
HVC363A

Variable Capacitance Diode for TV tuner

HITACHI

ADE-208-427A (Z)
Rev. 1

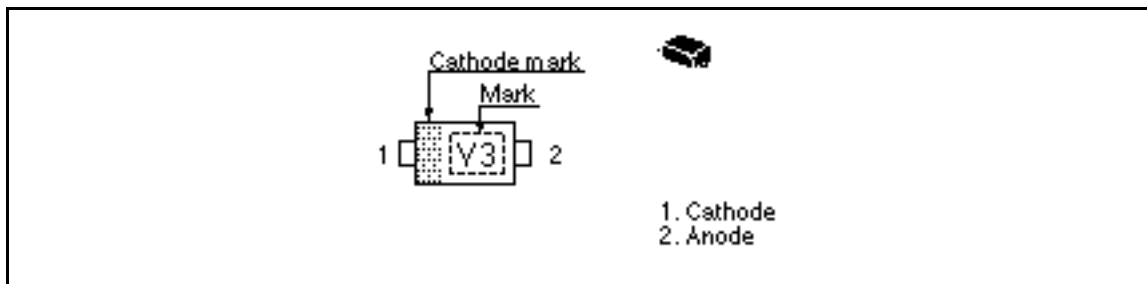
Features

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

Ordering Information

Type No.	Laser Mark	Package Code
HVC363A	V3	UFP

Outline



HVC363A

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Value	Unit
Peak reverse voltage	V_{RM}^*	35	V
Reverse voltage	V_R	32	V
Junction temperature	Tj	125	°C
Storage temperature	Tstg	-55 to +125	°C

Note: $R_L = 10k\Omega$

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		$V_R = 30V, T_a = 60^\circ C$
Capacitance	C_1	34.65	—	42.35	pF	$V_R = 1V, f = 1MHz$
	C_{28}	2.361	—	2.754		$V_R = 28V, f = 1MHz$
Capacitance ratio	n	13.5	15.0	—	—	C_1/C_{28}
Series resistance	r_s	—	—	0.75	W	$C = 14pF, f = 470MHz$
Matching error	DC/C^{*1}	—	—	2.0	%	$V_R = 1 \text{ to } 28V, f = 1 \text{ MHz}$
Linearity factor ^{*2}	—	—	-1.2	—	—	$DlogC / DlogV$

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

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

2. Calculate LF ($DlogC / DlogV$) at $V_R = 1 \text{ to } 28V, f = 1 \text{ MHz}$.(Reference Value)

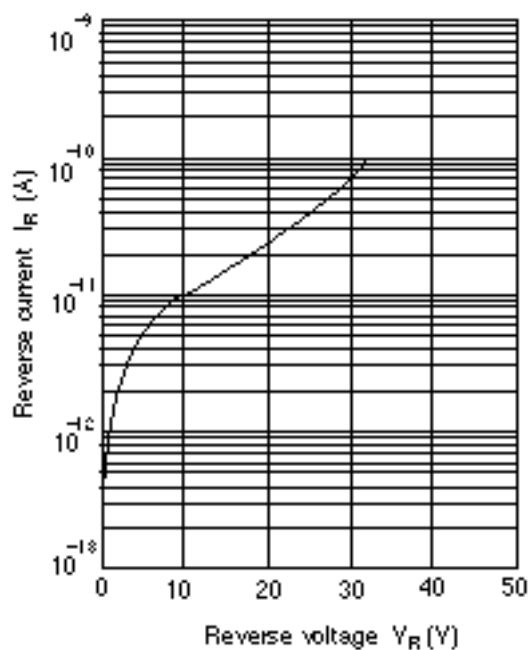


Fig.1 Reverse current Vs. Reverse voltage

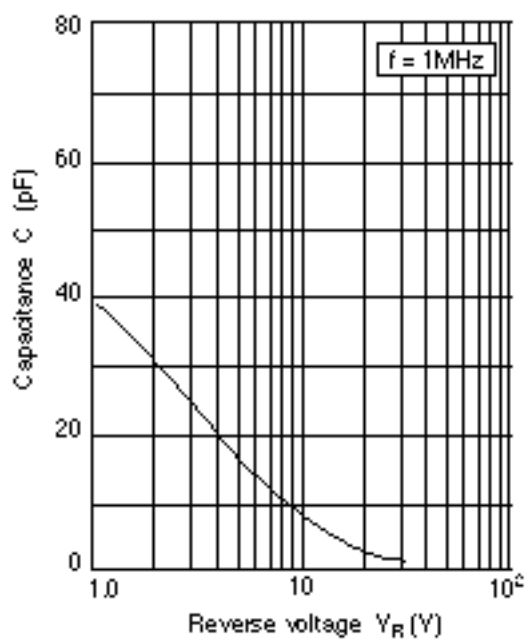


Fig.2 Capacitance Vs. Reverse voltage

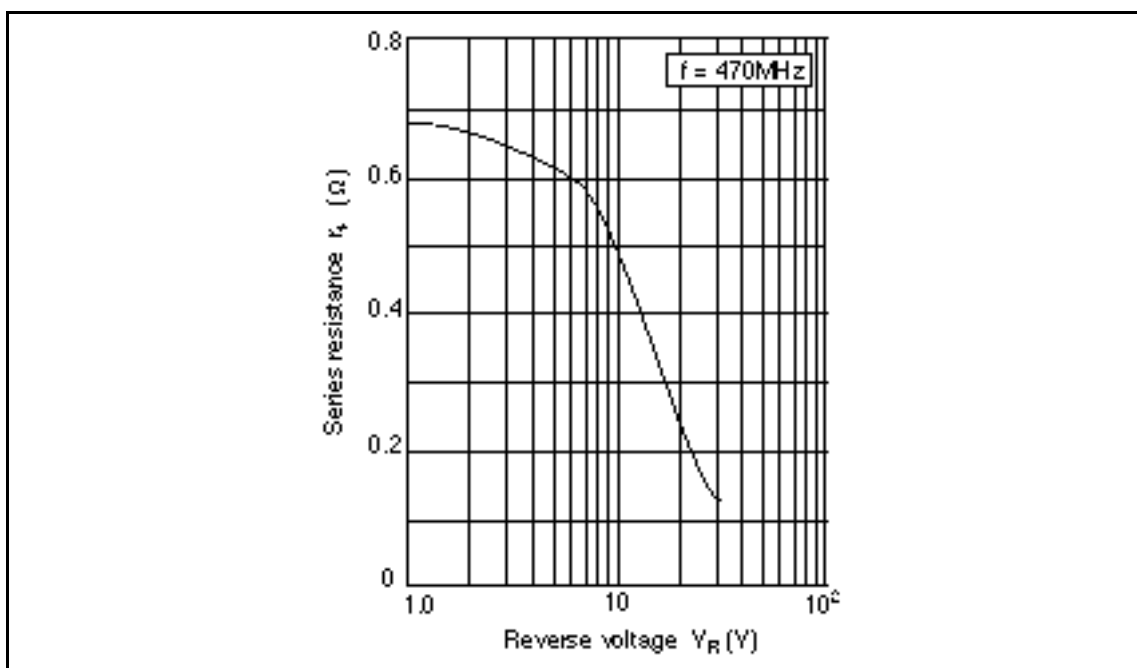


Fig.3 Series resistance Vs. Reverse voltage

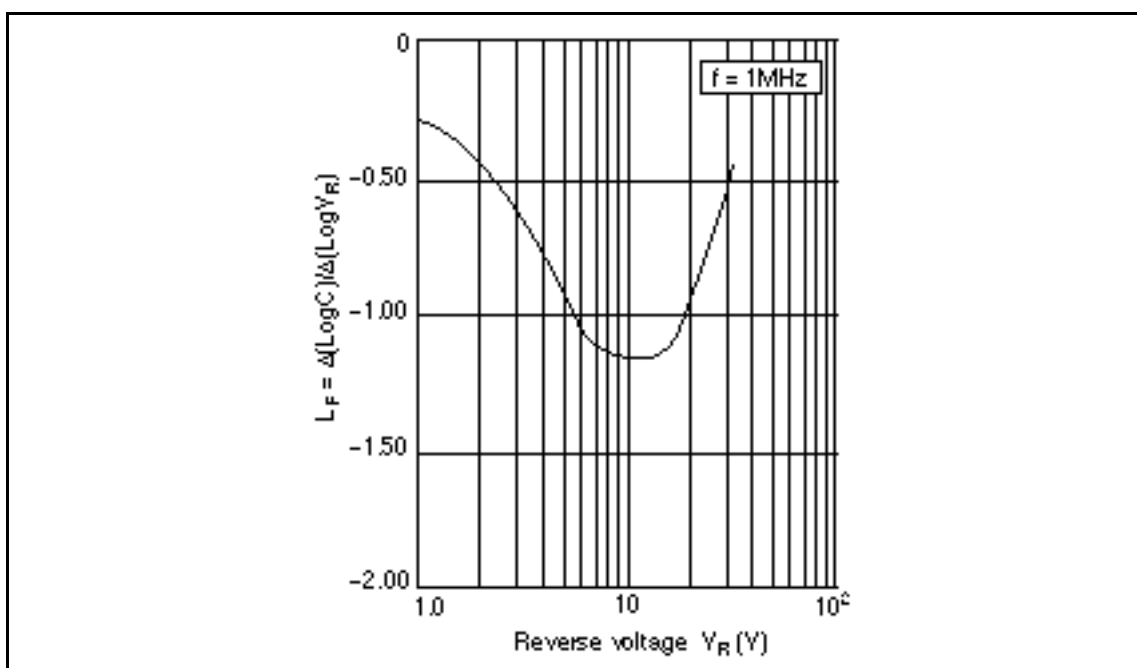


Fig.4 Linearity factor Vs. Reverse voltage

Package Dimensions

