



HVC300C

Variable Capacitance Diode for VHF tuner

REJ03G0513-0100

(Previous: ADE-208-1611)

Rev.1.00

Feb 04, 2005

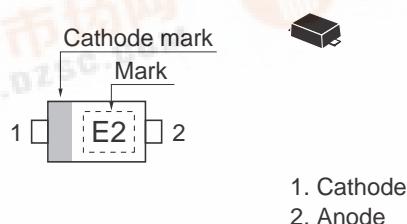
Features

- High capacitance ratio ($n = 14.5$ min) and suitable for wide band tuner.
- Low series resistance 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
HVC300C	E2	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	34	V
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

Note: 1. R_L = 10 kΩ**Electrical Characteristics**

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse current	I _{R1}	—	—	10	nA	V _R = 32 V
	I _{R2}	—	—	100		V _R = 32 V, Ta = 60°C
Capacitance	C ₂	39.5	—	47.0	pF	V _R = 2 V, f = 1 MHz
	C ₂₅	2.6	—	3.0		V _R = 25V, f = 1 MHz
Capacitance ratio	n	14.5	—	—	—	C ₂ / C ₂₅
Series resistance	r _S	—	—	1.1	Ω	V _R = 5 V, f = 470 MHz
Matching error	ΔC/C * ¹	—	—	2.0	%	V _R = 2 to 25 V, f = 1 MHz

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

Calculate Matching Error,

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

Main Characteristic

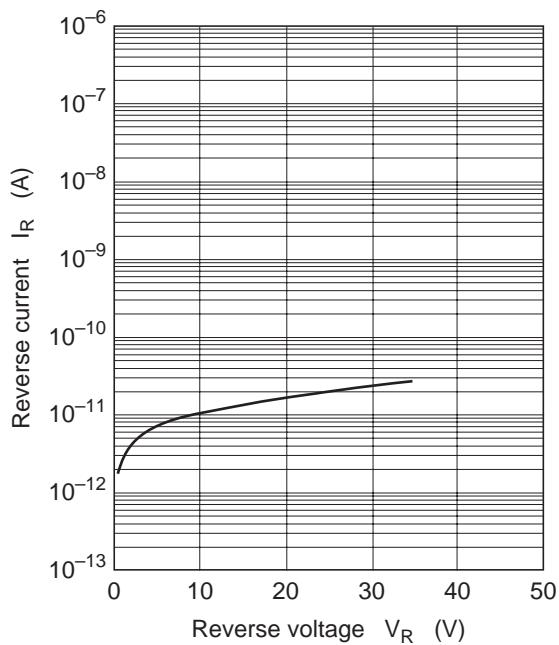


Fig.1 Reverse current vs. Reverse voltage

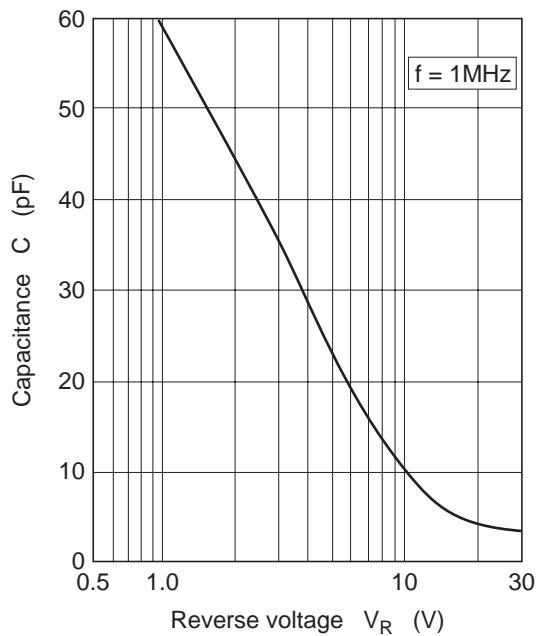


Fig.2 Capacitance vs. Reverse voltage

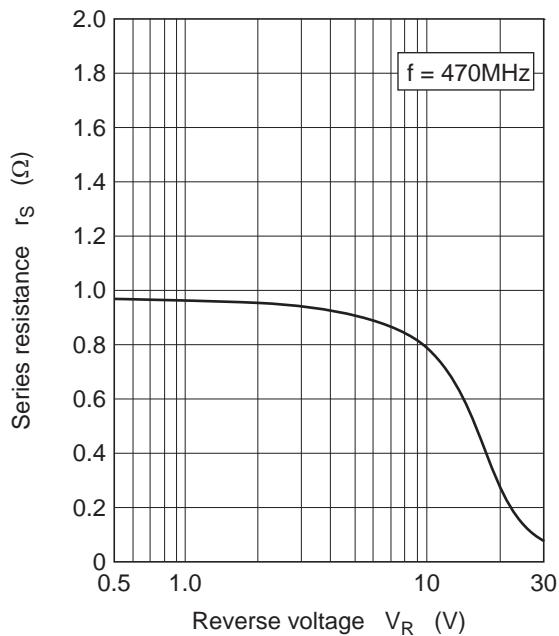


Fig.3 Series resistance vs. Reverse voltage

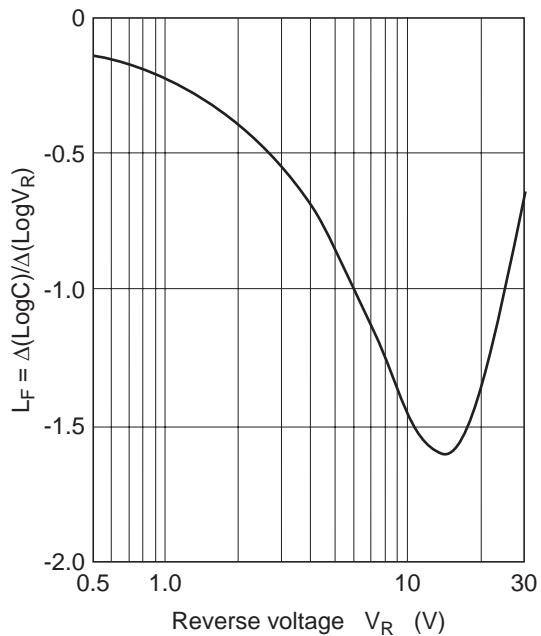
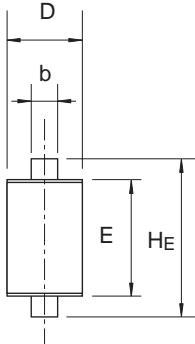
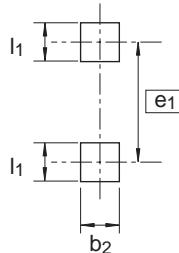
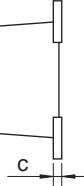


Fig.4 Linearity factor vs. Reverse voltage

Package Dimensions

JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
SC-79	PWSF0002ZA-A	UFP / UFPV	0.0016g





Pattern of terminal position areas

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
A	0.50	0.60	0.70
b	0.25	0.30	0.35
c	0.08	—	0.18
D	0.70	0.80	0.90
E	1.10	1.20	1.30
H_E	1.50	1.60	1.70
b ₂	—	0.80	—
e ₁	—	1.70	—
l ₁	—	0.60	—

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