

# HVU363A

Variable Capacitance Diode for TV tuner

# HITACHI

ADE-208-234B(Z)

Rev 2

Nov. 1998

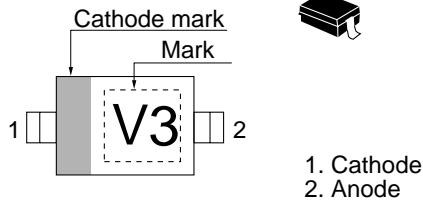
## Features

- High capacitance ratio.(n=15.0Typ)
- Low series resistance ( $r_s=0.75\Omega_{\max}$ ) and good C-V linearity.
- Ultra small Resin Package (URP) is suitable for surface mount design.

## Ordering Information

Type No.	Laser Mark	Package Code
HVU363A	V3	URP

## Outline



## 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

Notes 1.  $RL=10k\Omega$

## Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse voltage	$V_R$	32	—	—	V	$I_R = 1\mu A$
Reverse current	$I_{R1}$	—	—	10	nA	$V_R = 30V$
	$I_{R2}$	—	—	100		$V_R = 30V, T_a = 60^\circ C$
Capacitance	$C_1$	34.65	—	42.35	pF	$V_R = 1V, f = 1 MHz$
	$C_{28}$	2.361	—	2.754		$V_R = 28V, f = 1 MHz$
Capacitance ratio	$n$	13.5	15.0	—	—	$C_1 / C_{28}$
Series resistance	$r_s$	—	—	0.75	$\Omega$	$C=14pF, f = 470 MHz$
Matching error	$\Delta C/C^{*1}$	—	—	2.0	%	$V_R = 1\sim 28V, f = 1 MHz$
Linealty factor <sup>*2</sup>	$\Delta$	—	-1.2	—	—	$\Delta \log C / \Delta \log V$

Notes 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,

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

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

Main Characteristic

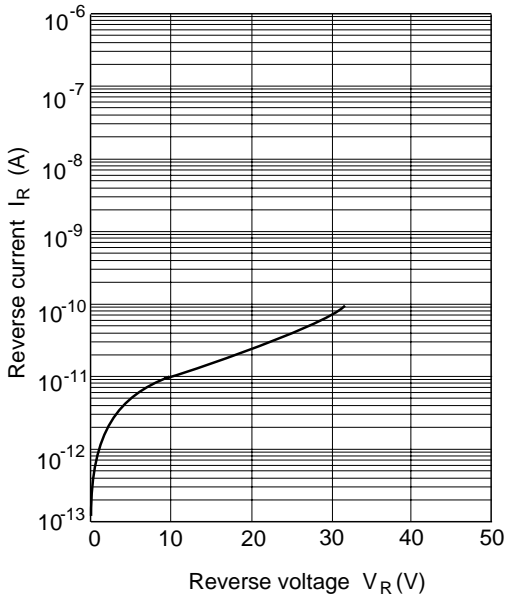


Fig.1 Reverse current Vs. Reverse voltage

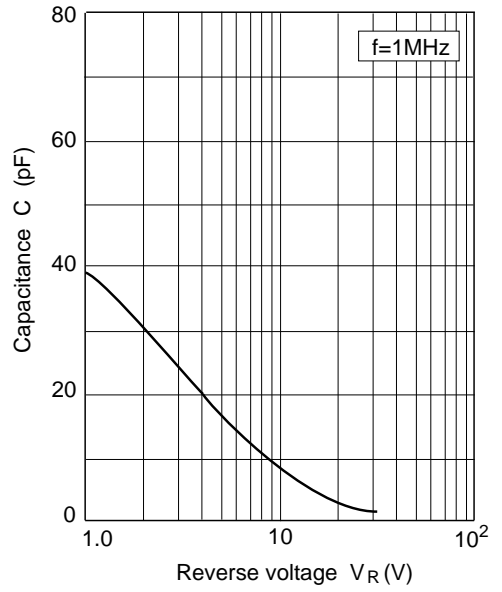


Fig.2 Capacitance Vs. Reverse voltage

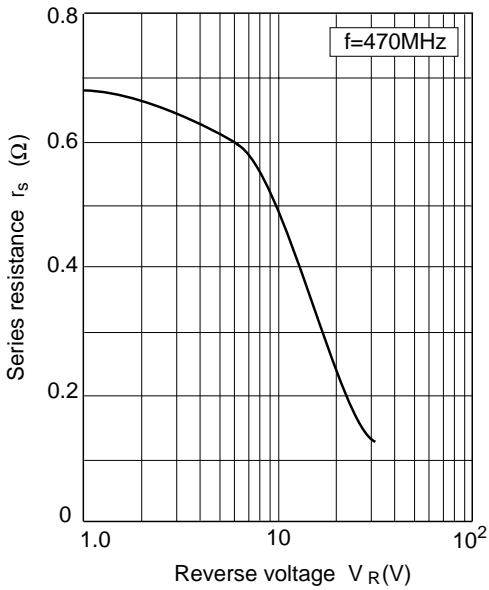


Fig.3 Series resistance Vs. Reverse voltage

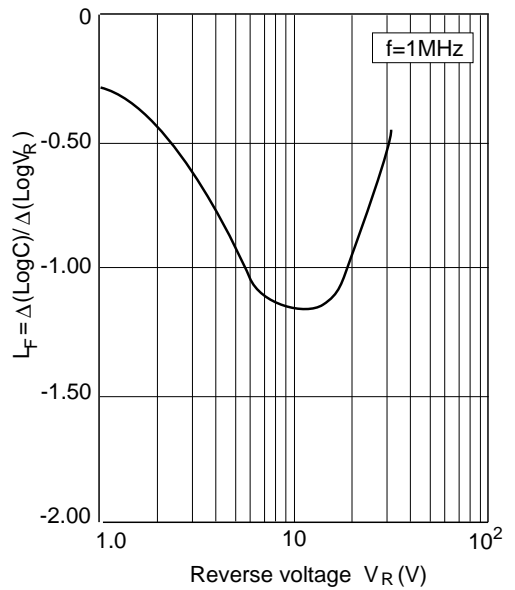
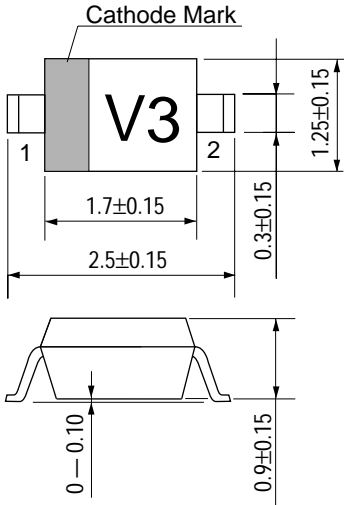


Fig.4 Linearity factor Vs. Reverse voltage

Package Dimensions

Unit : mm



- 1. Cathode
- 2. Anode

Hitachi Code	URP
JEDECCode	—
EIAJCode	—
Weight(g)	0.004

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