

		FREQUENCY	GAIN
1	pishgoz az 1	1.00000k	26.2625
2	vcc 100 0 12	1.02329k	26.2644
3	q1 3 2 1 npn	1.04713k	26.2662
4	rs 4 7 50	1.07152k	26.2679
5	r1 2 100 100k	1.09648k	26.2695
6	r2 2 0 68k	1.12202k	26.2711
7	rc 3 100 3.9k	1.14815k	26.2725
8	re1 1 5 120	1.17490k	26.2740
9	re2 5 0 3.9k	1.20226k	26.2753
10	c1 2 7 20u	1.23027k	26.2766
11	c2 0 5 20u	1.25893k	26.2778
12	vi 4 0 ac 1m	1.28825k	26.2790
13	****	1.31826k	26.2801
14	.model npn npn is=1f bf=200 vaf=100	1.34896k	26.2812
15	.ac dec 100 1 100k	1.38038k	26.2822
16	.print ac gain=par('v(3)/v(4)')	1.41254k	26.2832
17	**.print ac rin=par('v(4)/i(rs)')	1.44544k	26.2842
18	**.print ac rout=par('v(9)/i(r8)')	1.47911k	26.2851
19	.end	1.51356k	26.2859
		1.54882k	26.2867
		1.58489k	26.2875
		1.62181k	26.2883
		1.65959k	26.2890
		1.69824k	26.2897
		1.73780k	26.2903
		1.77828k	26.2909
		1.81970k	26.2915
		1.86209k	26.2921
		1.90546k	26.2926
		1.94984k	26.2931
		1.99526k	26.2936

		FREQUENCY	RIN
		1.00000	39.4997k
		1.02329	39.4624k
1	pishgoz az 1	1.04713	39.4267k
2	vcc 100 0 12	1.07152	39.3925k
3	q1 3 2 1 npn	1.09648	39.3596k
4	rs 4 7 50	1.12202	39.3281k
5	r1 2 100 100k	1.14815	39.2978k
6	r2 2 0 68k	1.17490	39.2688k
7	rc 3 100 3.9k	1.20226	39.2409k
8	re1 1 5 120	1.23027	39.2141k
9	re2 5 0 3.9k	1.25893	39.1883k
10	c1 2 7 20u	1.28825	39.1635k
11	c2 0 5 20u	1.31826	39.1396k
12	vi 4 0 ac 1m	1.34896	39.1166k
13	****	1.38038	39.0945k
14	.model npn npn is=1f bf=200 vaf=100 rb=0	1.41254	39.0731k
15	.ac dec 100 1 100k	1.44544	39.0525k
16	**print ac gain=par('v(3)/v(4)')	1.47911	39.0326k
17	.print ac rin=par('v(4)/i(rs)')	1.51356	39.0134k
18	**print ac rout=par('v(9)/i(r8)')	1.54882	38.9947k
19	.end	1.58489	38.9767k
		1.62181	38.9592k
		1.65959	38.9422k
		1.69824	38.9257k
		1.73780	38.9096k
		1.77828	38.8940k
		1.81970	38.8787k
		1.86209	38.8638k
		1.90546	38.8491k

1	pishgoz az 1		
2	vcc 100 0 12	freq	rout
3	q1 3 2 1 npn	1.00000	8.8618k
4	rs 4 7 50	1.02329	8.6995k
5	r1 2 100 100k	1.04713	8.5417k
6	r2 2 0 68k	1.07152	8.3881k
7	rc 3 100 3.9k	1.09648	8.2388k
8	re1 1 5 120	1.12202	8.0937k
9	re2 5 0 3.9k	1.14815	7.9526k
10	c1 2 7 20u	1.17490	7.8155k
11	c2 0 5 20u	1.20226	7.6822k
12	c3 3 8 20u	1.23027	7.5528k
13	vi 9 0 ac 1m	1.25893	7.4271k
14	R8 8 9 1	1.28825	7.3050k
15	****	1.31826	7.1865k
16	.model npn npn is=1f bf=200 vaf=100 rb=0	1.34896	7.0715k
17	.ac dec 100 1 100k	1.38038	6.9598k
18	**.print ac gain=par('v(3)/v(4)')	1.41254	6.8515k
19	**.print ac rin=par('v(4)/i(rs)')	1.44544	6.7465k
20	.print ac rout=par('v(9)/i(r8)')	1.47911	6.6446k
21	.end	1.51356	6.5458k
		1.54882	6.4501k
		1.58489	6.3573k
		1.62181	6.2674k
		1.65959	6.1804k
		1.69824	6.0961k
		1.73780	6.0144k
		1.77828	5.9354k
		1.81970	5.8590k