RLC电路的谐振.

input Upp = 1V.

f_0 = 2.2507 KHz (万用表)

f_0' = 2.2487 KHz (示波器).

相频

f/KHz	Δt($\varphi_{CH1}-\varphi_{CH2}$)/ms
2.000	0.154
2.040	0.156
2.080	0.159
2.120	0.165
2.160	0.178
2.170	0.180
2.180	0.185
2.190	0.189
2.200	0.194
2.210	0.200
2.220	0.205
2.230	0.2110
2.240	0.2165
2.242	0.2180
2.244	0.2195
2.246	0.2225
2.248	0.2225
2.250	0.2230
2.260	0.2295
2.270	0.2355
2.280	0.2405
2.290	0.2460
2.300	0.2505
2.310	0.2545
2.320	0.2580
2.330	0.2615
2.340	0.2640
2.350	0.2670
2.360	0.2680
2.370	0.2705
2.380	0.2710
2.390	0.2730
2.400	0.2735
2.500	0.2755
2.600	0.2710
~~2.700~~	
~~2.800~~	
~~2.900~~	
~~3.000~~	
~~3.100~~	

幅频

f/KHz	i/$\times10^{-2}$ mA	
0.500	5.89	
0.700	8.65	
0.900	11.93	
1.100	16.06	
1.300	21.60	
1.500	29.72	
1.700	48.07	
~~1.900~~	~~94.12~~	
2.000	~~97.37~~	94.12
2.010	~~100.84~~	97.37
2.020	~~104.43~~	100.81
2.030	~~108.25~~	104.43
2.040	~~112.28~~	108.25
2.050	~~116.54~~	112.28
2.060	~~121.01~~	116.54
2.070	~~125.72~~	121.01
2.080	125.72	
2.090	130.68	
2.100	135.86	
2.110	141.25	
2.120	146.85	
2.130	152.63	
2.140	158.54	
2.150	164.54	
2.160	170.55	
2.170	176.47	
2.180	182.20	
2.190	187.59	
2.200	192.56	
2.210	196.77	
2.220	200.25	
2.230	202.82	
2.240	204.86	
2.242	204.54	
2.244	204.68	
2.246	204.77	
2.248	204.82	
2.250	204.82	
2.252	204.79	
2.254	204.76	
2.256	204.58	
2.258	204.41	
2.260	204.20	

幅频数据(续)

f/kHz	I/$\times 10^{-2}$ mA
2.270	202.53
2.280	199.91
2.290	196.48
2.300	192.27
2.310	187.64
2.320	182.56
2.330	177.22
2.340	171.83
2.350	166.20
2.360	160.73
2.370	155.31
2.380	150.06
2.390	144.97
2.400	140.07
2.600	79.18
2.800	54.42
3.000	41.74
3.200	34.08
3.400	28.94
* 3.600	29.25
3.800	22.47
4.000	20.28
4.200	18.52
4.400	17.06
4.600	15.84
4.800	14.79

Q2

谐振条件下

$U_R = 202.30$ mV

$U_C =$ ~~283.8~~ 2.8385 V

$U_L = 2.8470$ V

U_{pp}input = 1 V.

整体电阻计算

$U_{ppR} =$ ~~[illegible]~~ 1.518 V

U_{pp}input = 2.5 V

方波分频

1kHz $U_1 = 290$ mV

3kHz $U_3 = 80$ mV