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# HVU202B

Variable Capacitance Diode for UHF/VHF tuner

# HITACHI

ADE-208-610A (Z)

Rev. 1

Dec.1998

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## Features

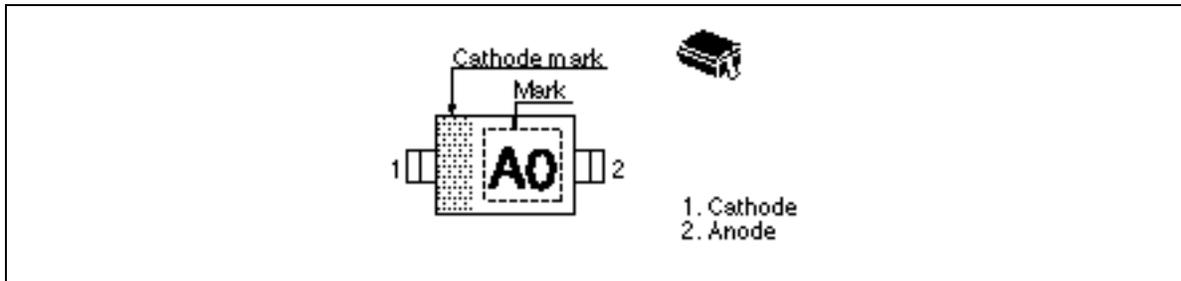
- Low matching error. ( $\Delta C/C = 1.8\%$  max)
- High capacitance ratio. ( $n = 6.3$  min)
- Low series resistance. ( $r_s = 0.57\frac{1}{2}$  max)
- Ultra small Resin Package (URP) is suitable for surface mount design.

## Ordering Information

Type No.	Laser Mark	Package Code
HVU202B	A0	URP

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## Outline



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### 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.  $RL=10K\frac{1}{2}$

### Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse current	$I_{R1}$	—	—	10	nA	$V_R = 30V$
	$I_{R2}$	—	—	100		$V_R = 30V, T_a = 60°C$
Capacitance	$C_2$	14.15	—	15.75	pF	$V_R = 2V, f = 1MHz$
	$C_{25}$	2.06	—	2.35		$V_R = 25V, f = 1MHz$
Capacitance ratio	n	6.30	—	—	—	$C_2/C_{25}$
Series resistance	$r_s$	—	—	0.57	$\frac{1}{2}$	$V_R = 5V, f = 470MHz$
Matching error	$\Delta C/C^{*1}$	—	—	1.8	%	$V_R = 2 \text{ to } 25V, f = 1 \text{ MHz}$

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,

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

Main Characteristic

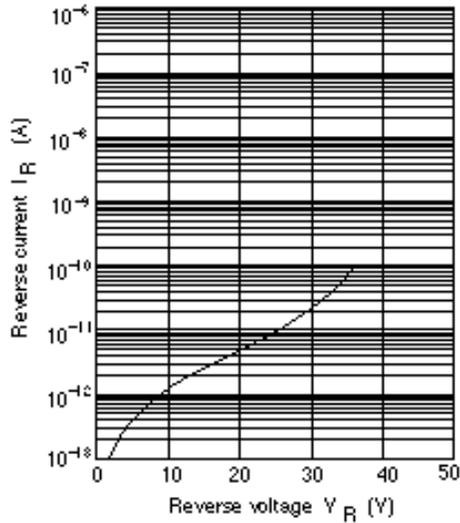


Fig.1 Reverse current  $I_R$  Vs. Reverse voltage

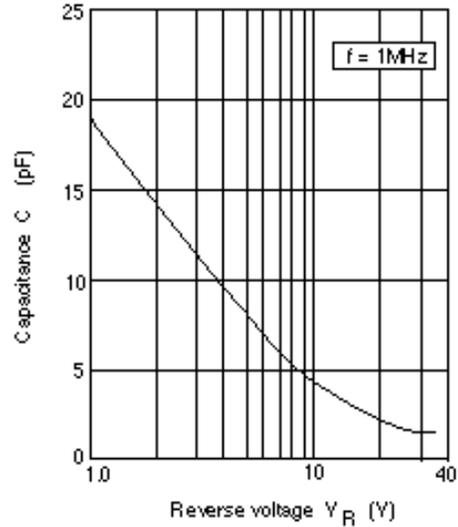


Fig.2 Capacitance  $C$  Vs. Reverse voltage

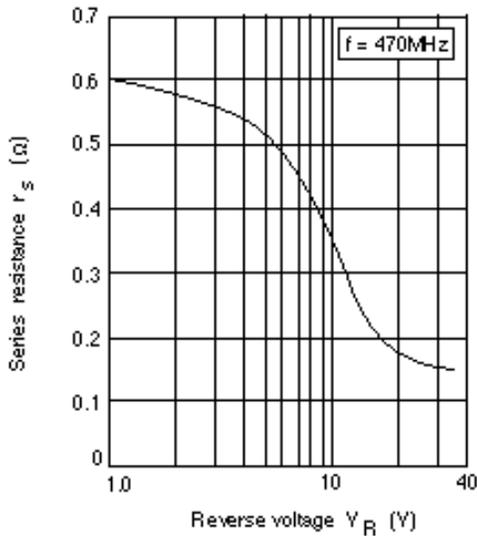


Fig.3 Series resistance  $r_s$  Vs. Reverse voltage

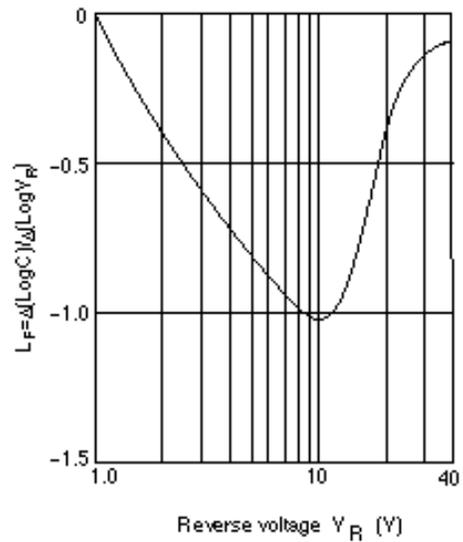


Fig.4 Linearity factor  $L_F$  Vs. Reverse voltage

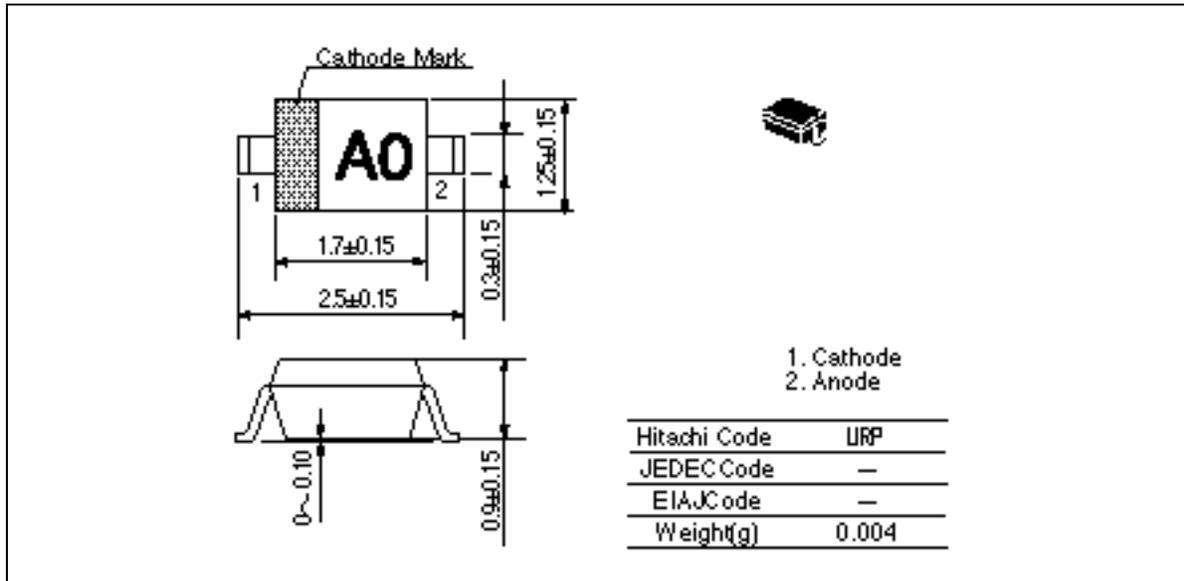
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## Package Dimensions

Unit : mm



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