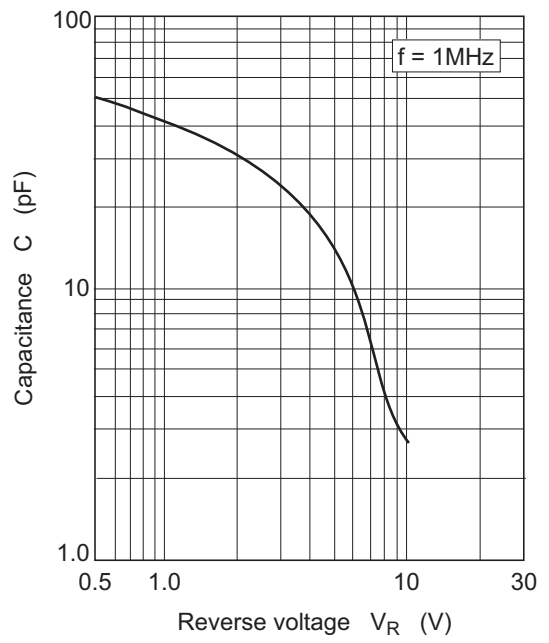


Fig.2 Capacitance vs. Reverse voltage

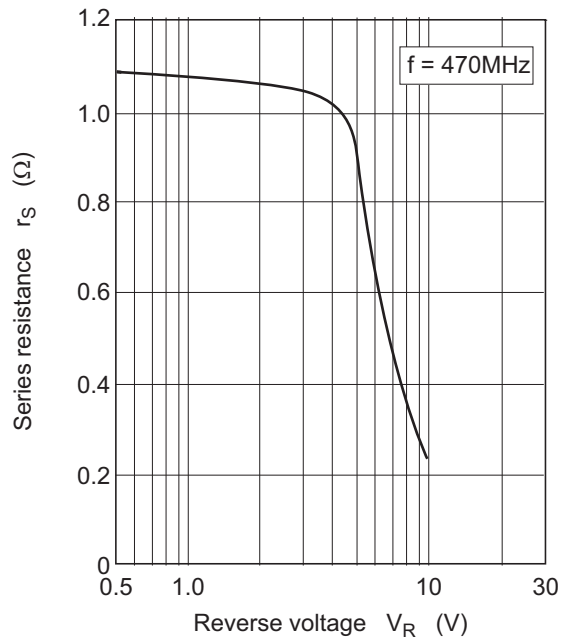
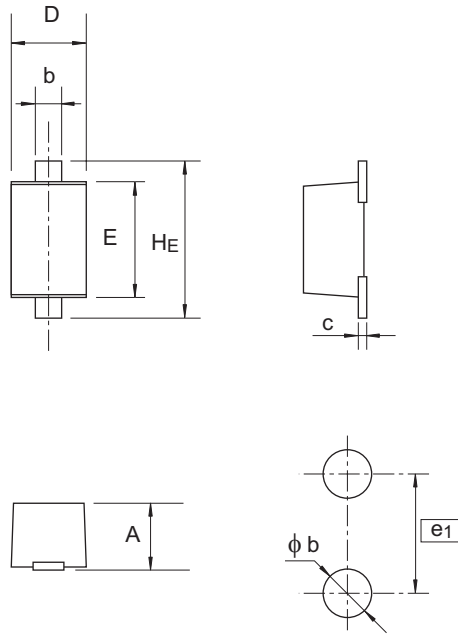


Fig.3 Series resistance vs. Reverse voltage

### 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
$\phi b$	—	0.50	—
$e_1$	—	1.40	—

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