ADE-208-071 B (Z)

HVU314
Variable Capacitance Diode for BS tuner

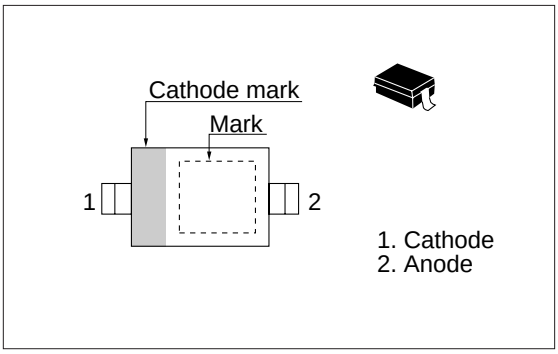
HITACHI

Preliminary
Rev. 2
Mar. 1994

Features

- Low series resistance. (r_s=1.05Ω max)
- Ultra small Resin Package (URP) is suitable for surface mount design.

Outline



Ordering Information

Type No.	Laser Mark	Package Code
HVU314	P	URP

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	V_R	32	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 = 32 V
	I_{R2}	—	—	100		V_R = 32 V , Ta = 60 °C
Capacitance	C_1	4.40	—	6.40	pF	V_R = 1 V , f = 1 MHz
	C_{10}	0.86	—	1.35		V_R = 10 V , f = 1 MHz
	C_{30}	0.47	—	0.73		V_R = 30 V , f = 1 MHz
Capacitance ratio	n	7.0	—	—	—	C_1 / C_{30}
Series resistance	r_s	—	—	1.05	Ω	V_R = 5 V , f = 470MHz
Matching error	ΔC/C*	—	—	6.0	%	V_R = 1~ 30V

* A set of HVU314 is of uniform C-V characteristics.
Measure max. value and min. value of capacitance at each bias point of V_R=1V and 30V.
Calculate Matching Error,

$$\Delta C/C = \frac{(Cmax-Cmin)}{Cmin} \times 100\ (\%)$$

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

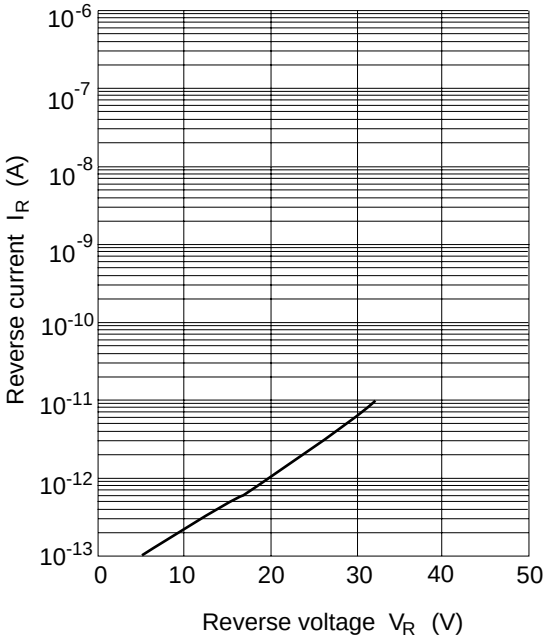


Fig.1 Reverse current Vs. Reverse voltage

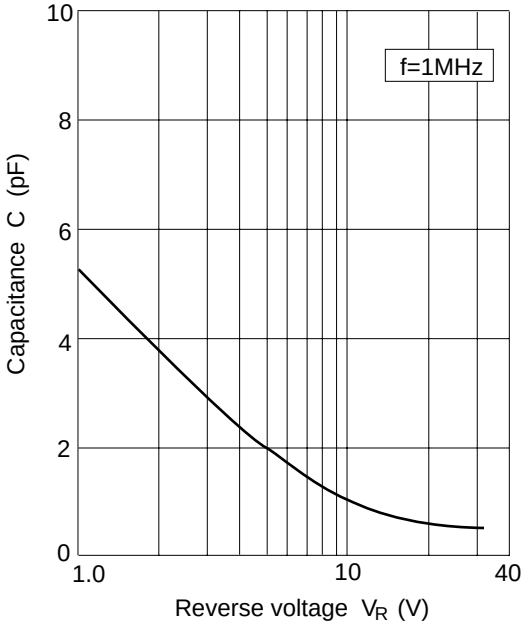


Fig.2 Capacitance Vs. Reverse voltage

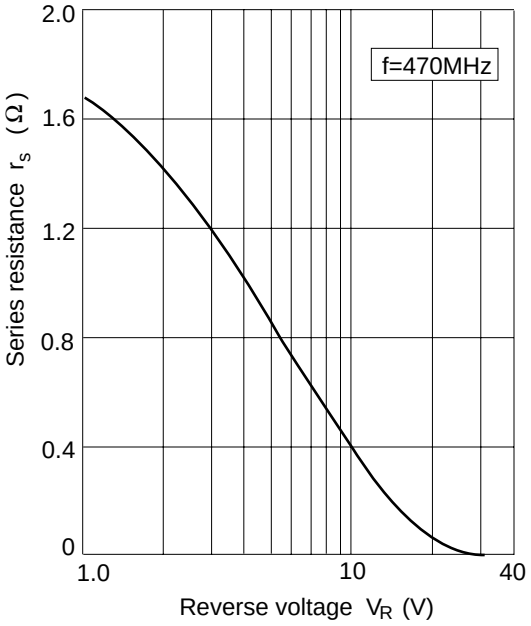


Fig.3 Series resistance Vs. Reverse voltage

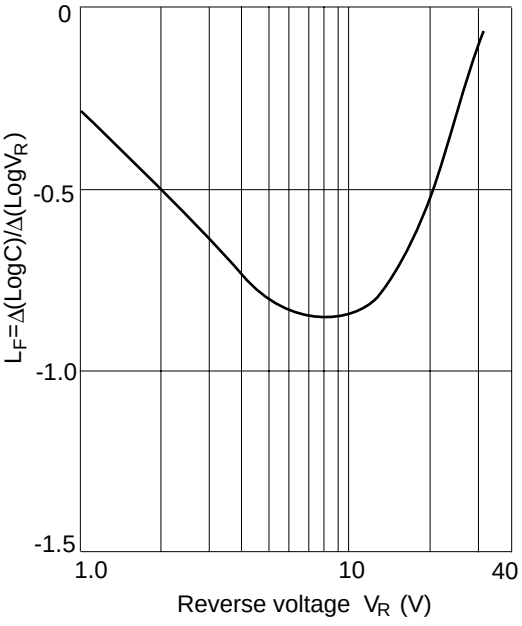
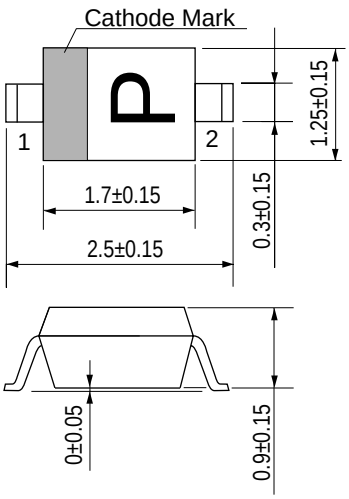


Fig.4 Linearity factor Vs. Reverse voltage

Package Dimensions

Unit: mm



1 Cathode
2 Anode

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