

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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Not recommended  
for new design

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# HVC363A

## Variable Capacitance Diode for TV tuner

REJ03G0517-0200  
 (Previous: ADE-208-427A)  
 Rev.2.00  
 Feb 16, 2005

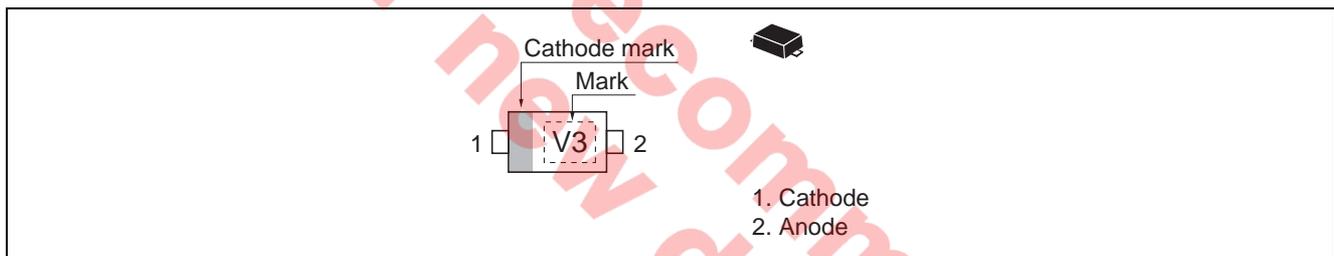
### Features

- High capacitance ratio ( $n = 15.0$  Typ)
- Low series resistance ( $r_s = 0.75 \Omega$  max) and good C-V linearity.
- Ultra small Flat Lead Package (UFP) is suitable for surface mount design.

### Ordering Information

Type No.	Laser Mark	Renesas Code	Previous Code
HVC363A	V3	PWSF0002ZA-A	UFP

### Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Peak reverse voltage	$V_{RM}^{*1}$	35	V
Reverse voltage	$V_R$	32	V
Junction temperature	$T_j$	125	°C
Storage temperature	$T_{stg}$	-55 to +125	°C

Note: 1.  $R_L = 10\text{ k}\Omega$ 

## Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse voltage	$V_R$	32	—	—	V	$I_R = 1\ \mu\text{A}$
Reverse current	$I_{R1}$	—	—	10	nA	$V_R = 30\text{ V}$
	$I_{R2}$	—	—	100		$V_R = 30\text{ V}, T_a = 60^\circ\text{C}$
Capacitance	$C_1$	34.65	—	42.35	pF	$V_R = 1\text{ V}, f = 1\text{ MHz}$
	$C_{28}$	2.361	—	2.754		$V_R = 28\text{ V}, f = 1\text{ MHz}$
Capacitance ratio	$n$	13.50	15.00	—	—	$C_1/C_{28}$
Series resistance	$r_s$	—	—	0.75	$\Omega$	$C = 14\text{ pF}, f = 470\text{ MHz}$
Matching error	$\Delta C/C^{*1}$	—	—	2.0	%	$V_R = 1\text{ to }28\text{ V}, f = 1\text{ MHz}$
Linealty factor <sup>*2</sup>	—	—	-1.20	—	—	$\Delta\log C / \Delta\log V$

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

Calculate Matching Error,

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

2. Calculate LF ( $\Delta\log C / \Delta\log V$ ) at  $V_R = 1$  through  $28\text{ V}$  ,  $f = 1\text{ MHz}$  .(Reference Value)

Main Characteristic

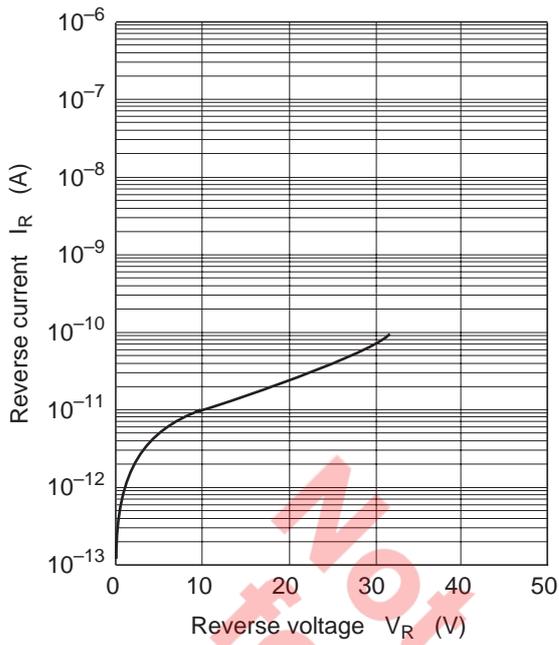


Fig.1 Reverse current vs. Reverse voltage

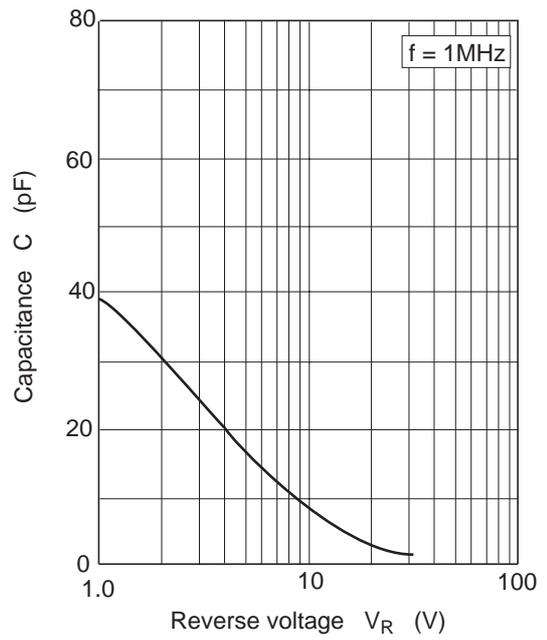


Fig.2 Capacitance vs. Reverse voltage

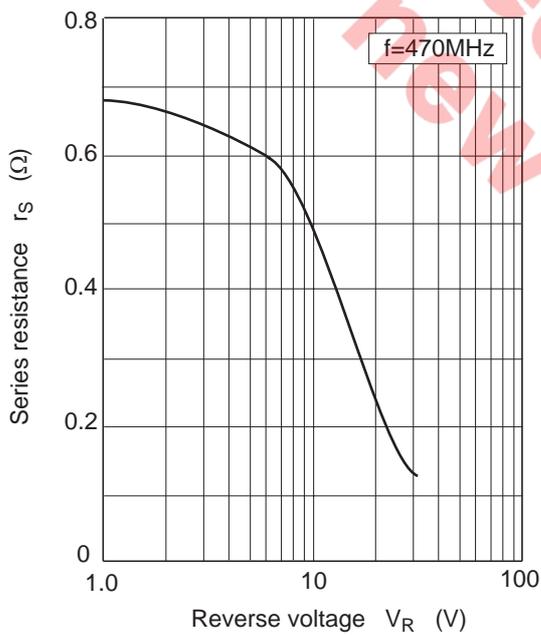


Fig.3 Series resistance vs. Reverse voltage

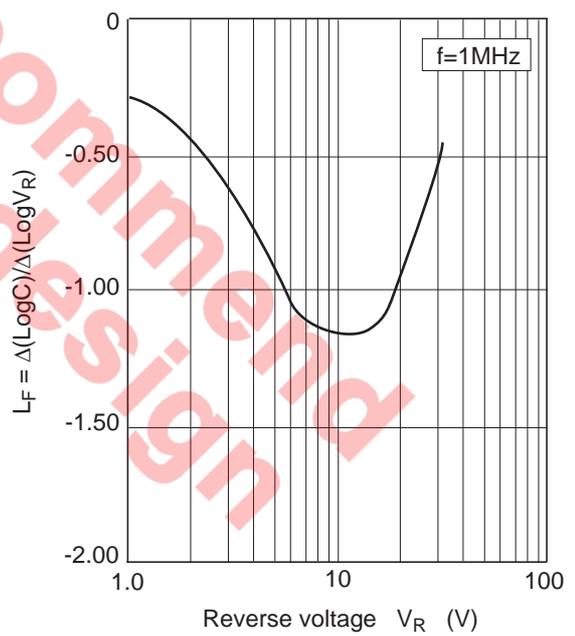
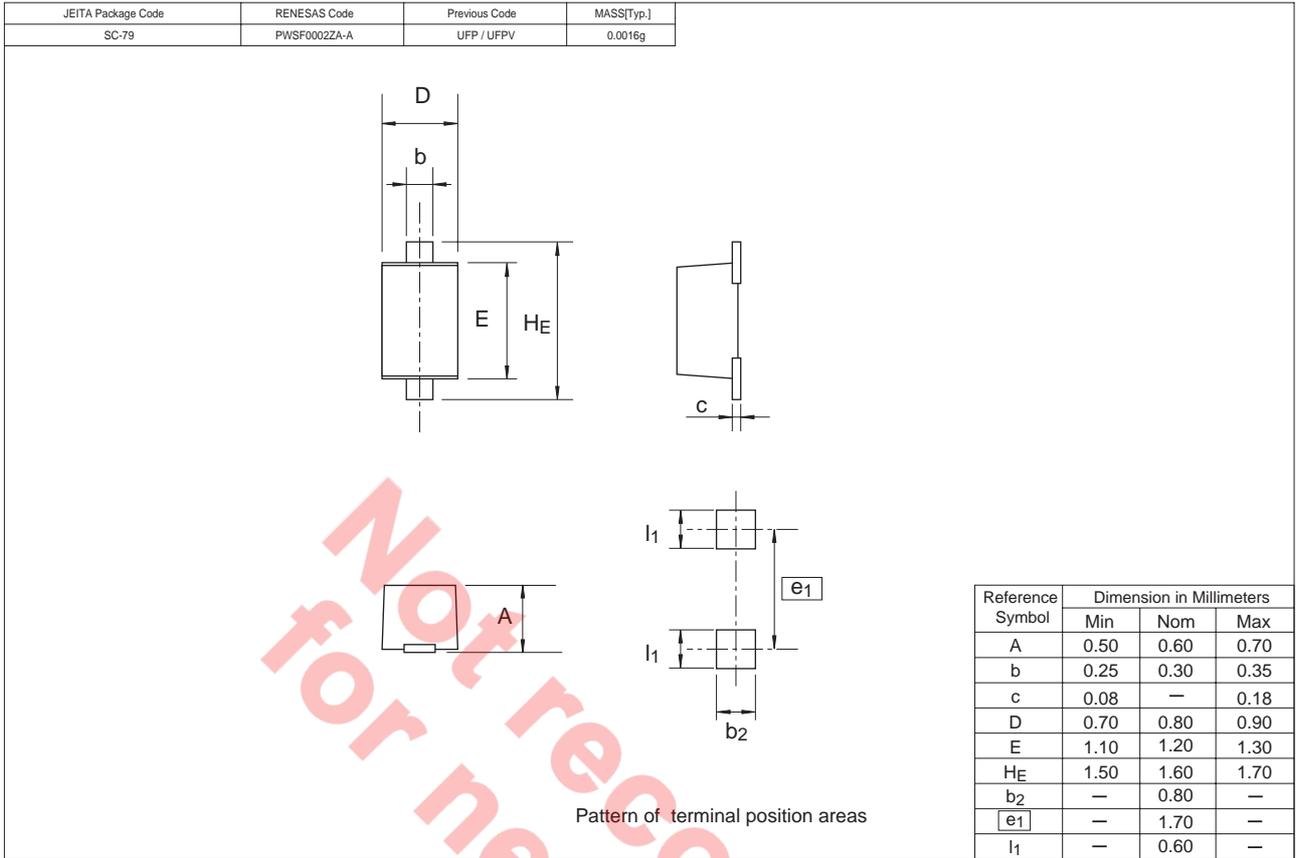


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions



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