

HVC306B

Variable Capacitance Diode for VHF tuner

HITACHI

ADE-208-612 (Z)

Rev 0

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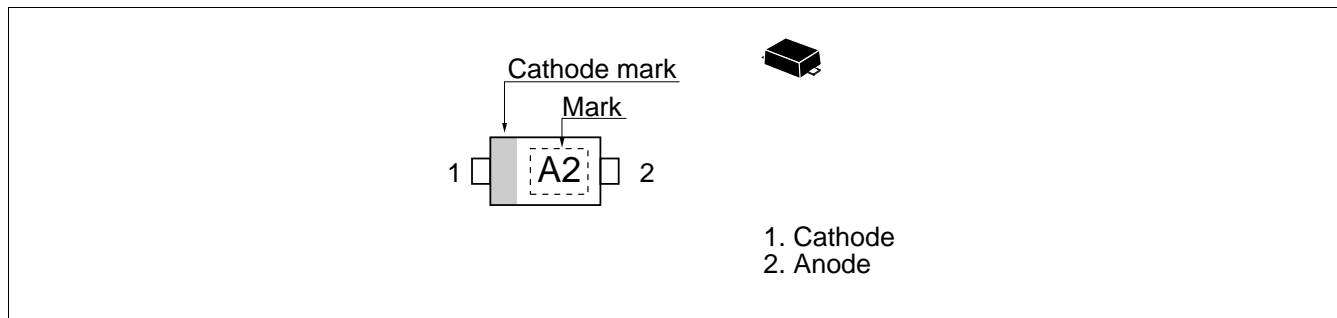
Features

- Low matching error. ($\Delta C/C = 2.0\%$ max)
- High capacitance ratio. ($n = 11.0$ min)
- Low series resistance. ($r_s = 0.75\Omega$ max)
- Ultra small Flat Package (UFP) is suitable for surface mount design.

Ordering Information

Type No.	Laser Mark	Package Code
HVC306B	A2	UFP

Outline



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Value	Unit
Peak reverse voltage	V_{RM}^{*1}	35	V
Reverse voltage	V_R	34	V
Junction temperature	Tj	125	°C
Storage temperature	Tstg	-55 to +125	°C

Note 1. RL=10KΩ

Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse current	I_{R1}	—	—	10	nA	$V_R = 32V$
	I_{R2}	—	—	100		$V_R = 32V, Ta = 60°C$
Capacitance	C_2	29.5	—	33.5	pF	$V_R = 2V, f = 1MHz$
	C_{25}	2.60	—	2.90		$V_R = 25V, f = 1MHz$
Capacitance ratio	n	11.0	—	—	—	C_2/C_{25}
Series resistance	r_s	—	—	0.75	Ω	$V_R = 5V, f = 470MHz$
Matching error	$\Delta C/C^{*1}$	—	—	2.0	%	$V_R = 2 \text{ to } 25V, f = 1 \text{ MHz}$

Note 1. C.C system (Continuous Connected taping system) enable to make any 10 pcs of $\Delta C/C$ continuous in a reel, expect extension to another group.
Calculate Matching Error,

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

Main Characteristic

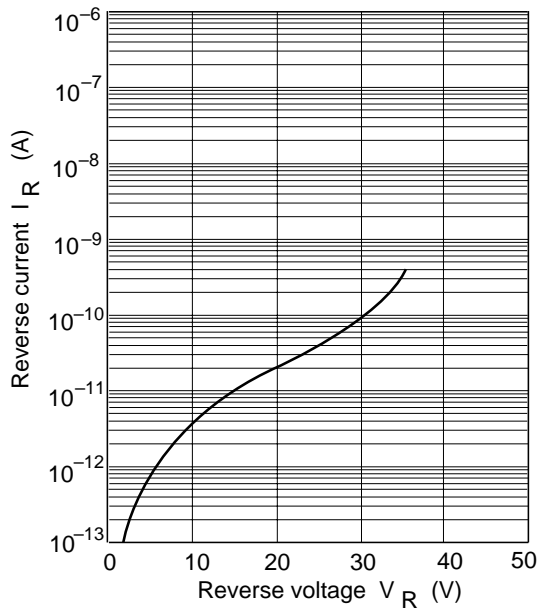


Fig.1 Reverse current Vs. Reverse voltage

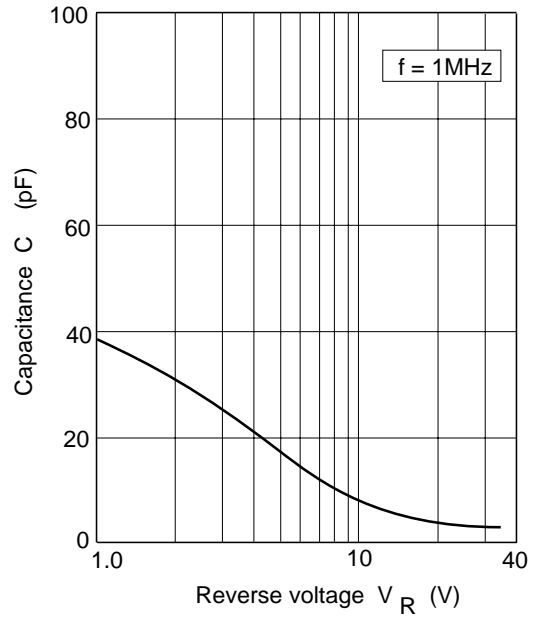


Fig.2 Capacitance Vs. Reverse voltage

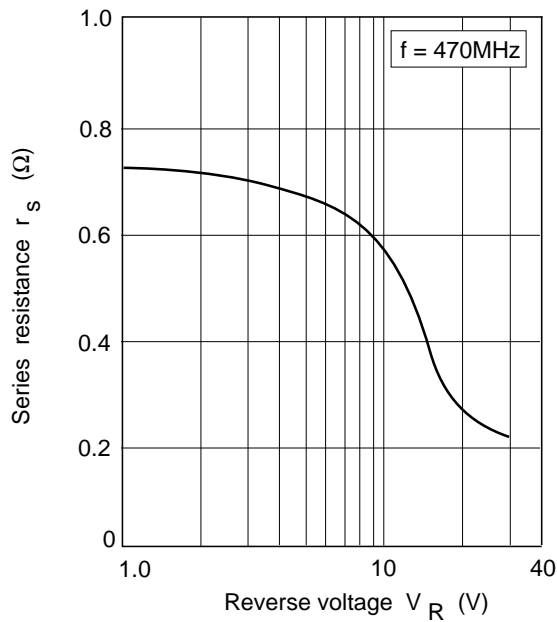


Fig.3 Series resistance Vs. Reverse voltage

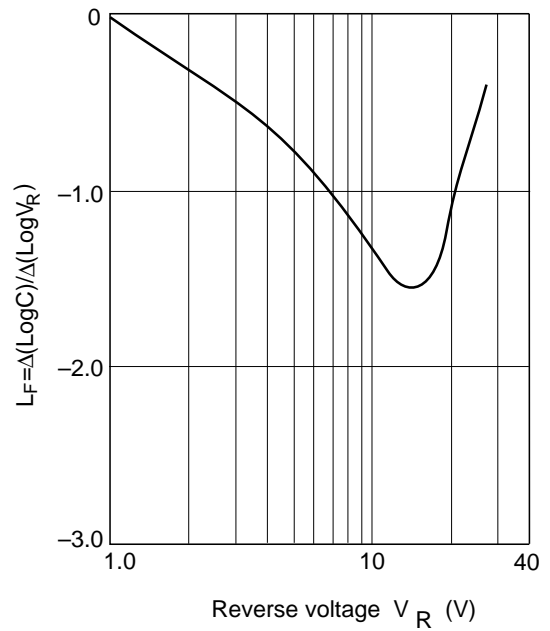
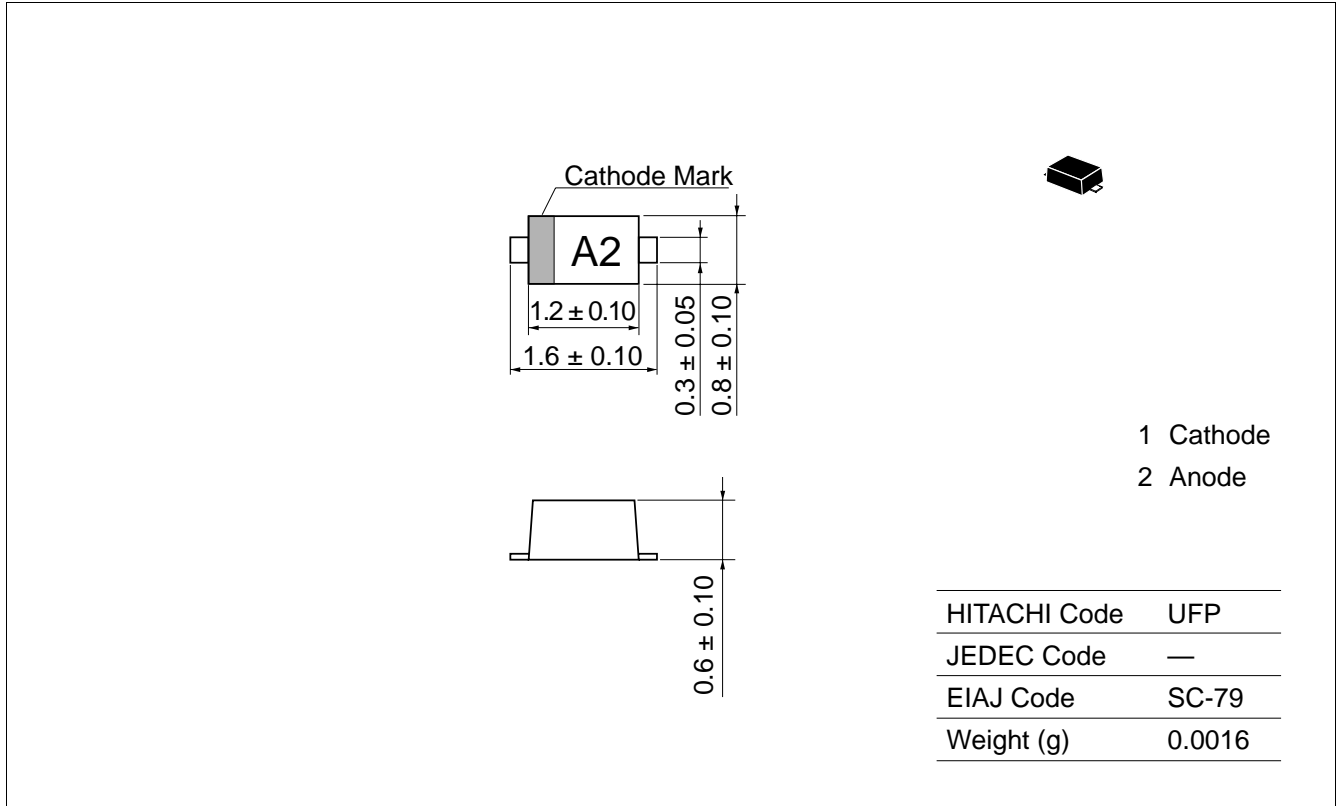


Fig.4 Linearity factor Vs. Reverse voltage

Package Dimensions

Unit : mm



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