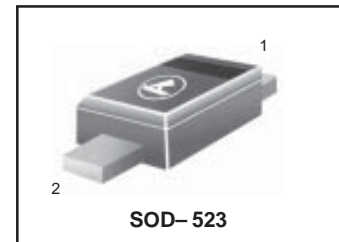


Variable Capacitance Diode for TV Tuner

HVC363A

FEATURES

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



DEVICE MARKING

HVC363A = V3

ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

Item	Symbol	Value	Unit
Peak reverse voltage	V_{RM}^{*1}	35	V
Reverse voltage	V_R	32	V
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature	T_{stg}	- 55 to +125	$^\circ\text{C}$

Notes 1. $R_L=10k\Omega$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse voltage	V_R	32	-	-	V	$I_R=1\mu\text{A}$
Reverse current	I_{R1}	-	-	10	nA	$V_R=30\text{V}$
	I_{R2}	-	-	100		$V_R=30\text{V}, T_A=60^\circ\text{C}$
Capacitance	C_1	34.65	-	42.35	pF	$V_R=1\text{V}, f=1\text{MHz}$
	C_{28}	2.361	-	2.754		$V_R=28\text{V}, f=1\text{MHz}$
Capacitance ratio	n	13.5	15.0	-	-	C_1 / C_{28}
Series resistance	r_s	-	-	0.75	Ω	$C=14\text{pF}, f=470\text{MHz}$
Matching error	$\Delta C/C^{*1}$	-	-	2.0	%	$V_R=1\text{ to }28\text{V}, f=1\text{MHz}$
Linealty factor $*2$	-	-	-1.2	-	-	$\Delta \log C / \Delta \log V$

Notes 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,

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

Notes 2. Calculate LF ($\Delta \log C / \Delta \log V$) at $V_R = 1$ through 28V , $f = 1\text{MHz}$.(Reference Value)

HVC363A

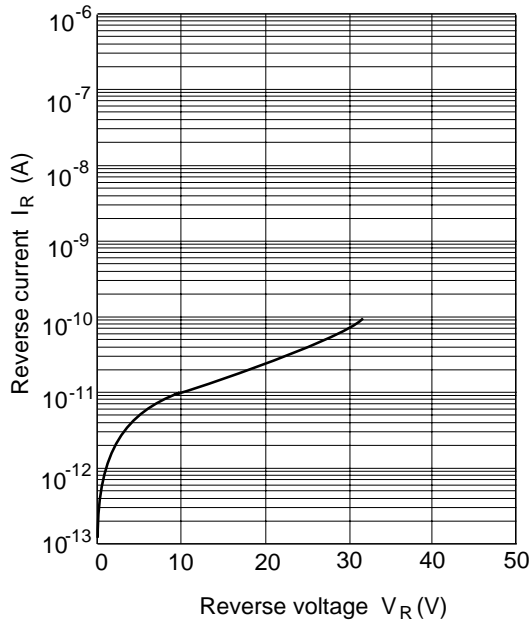


Fig.1 Reverse current Vs. Reverse voltage

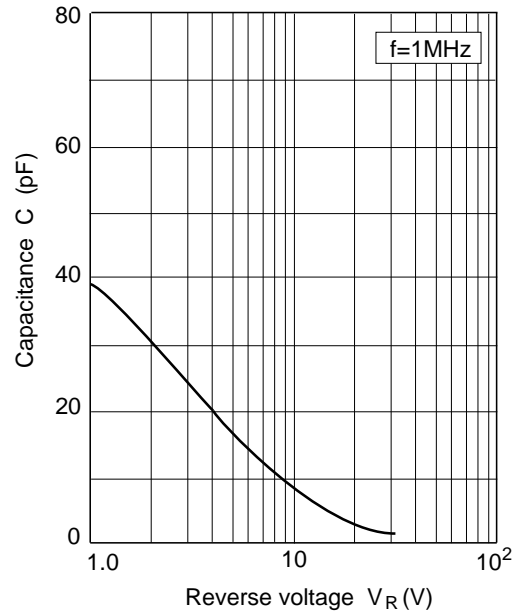


Fig.2 Capacitance Vs. Reverse voltage

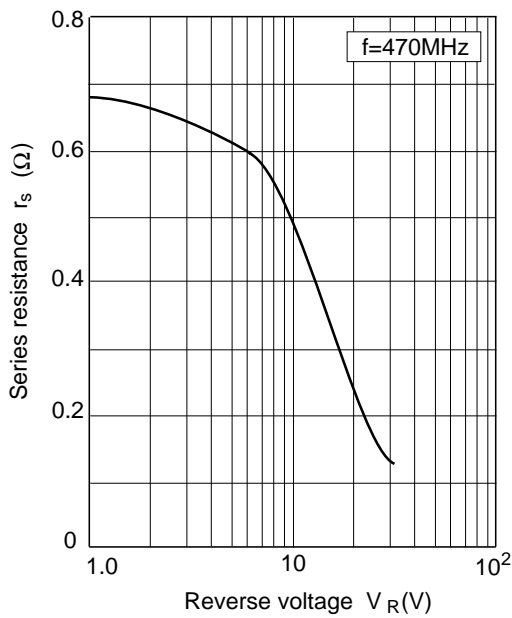


Fig.3 Series resistance Vs. Reverse voltage

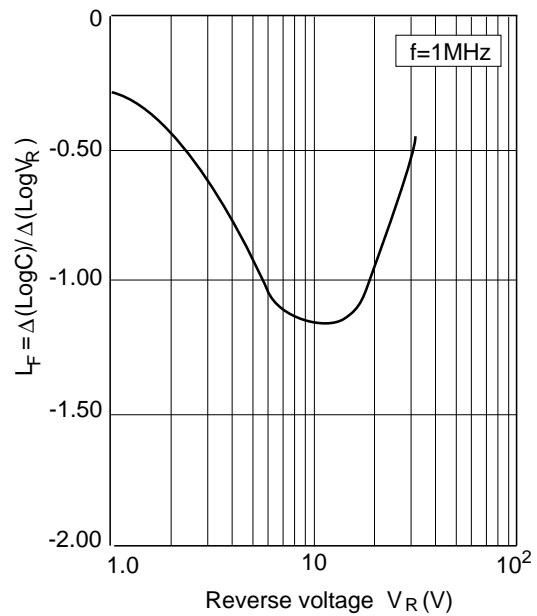


Fig.4 Linearity factor Vs. Reverse voltage