

ADE-208-038C(Z)

HVU315

Variable Capacitance Diode for Wide Band tuner

HITACHI

Preliminary

Rev. 3

May. 1993

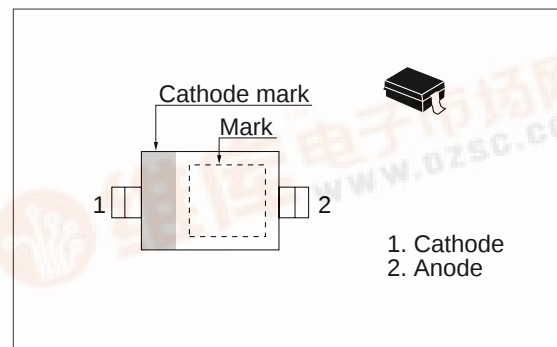
Features

- High capacitance ratio. ($n=10.3\text{min}$)
- Low series resistance. ($r_s=0.7\Omega\text{max}$)
- Ultra small Resin Package (URP) is suitable for surface mount design.

Ordering Information

Type No.	Laser Mark	Package Code
HVU315	K	URP

Outline



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Item	Symbol	Value	Unit
Reverse voltage	V_R	30	V
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +125	$^\circ\text{C}$

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse current	I_R	—	—	10	nA	$V_R = 30\text{ V}$
Capacitance	C_2	27.6	—	32.1	pF	$V_R = 2\text{ V}, f = 1\text{ MHz}$
	C_{25}	2.67	—	3.02		$V_R = 25\text{ V}, f = 1\text{ MHz}$
Capacitance ratio	n	10.3	—	—	—	C_2 / C_{25}
Series resistance	r_s	—	—	0.70	Ω	$V_R = 5\text{ V}, f = 470\text{ MHz}$
Matching error	$\Delta C/C^*$	—	—	2.0	%	$V_R = 2\sim 25\text{ V}$

* A set of HVU315 is of uniform C-V characteristics.

Measure max. value and min. value of capacitance at each bias point of $V_R=2\text{V}$ through 25V .

Calculate Matching Error, $\Delta C/C = \frac{(C_{\text{max}} - C_{\text{min}})}{C_{\text{min}}} \times 100 (\%)$

** Each group shall uniform a multiple of 4 diodes.

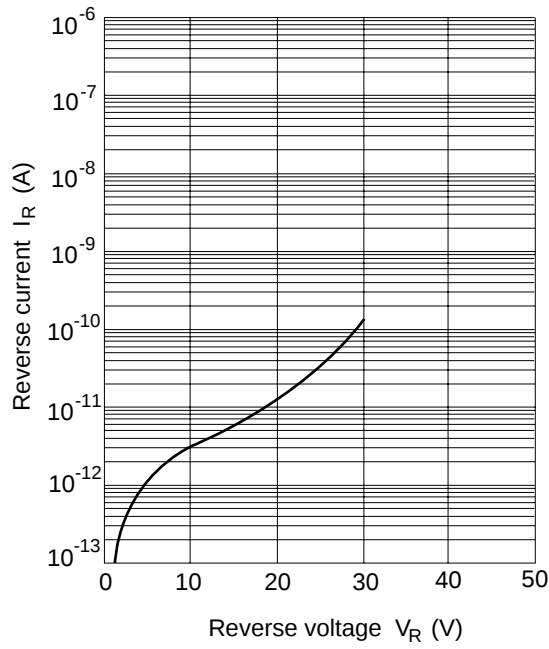


Fig.1 Reverse current Vs. Reverse voltage

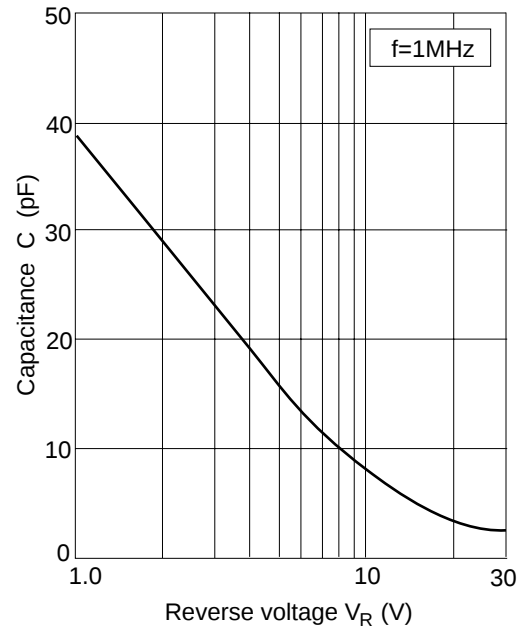


Fig.2 Capacitance Vs. Reverse voltage

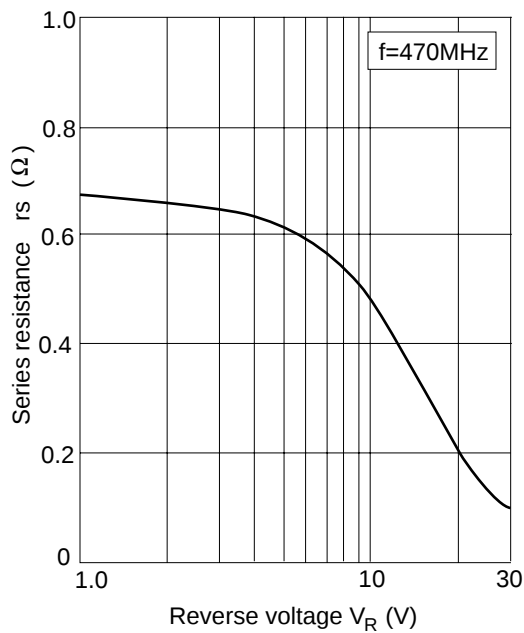


Fig.3 Series resistance Vs. Reverse voltage

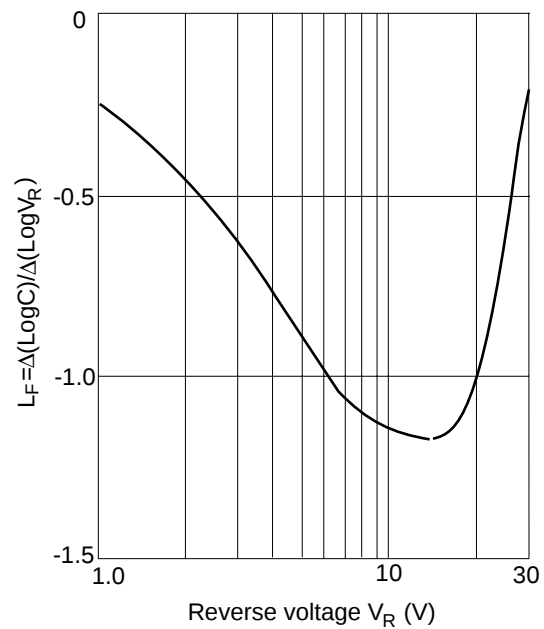
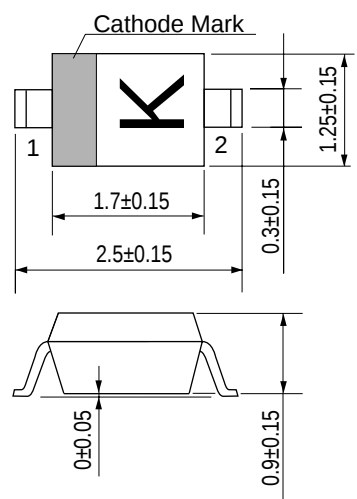


Fig.4 Linearity factor Vs. Reverse voltage

Package Dimensions

Unit: mm



- 1 Cathode
- 2 Anode

HITACHI Code	URP
JEDEC Code	—
EIAJ Code	—
Weight (g)	0.004