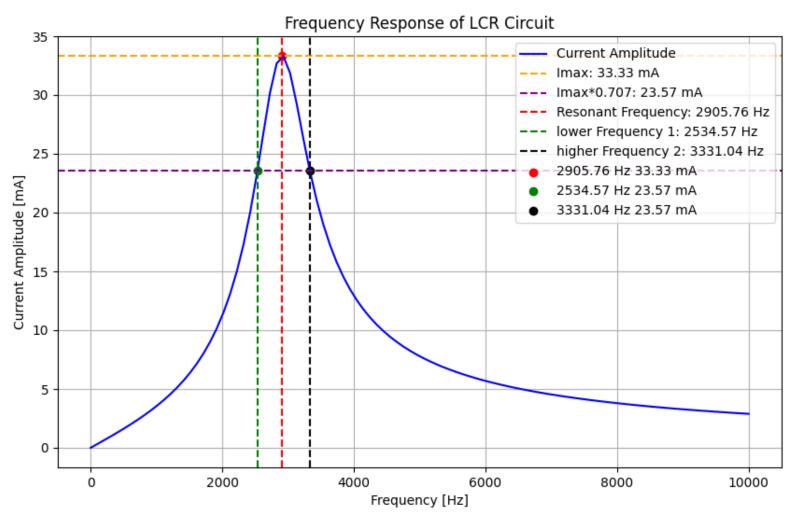
electrical damping for an LCR circuit

frequency hz	Current (mA)
0.0	0.0
101.01010101010101	0.31770208861752175
202.02020202020202	0.6376311077299671
303.030303030303	0.9620642016807265
404.04040404040404	1.293381227471431
505.0505050505051	1.634121993041923
606.060606060606	1.987051046497588
707.070707070707	2.3552334102465413
808.0808080808081	2.7421255253337637
909.0909090909091	3.151686928220488
1010.1010101010102	3.5885199674370782
1111.111111111111	4.058047386401749
1212.121212121212	4.566741141153252
1313.1313131313132	5.122420783981051
1414.141414141414	5.734646634890799
1515.15151515152	6.415242347960629
1616.16161616162	7.1789937294242225
1717.171717171717	8.044585148953646
1818.1818181818182	9.035847656610546
1919.19191919192	10.18339032361771
2020.2020202020203	11.526627800954365
2121.212121212121	13.115989564163305
2222.2222222222	15.014397197347002
2323.232323232323	17.29515681984811
2424.2424242424	20.02849576623218
2525.2525252525	23.23834872491588
2626.2626262626263	26.796932813153006
2727.2727272727275	30.245445722051684
2828.282828282828	32.70236864418434
2929.29292929293	33.27564153657244
3030.3030303030305	31.86922674738017
3131.313131313131	29.25076350511408

3232.3232323232323 26.292505625839542 3333.33333333333333333333333333333333		
3434.343434343434 21.06636607564231 3535.3535353535353 19.00029486486441 3636.3636363636365 17.263341010143286 3737.373737373737 15.800692864627736 3838.3838383838383 14.561394986017595 3939.3939393939395 13.502874901725832 4040.40404040406 12.59099414661815 4141.4141414141 11.798781714135096 4242.4242424242 11.104988949620594 4343.4343434344 10.4928222878450479 4444.444444444444 9.948930726836393 4545.454545454545 9.462615167821259 4646.464646464647 9.025236738704628 4747.474747474747 8.629760627177193 4848.4848484848 8.270412414747744 4949.494949495 7.942415380369331 5050.50505050505 7.641788788481853 5151.51515151515152 7.36519190449822 5252.5252525252525 7.109802469767577 5353.535353535353 6.873221306954074 5454.545454545455 6.6533968766441305 5555.5555555555556 6.448565176739267 5656.5656565656565 6.257201526318927	3232.3232323232323	26.292505625839542
3535.3535353535353535353535353535353535	3333.33333333333	23.503248622772972
3636.3636363636365 17.263341010143286 3737.373737373737 15.800692864627736 3838.3838383838383 14.561394986017595 3939.3939393939393939393939393939393939	3434.343434343434	21.06636607564231
3737.373737373737 15.800692864627736 3838.3838383838383 14.561394986017595 3939.3939393939393939393939393939393939	3535.3535353535353	19.00029486486441
3838.3838383838383838383838383838383838	3636.3636363636365	17.263341010143286
3939.3939393939393939393939393939393939	3737.373737373737	15.800692864627736
4040.40404040406 12.59099414661815 4141.4141414141 11.798781714135096 4242.4242424242 11.104988949620594 4343.4343434344 10.492822878450479 4444.44444444444 9.948930726836393 4545.454545454545 9.462615167821259 4646.464646464647 9.025236738704628 4747.474747474747 8.629760627177193 4848.4848484848 8.270412414747744 4949.494949495 7.942415380369331 5050.5050505055 7.641788788481853 5151.5151515151515 7.36519190449822 5252.52525252525 7.109802469767577 5353.535353535353 6.873221306954074 5454.545454545455 6.6533968766441305 5555.555555555555 6.448565176739267 5656.565656565656 6.257201526318927 5757.575757575758 6.077981621355889 5858.5858585858585 5.909749874892764 5959.59595959595 5.751493519353317 6060.606060606061 5.602321296845536 6161.616161616162 5.4614458257297525 6262.6262626262 5.3281689308268465	3838.3838383838383	14.561394986017595
4141.414141414141 11.798781714135096 4242.424242424242 11.104988949620594 4343.434343434344 10.492822878450479 4444.44444444444 9.948930726836393 4545.454545454545 9.462615167821259 4646.464646464647 9.025236738704628 4747.474747474747 8.629760627177193 4848.4848484848 8.270412414747744 4949.494949495 7.942415380369331 5050.505050505 7.641788788481853 5151.515151515152 7.36519190449822 5252.525252525253 7.109802469767577 5353.535353535353 6.873221306954074 5454.545454545455 6.6533968766441305 5555.55555555555555 6.448565176739267 5656.565656565656 6.257201526318927 5757.57575757575758 6.077981621355889 5858.585858585859 5.909749874892764 5959.595959595959 5.751493519353317 6060.60606060606061 5.602321296845536 6161.616161616162 5.3281689308268465 6363.636363636364 5.201869376707852 6464.646464646465 5.081992560405887 </td <td>3939.3939393939395</td> <td>13.502874901725832</td>	3939.3939393939395	13.502874901725832
4242.424242424242 11.104988949620594 4343.434343434344 10.492822878450479 4444.444444444444 9.948930726836393 4545.454545454545 9.462615167821259 4646.464646464647 9.025236738704628 4747.474747474747 8.629760627177193 4848.4848484848 8.270412414747744 4949.494949495 7.942415380369331 5050.50505050505 7.641788788481853 5151.515151515152 7.36519190449822 5252.525252525253 7.109802469767577 5353.53535353535353 6.873221306954074 5454.545454545455 6.6533968766441305 5555.5555555555555 6.448565176739267 5656.565656565656 6.257201526318927 5757.57575757575758 6.077981621355889 5858.585858585859 5.909749874892764 5959.59595959595 5.751493519353317 6060.606060606061 5.602321296845536 6161.616161616162 5.4614458257297525 6262.626262626262 5.3281689308268465 6363.63636363636364 5.201869376707852 6464.64646464665 5.081992560405887	4040.4040404040406	12.59099414661815
4343.4343434344 10.492822878450479 4444.444444444444 9.948930726836393 4545.454545454545 9.462615167821259 4646.464646464647 9.025236738704628 4747.4747474747 8.629760627177193 4848.4848484848 8.270412414747744 4949.494949495 7.942415380369331 5050.505050505 7.641788788481853 5151.515151515152 7.36519190449822 5252.52525252525 7.109802469767577 5353.535353535353 6.873221306954074 5454.545454545455 6.6533968766441305 5555.55555555555555 6.448565176739267 5656.56565656565 6.257201526318927 5757.575757575757575 6.077981621355889 5858.58585858585859 5.909749874892764 5959.595959595959 5.751493519353317 6060.606060606061 5.602321296845536 6161.616161616162 5.4614458257297525 6262.626262626262 5.3281689308268465 6363.63636363636364 5.201869376707852 6464.64646464665 5.081992560405887 6565.65656565656565 4.96804181032794	4141.414141414141	11.798781714135096
4444.4444444444449.9489307268363934545.454545454545459.4626151678212594646.4646464646479.0252367387046284747.4747474747478.6297606271771934848.48484848488.2704124147477444949.494949494957.9424153803693315050.5050505057.6417887884818535151.5151515151527.365191904498225252.5252525252537.1098024697675775353.5353535353536.8732213069540745454.545454545454556.65339687664413055555.55555555555566.4485651767392675656.5656565656566.2572015263189275757.575757575757586.0779816213558895858.5858585858595.9097498748927645959.5959595959595.7514935193533176060.6060606060615.6023212968455366161.6161616161625.46144582572975256262.6262626262625.32816893082684656363.6363636363645.2018693767078526464.64646464646655.0819925604058876565.65656565656565654.96804181032794	4242.424242424242	11.104988949620594
4545.4545454545454545 9.462615167821259 4646.46464646464647 9.025236738704628 4747.4747474747 8.629760627177193 4848.4848484848 8.270412414747744 4949.49494949495 7.942415380369331 5050.50505050505 7.641788788481853 5151.515151515152 7.36519190449822 5252.525252525253 7.109802469767577 5353.53535353535353 6.873221306954074 5454.545454545455 6.6533968766441305 5555.555555555555 6.448565176739267 5656.565656565656 6.257201526318927 5757.57575757575758 6.077981621355889 5858.585858585859 5.909749874892764 5959.595959595959 5.751493519353317 6060.606060606061 5.602321296845536 6161.61616161616162 5.4614458257297525 6262.626262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.6464646464665 5.081992560405887 6565.656565656565656565 4.96804181032794	4343.434343434344	10.492822878450479
4646.464646464647 9.025236738704628 4747.474747474747 8.629760627177193 4848.484848484848 8.270412414747744 4949.494949495 7.942415380369331 5050.50505050505 7.641788788481853 5151.515151515152 7.36519190449822 5252.525252525253 7.109802469767577 5353.535353535353 6.873221306954074 5454.545454545455 6.6533968766441305 5555.555555555556 6.448565176739267 5656.56565656565 6.257201526318927 5757.5757575757578 6.077981621355889 5858.585858585859 5.909749874892764 5959.595959595959 5.751493519353317 6060.606060606061 5.602321296845536 6161.616161616162 5.4614458257297525 6262.626262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.64646464646465 5.081992560405887 6565.6565656565656565 4.96804181032794	4444.44444444444	9.948930726836393
4747.474747474747 8.629760627177193 4848.484848484848 8.270412414747744 4949.49494949495 7.942415380369331 5050.50505050505 7.641788788481853 5151.5151515151512 7.36519190449822 5252.525252525253 7.109802469767577 5353.5353535353 6.873221306954074 5454.545454545455 6.6533968766441305 5555.555555555556 6.448565176739267 5656.565656565656 6.257201526318927 5757.575757575758 6.077981621355889 5858.585858585859 5.909749874892764 5959.5959595959 5.751493519353317 6060.6060606060601 5.602321296845536 6161.616161616162 5.4614458257297525 6262.6262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.64646464646465 5.081992560405887 6565.65656565656565 4.96804181032794	4545.454545454545	9.462615167821259
4848.4848484848484848484848484848484848	4646.464646464647	9.025236738704628
4949.49494949495 7.942415380369331 5050.50505050505 7.641788788481853 5151.5151515151512 7.36519190449822 5252.525252525252 7.109802469767577 5353.53535353535353 6.873221306954074 5454.545454545455 6.6533968766441305 5555.55555555556 6.448565176739267 5656.565656565656 6.257201526318927 5757.575757575758 6.077981621355889 5858.585858585859 5.909749874892764 5959.595959595959 5.751493519353317 6060.60606060606061 5.602321296845536 6161.616161616162 5.4614458257297525 6262.6262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.64646464646465 5.081992560405887 6565.65656565656565 4.96804181032794	4747.474747474747	8.629760627177193
5050.50505050505 7.641788788481853 5151.5151515151512 7.36519190449822 5252.525252525253 7.109802469767577 5353.535353535353 6.873221306954074 5454.545454545455 6.6533968766441305 5555.55555555556 6.448565176739267 5656.565656565656 6.257201526318927 5757.575757575758 6.077981621355889 5858.585858585859 5.909749874892764 5959.5959595959 5.751493519353317 6060.60606060606061 5.602321296845536 6161.616161616162 5.4614458257297525 6262.6262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.64646464646465 5.081992560405887 6565.65656565656565 4.96804181032794	4848.484848484848	8.270412414747744
5151.515151515152 7.36519190449822 5252.525252525253 7.109802469767577 5353.535353535353 6.873221306954074 5454.545454545455 6.6533968766441305 5555.555555555556 6.448565176739267 5656.565656565656 6.257201526318927 5757.5757575757578 6.077981621355889 5858.585858585859 5.909749874892764 5959.5959595959 5.751493519353317 6060.6060606060601 5.602321296845536 6161.616161616162 5.4614458257297525 6262.6262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.64646464646465 5.081992560405887 6565.65656565656565 4.96804181032794	4949.494949495	7.942415380369331
5252.525252525253 7.109802469767577 5353.535353535353 6.873221306954074 5454.545454545455 6.6533968766441305 5555.555555555556 6.448565176739267 5656.565656565656 6.257201526318927 5757.575757575758 6.077981621355889 5858.585858585859 5.909749874892764 5959.5959595959 5.751493519353317 6060.606060606061 5.602321296845536 6161.616161616162 5.4614458257297525 6262.626262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.64646464646465 5.081992560405887 6565.65656565656565 4.96804181032794	5050.50505050505	7.641788788481853
5353.535353535353 6.873221306954074 5454.545454545455 6.6533968766441305 5555.55555555556 6.448565176739267 5656.565656565656 6.257201526318927 5757.575757575758 6.077981621355889 5858.585858585859 5.909749874892764 5959.595959595959 5.751493519353317 6060.6060606060601 5.602321296845536 6161.616161616162 5.4614458257297525 6262.6262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.64646464646465 5.081992560405887 6565.65656565656565 4.96804181032794	5151.5151515152	7.36519190449822
5454.54545454545455 6.6533968766441305 5555.55555555556 6.448565176739267 5656.565656565656 6.257201526318927 5757.5757575757578 6.077981621355889 5858.585858585859 5.909749874892764 5959.5959595959 5.751493519353317 6060.6060606060601 5.602321296845536 6161.616161616162 5.4614458257297525 6262.6262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.64646464646465 5.081992560405887 6565.65656565656565 4.96804181032794	5252.5252525253	7.109802469767577
5555.55555555556 6.448565176739267 5656.565656565656 6.257201526318927 5757.5757575757578 6.077981621355889 5858.58585858585859 5.909749874892764 5959.5959595959 5.751493519353317 6060.606060606061 5.602321296845536 6161.616161616162 5.4614458257297525 6262.6262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.64646464646465 5.081992560405887 6565.65656565656565 4.96804181032794	5353.535353535353	6.873221306954074
5656.56565656565656 6.257201526318927 5757.5757575757578 6.077981621355889 5858.585858585859 5.909749874892764 5959.595959595959 5.751493519353317 6060.606060606061 5.602321296845536 6161.616161616162 5.4614458257297525 6262.6262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.64646464646465 5.081992560405887 6565.65656565656565 4.96804181032794	5454.545454545455	6.6533968766441305
5757.575757575758 6.077981621355889 5858.585858585859 5.909749874892764 5959.595959595959 5.751493519353317 6060.606060606061 5.602321296845536 6161.616161616162 5.4614458257297525 6262.6262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.646464646465 5.081992560405887 6565.65656565656565 4.96804181032794	5555.5555555556	6.448565176739267
5858.58585858585859 5.909749874892764 5959.595959595959 5.751493519353317 6060.60606060606061 5.602321296845536 6161.616161616162 5.4614458257297525 6262.6262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.64646464646465 5.081992560405887 6565.65656565656565 4.96804181032794	5656.565656565656	6.257201526318927
5959.595959595959 5.751493519353317 6060.606060606061 5.602321296845536 6161.616161616162 5.4614458257297525 6262.626262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.646464646465 5.081992560405887 6565.65656565656565 4.96804181032794	5757.5757575758	6.077981621355889
6060.606060606061 5.602321296845536 6161.616161616162 5.4614458257297525 6262.6262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.646464646465 5.081992560405887 6565.65656565656565 4.96804181032794	5858.585858585859	5.909749874892764
6161.616161616162 5.4614458257297525 6262.6262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.646464646465 5.081992560405887 6565.656565656565 4.96804181032794	5959.5959595959	5.751493519353317
6262.626262626262 5.3281689308268465 6363.636363636364 5.201869376707852 6464.646464646465 5.081992560405887 6565.656565656565 4.96804181032794	6060.606060606061	5.602321296845536
6363.636363636364 5.201869376707852 6464.646464646465 5.081992560405887 6565.656565656565 4.96804181032794	6161.616161616162	5.4614458257297525
6464.646464646465 5.081992560405887 6565.656565656565 4.96804181032794	6262.6262626262	5.3281689308268465
6565.656565656565 4.96804181032794	6363.636363636364	5.201869376707852
	6464.646464646465	5.081992560405887
6666.6666666666666666666666666666666666	6565.656565656565	4.96804181032794
	6666.66666666666	4.859571008540597

6767.676767676768	4.756178308728395
6868.6868686868	4.657500765538713
6969.69696969697	4.563209725410795
7070.707070707071	4.473006856363627
7171.717171717171	4.3866207161284
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7373.737373737374	4.224329829105184
7474.747474747474	4.147991733568383
7575.7575757576	4.074599430048218
7676.767676767677	4.003978206389415
7777.77777777777	3.9359671680479655
7878.787878787879	3.870417888410555
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8484.8484848484	3.5218036227968352
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9797.9797979799	2.956647065125771
9898.9898989899	2.9210356547856517
10000.0	2.8863242591364475



 $L=0.03~H,~R=150.0~ohm~C=1e-07~F~,~V=5.0~V,\\ I~max=33.333~mA\\ I~max*0.707=23.567~mA\\ Resonant~frequency=2905.758~Hz\\ Resonant~frequency=2905.758~Hz\\ Band~width=fh~-fl=3331.037~-2534.572~hz\\ Band~width=796.465~Hz\\ Quality~factor=fr/band~width=2905.758/796.465\\ Quality~factor=3.648$