

# HVL397CM

## Variable Capacitance Diode for VCO

REJ03G0014-0200  
Rev.2.00  
Mar 16, 2006

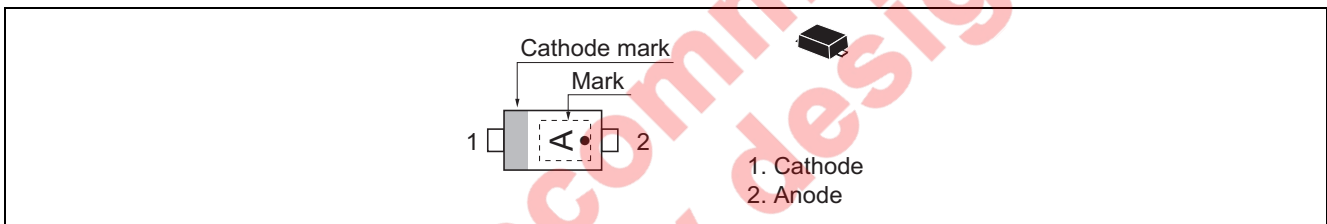
### Features

- High capacitance ratio. ( $n = 2.9$  min)
- Good C-V linearity
- Thin Extremely small Flat Lead Package (TEFP) is suitable for surface mount design.

### Ordering Information

Type No.	Laser Mark	Package Name	Package Code
HVL397CM	A	TEFP	PUSF0002ZA-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	$V_R = 10\text{ V}$
	$I_{R2}$	—	—	50		$V_R = 10\text{ V}, T_a = 60^\circ\text{C}$
Capacitance	$C_1$	27.0	—	28.5	pF	$V_R = 1\text{ V}, f = 1\text{ MHz}$
	$C_2$	18.0	—	20.0		$V_R = 2\text{ V}, f = 1\text{ MHz}$
	$C_4$	6.80	—	8.50		$V_R = 4\text{ V}, f = 1\text{ MHz}$
Capacitance ratio	$n_1$	1.3	—	—	—	$C_1 / C_2$
	$n_2$	2.9	—	—	—	$C_1 / C_4$
Series resistance	$r_s$	—	—	1.2	$\Omega$	$V_R = 1\text{ V}, f = 470\text{ MHz}$

Note: For TEFP 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.

Not recommended for new design

Main Characteristic

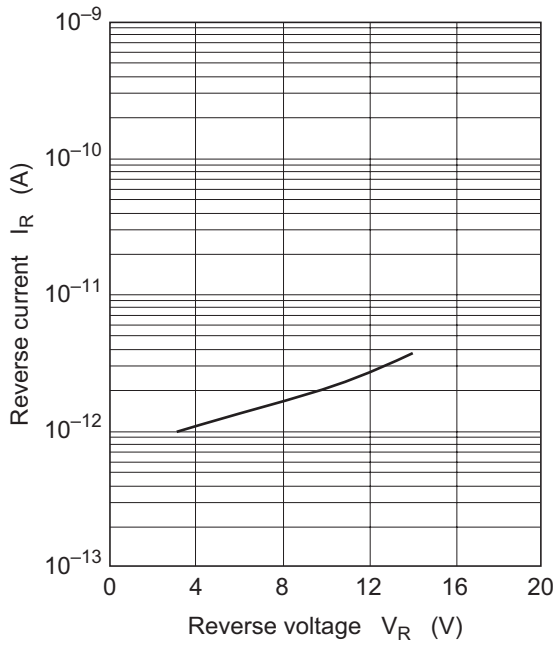


Fig.1 Reverse current vs. Reverse voltage

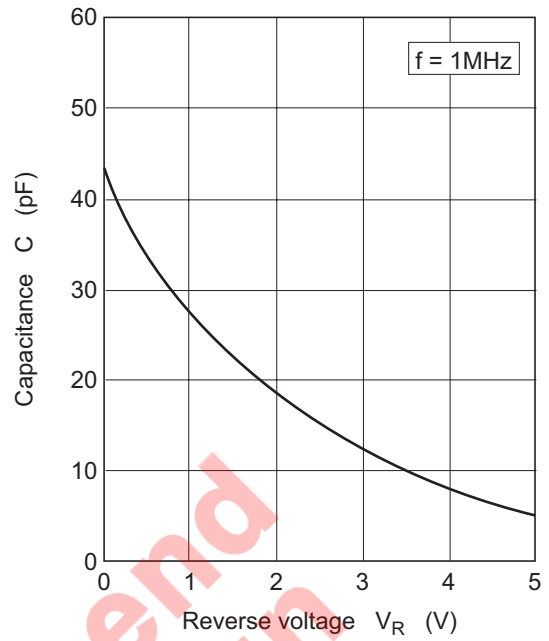


Fig.2 Capacitance vs. Reverse voltage

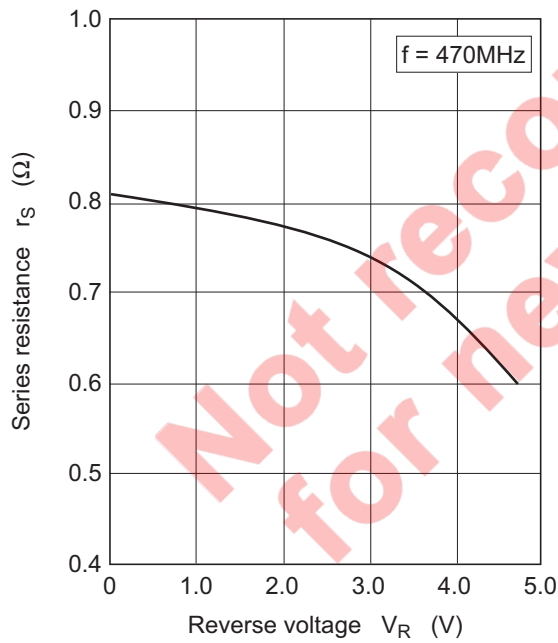
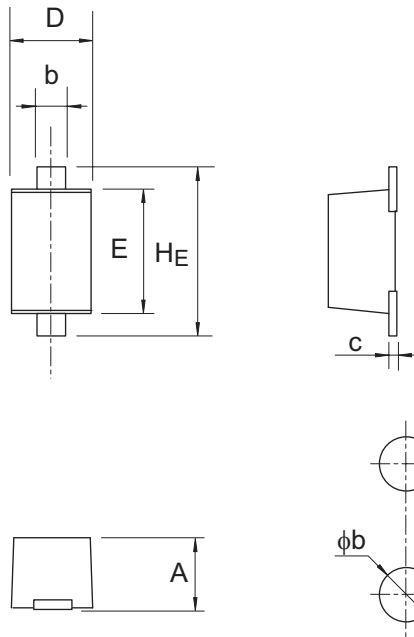


Fig.3 Series resistance vs. Reverse voltage

Package Dimensions

Package Name TEFP	JEITA Package Code —	RENESAS Code PUSF0002ZA-A	Previous Code TEFP / TEFPV	MASS[Typ.] 0.0006g
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Pattern of terminal position areas

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
A	-	-	0.40
b	0.25	0.30	0.35
c	0.08	0.13	0.18
D	0.55	0.60	0.65
E	0.75	0.80	0.90
$H_E$	0.95	1.00	1.05
$\phi b$	-	0.40	-
$e_1$	-	1.00	-

Not recommend for new design

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