MMIC Amplifier GVA-123+

Typical Performance Data

NOTE: Use PDF Bookmarks to view DATA at required conditions

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 5V, Id = 48.08 mA @ Temperature = +25degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
10	14.30	23.80	9.90	12.23	1.36	0.97	--	16.00	7.62
20	14.67	22.53	10.49	12.50	1.23	0.89	16.79	16.60	7.65
30	15.22	22.04	11.08	13.02	1.18	0.82	17.69	16.89	6.74
40	15.74	21.51	11.84	13.69	1.14	0.74	18.65	16.89	6.10
50	16.20	21.15	12.66	14.48	1.11	0.67	19.61	16.60	5.69
60	16.51	20.62	13.62	15.35	1.08	0.59	21.50	16.55	5.33
70	16.79	20.49	14.60	16.15	1.07	0.55	23.39	16.52	4.97
80	17.00	20.28	15.60	17.10	1.06	0.51	25.52	16.15	4.68
90	17.15	20.13	16.63	17.97	1.05	0.48	26.97	15.99	4.58
100	17.26	20.04	17.68	18.88	1.05	0.46	28.22	16.00	4.33
200	17.50	19.87	27.36	26.73	1.04	0.42	30.52	15.75	3.84
250	17.45	19.99	29.89	29.42	1.04	0.44	31.03	16.18	3.81
300	17.41	20.01	29.70	31.52	1.04	0.45	30.99	16.14	3.86
350	17.37	20.06	28.74	32.64	1.05	0.46	30.94	16.35	3.92
400	17.33	20.11	28.16	33.25	1.05	0.47	31.22	16.39	3.94
450	17.30	20.16	27.32	33.36	1.05	0.48	31.51	16.51	3.88
500	17.28	20.20	26.91	33.57	1.06	0.49	30.96	16.45	3.91
550	17.26	20.18	26.44	33.31	1.06	0.49	30.93	16.34	3.97
600	17.24	20.23	26.00	32.83	1.06	0.50	31.27	16.43	3.90
650	17.23	20.24	25.91	32.52	1.06	0.50	31.21	16.46	3.95
700	17.22	20.24	25.49	32.10	1.06	0.50	31.51	16.52	3.93
750	17.20	20.29	25.31	31.95	1.06	0.51	31.64	16.45	3.87
800	17.19	20.27	25.06	31.32	1.06	0.51	31.55	16.45	3.89
850	17.18	20.26	24.90	30.99	1.06	0.51	31.14	16.40	3.88
1000	17.14	20.30	24.53	29.76	1.06	0.52	30.48	16.36	3.93
1500	17.03	20.40	23.97	26.18	1.07	0.54	30.62	16.32	3.93
2000	16.91	20.44	24.28	23.48	1.08	0.55	29.87	16.21	3.98
2500	16.77	20.53	25.33	21.30	1.09	0.57	28.99	15.80	4.02
3000	16.65	20.58	25.25	19.45	1.10	0.58	28.47	15.69	4.08
3500	16.56	20.63	24.06	18.04	1.10	0.59	27.42	15.56	4.09
4000	16.45	20.70	22.24	17.34	1.11	0.60	26.64	15.22	4.13
4500	16.37	20.79	21.61	17.32	1.12	0.62	25.94	14.98	4.13
5000	16.38	20.81	22.95	17.31	1.12	0.62	25.25	14.54	4.27
5500	16.39	20.73	27.29	16.67	1.11	0.60	24.66	14.05	4.33
6000	16.38	20.66	22.15	15.96	1.11	0.59	24.63	13.56	4.39
6500	16.51	20.68	17.68	13.85	1.09	0.57	24.08	12.91	4.55
7000	16.50	20.79	13.70	11.90	1.07	0.57	23.45	12.16	4.57
7500	16.53	20.80	11.01	10.39	1.04	0.55	23.03	11.38	4.76
8000	16.39	21.00	9.22	9.07	1.01	0.56	21.97	10.46	4.92
8500	15.98	21.29	8.02	8.63	1.01	0.63	21.53	9.61	5.08
9000	15.17	21.88	7.11	8.26	1.03	0.75	20.90	9.22	5.30
9500	14.14	22.22	7.12	8.30	1.11	0.83	19.68	8.37	5.47
10000	12.73	22.01	7.47	9.27	1.23	0.92	19.78	7.79	5.67
10500	11.38	23.09	7.19	9.18	1.45	1.00	18.12	7.16	6.03
11000	9.90	23.94	7.21	9.49	1.82	1.05	17.32	6.69	6.36
11500	8.74	23.21	6.10	8.14	1.60	1.09	16.82	6.10	6.51
12000	7.26	25.60	6.26	7.86	2.50	1.07	16.08	5.79	6.89

Typical Performance Data

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 4.75V, Id =43.25 mA @ Temperature = +25degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
10	14.23	23.53	10.21	12.16	1.35	0.96	--	15.44	7.48
20	14.60	22.49	10.73	12.35	1.24	0.89	18.63	15.65	7.49
30	15.14	21.92	11.31	12.90	1.18	0.81	20.59	15.95	6.62
40	15.65	21.46	12.07	13.60	1.14	0.74	22.73	15.82	5.99
50	16.11	20.99	12.89	14.36	1.11	0.66	25.69	15.42	5.60
60	16.42	20.56	13.78	15.25	1.08	0.60	28.81	15.26	5.24
70	16.69	20.39	14.80	16.08	1.07	0.55	28.64	15.16	4.89
80	16.90	20.23	15.80	17.04	1.06	0.51	28.57	14.58	4.60
90	17.05	20.06	16.84	17.92	1.05	0.48	28.88	14.47	4.50
100	17.16	19.96	17.88	18.87	1.05	0.46	28.49	14.52	4.25
200	17.39	19.79	27.97	26.74	1.04	0.42	29.06	14.51	3.79
250	17.35	19.89	31.19	29.23	1.04	0.44	29.53	15.11	3.76
300	17.31	19.97	31.71	30.97	1.05	0.46	29.30	15.08	3.85
350	17.27	19.99	30.84	31.69	1.05	0.47	29.52	15.27	3.88
400	17.23	20.06	30.12	31.83	1.05	0.48	29.74	15.39	3.86
450	17.21	20.10	28.93	31.80	1.05	0.49	29.79	15.50	3.87
500	17.18	20.11	28.60	31.68	1.06	0.49	29.42	15.47	3.87
550	17.17	20.12	27.94	31.47	1.06	0.49	29.36	15.31	3.95
600	17.14	20.16	27.49	31.11	1.06	0.50	29.71	15.46	3.84
650	17.13	20.16	27.27	30.98	1.06	0.50	29.71	15.51	3.92
700	17.12	20.19	26.79	30.52	1.06	0.51	30.09	15.58	3.87
750	17.10	20.19	26.59	30.31	1.06	0.51	30.08	15.50	3.87
800	17.09	20.20	26.31	29.89	1.06	0.51	29.96	15.50	3.83
850	17.08	20.22	26.10	29.53	1.06	0.52	29.65	15.45	3.82
1000	17.04	20.22	25.60	28.62	1.06	0.52	29.14	15.41	3.86
1500	16.93	20.30	24.95	25.51	1.07	0.54	29.28	15.35	3.88
2000	16.81	20.34	25.25	22.88	1.08	0.55	28.67	15.27	3.93
2500	16.67	20.46	26.20	20.71	1.09	0.57	27.91	14.86	4.01
3000	16.55	20.51	25.71	18.85	1.10	0.58	27.59	14.77	3.98
3500	16.45	20.56	24.11	17.47	1.10	0.59	26.80	14.74	4.03
4000	16.34	20.64	22.22	16.77	1.11	0.60	26.09	14.45	4.01
4500	16.26	20.66	21.66	16.71	1.12	0.61	25.50	14.31	4.07
5000	16.26	20.69	23.24	16.68	1.12	0.61	24.87	13.98	4.24
5500	16.27	20.61	28.41	16.15	1.11	0.60	24.32	13.43	4.28
6000	16.25	20.55	22.65	15.53	1.11	0.59	24.29	13.05	4.37
6500	16.38	20.55	17.83	13.56	1.09	0.57	23.84	12.49	4.44
7000	16.36	20.65	13.70	11.66	1.06	0.57	23.19	11.76	4.50
7500	16.36	20.68	10.99	10.21	1.03	0.56	22.72	11.02	4.69
8000	16.20	20.88	9.21	8.89	1.01	0.57	21.65	10.10	4.80
8500	15.77	21.20	8.03	8.41	1.01	0.64	21.19	9.31	5.00
9000	14.96	21.76	7.12	8.04	1.02	0.75	20.49	8.89	5.20
9500	13.94	22.13	7.13	8.04	1.10	0.83	19.26	8.02	5.37
10000	12.54	21.93	7.45	8.96	1.23	0.91	19.34	7.44	5.56
10500	11.21	22.97	7.17	8.90	1.44	1.00	17.61	6.81	5.87
11000	9.75	23.83	7.17	9.24	1.80	1.05	16.80	6.31	6.21
11500	8.60	23.03	6.06	8.00	1.57	1.08	16.29	5.74	6.35
12000	7.14	25.46	6.22	7.77	2.47	1.07	15.57	5.41	6.73

Typical Performance Data

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 5.25V, Id = 53.14 mA @ Temperature = +25degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
10	14.69	23.46	10.77	12.96	1.32	0.94	--	16.55	7.29
20	15.00	22.56	11.13	13.10	1.22	0.88	18.76	17.35	7.24
30	15.43	22.06	11.66	13.63	1.18	0.81	19.38	17.66	6.57
40	15.85	21.60	12.31	14.25	1.14	0.75	20.01	17.73	6.03
50	16.25	21.18	13.09	14.96	1.11	0.67	20.23	17.53	5.64
60	16.54	20.73	13.83	15.77	1.08	0.61	20.56	17.53	5.30
70	16.81	20.58	14.73	16.52	1.07	0.56	21.36	17.51	4.98
80	17.02	20.37	15.69	17.40	1.06	0.52	22.01	17.31	4.74
90	17.17	20.24	16.68	18.22	1.05	0.49	22.24	17.18	4.61
100	17.29	20.14	17.69	19.08	1.05	0.47	23.39	17.21	4.36
200	17.56	19.94	26.76	26.57	1.04	0.42	29.99	16.94	3.84
250	17.52	20.04	28.54	29.28	1.04	0.44	31.95	17.19	3.87
300	17.48	20.11	28.30	31.45	1.05	0.45	32.09	17.14	3.95
350	17.44	20.08	27.50	32.89	1.05	0.46	32.45	17.27	3.96
400	17.40	20.19	26.89	33.72	1.05	0.47	32.60	17.27	3.96
450	17.38	20.20	26.20	34.17	1.05	0.48	32.82	17.37	3.97
500	17.35	20.22	25.78	34.37	1.05	0.48	32.32	17.35	3.90
550	17.34	20.27	25.42	34.30	1.06	0.49	32.15	17.24	4.03
600	17.31	20.30	25.01	33.90	1.06	0.50	32.55	17.29	3.98
650	17.30	20.31	24.90	33.60	1.06	0.50	32.65	17.33	4.00
700	17.29	20.31	24.56	33.07	1.06	0.50	32.85	17.38	3.94
750	17.27	20.30	24.35	33.03	1.06	0.51	33.16	17.31	3.89
800	17.26	20.33	24.17	32.34	1.06	0.51	32.68	17.30	3.89
850	17.25	20.36	24.04	31.79	1.06	0.51	32.55	17.26	3.94
1000	17.21	20.39	23.65	30.52	1.07	0.52	31.86	17.22	3.99
1500	17.10	20.44	23.20	26.87	1.07	0.54	31.89	17.16	3.98
2000	16.98	20.49	23.58	24.08	1.08	0.55	31.03	17.08	4.03
2500	16.86	20.57	24.66	22.00	1.09	0.57	29.72	16.70	4.10
3000	16.74	20.63	24.83	20.11	1.10	0.58	29.19	16.48	4.08
3500	16.65	20.69	23.85	18.67	1.10	0.59	27.96	16.25	4.13
4000	16.55	20.77	22.11	17.97	1.11	0.60	27.02	15.86	4.17
4500	16.48	20.87	21.44	17.96	1.12	0.62	26.29	15.54	4.20
5000	16.49	20.88	22.62	17.99	1.12	0.62	25.59	15.03	4.35
5500	16.50	20.84	26.43	17.33	1.12	0.61	25.03	14.50	4.39
6000	16.50	20.73	21.90	16.46	1.11	0.59	24.92	13.95	4.47
6500	16.65	20.80	17.72	14.20	1.09	0.57	24.33	13.23	4.59
7000	16.65	20.88	13.77	12.17	1.07	0.57	23.67	12.44	4.61
7500	16.70	20.91	11.04	10.61	1.04	0.55	23.24	11.66	4.86
8000	16.58	21.09	9.24	9.26	1.02	0.55	22.17	10.71	4.97
8500	16.19	21.41	8.04	8.83	1.01	0.63	21.74	9.88	5.17
9000	15.39	21.99	7.11	8.51	1.03	0.75	21.15	9.47	5.41
9500	14.36	22.37	7.15	8.56	1.12	0.83	20.03	8.64	5.60
10000	12.94	22.11	7.50	9.61	1.24	0.92	20.16	8.08	5.82
10500	11.58	23.20	7.24	9.53	1.46	1.01	18.60	7.48	6.17
11000	10.08	23.94	7.25	9.76	1.80	1.06	17.83	6.94	6.46
11500	8.90	23.34	6.09	8.26	1.60	1.09	17.34	6.38	6.67
12000	7.40	25.74	6.24	7.87	2.50	1.07	16.59	5.99	7.07

Typical Performance Data

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 5V, Id =44.11 mA @ Temperature = -45degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
10	14.35	24.02	9.76	12.22	1.37	0.98	--	15.90	6.65
20	14.74	22.68	10.18	12.44	1.23	0.90	19.64	16.22	6.75
30	15.31	22.13	10.79	12.93	1.18	0.82	22.70	16.52	5.87
40	15.84	21.63	11.58	13.54	1.14	0.74	25.95	16.33	5.24
50	16.31	21.28	12.47	14.25	1.11	0.67	29.58	15.57	4.82
60	16.64	20.70	13.35	15.09	1.08	0.59	30.67	15.37	4.50
70	16.93	20.57	14.45	15.82	1.07	0.54	30.04	15.27	4.15
80	17.14	20.35	15.48	16.74	1.06	0.50	29.74	14.67	3.88
90	17.30	20.22	16.56	17.57	1.05	0.47	29.70	14.52	3.77
100	17.42	20.12	17.64	18.46	1.04	0.44	29.33	14.60	3.55
200	17.68	19.95	27.64	26.25	1.03	0.40	29.88	14.66	3.06
250	17.64	20.05	29.59	28.55	1.04	0.42	30.34	15.31	3.09
300	17.60	20.10	28.13	29.82	1.04	0.44	30.16	15.21	3.16
350	17.56	20.14	26.64	30.38	1.04	0.45	30.40	15.57	3.21
400	17.53	20.19	25.85	30.99	1.05	0.46	30.58	15.73	3.19
450	17.50	20.21	25.29	31.49	1.05	0.47	30.82	15.79	3.17
500	17.48	20.25	25.18	32.25	1.05	0.47	30.35	15.70	3.16
550	17.47	20.26	25.02	32.08	1.05	0.48	30.30	15.55	3.17
600	17.45	20.27	24.77	31.52	1.05	0.48	30.66	15.77	3.13
650	17.44	20.31	24.67	30.77	1.05	0.49	30.66	15.85	3.19
700	17.43	20.32	24.23	30.13	1.05	0.49	30.91	15.90	3.18
750	17.42	20.34	23.95	30.08	1.05	0.49	30.83	15.78	3.12
800	17.40	20.32	23.83	29.78	1.05	0.49	30.86	15.82	3.10
850	17.39	20.33	23.92	29.96	1.05	0.49	30.44	15.69	3.11
1000	17.36	20.38	24.55	29.09	1.06	0.50	29.97	15.65	3.16
1500	17.26	20.40	22.20	24.59	1.06	0.51	30.24	15.69	3.14
2000	17.16	20.47	22.67	22.86	1.07	0.53	29.78	15.55	3.19
2500	17.04	20.54	23.65	20.25	1.08	0.54	29.05	15.13	3.28
3000	16.94	20.58	25.37	18.48	1.08	0.55	28.90	15.15	3.23
3500	16.86	20.62	25.29	16.99	1.09	0.55	28.06	15.13	3.23
4000	16.77	20.69	23.44	16.17	1.09	0.56	27.44	15.10	3.24
4500	16.72	20.72	22.49	15.84	1.09	0.57	26.72	14.94	3.29
5000	16.73	20.72	22.81	15.68	1.09	0.56	26.01	14.87	3.43
5500	16.74	20.64	22.48	14.65	1.08	0.55	25.54	14.27	3.44
6000	16.82	20.65	19.06	13.99	1.08	0.53	25.44	14.16	3.53
6500	17.03	20.72	16.21	12.00	1.06	0.49	25.11	13.76	3.60
7000	17.04	20.75	13.04	10.08	1.03	0.46	24.46	13.16	3.65
7500	17.20	20.80	10.07	8.39	1.00	0.39	23.85	12.47	3.86
8000	17.20	21.04	8.58	7.29	0.96	0.39	22.94	11.46	3.96
8500	17.13	21.21	7.55	6.59	0.94	0.39	22.43	10.59	4.10
9000	16.80	21.94	6.74	6.08	0.92	0.49	21.59	10.06	4.28
9500	16.13	22.39	6.76	6.09	0.97	0.56	20.58	9.14	4.40
10000	14.82	22.00	7.79	7.38	1.11	0.66	20.79	8.59	4.62
10500	13.31	22.60	7.73	7.73	1.25	0.81	19.29	7.85	4.96
11000	11.90	23.84	7.21	8.79	1.53	0.96	18.08	7.17	5.32
11500	10.54	23.81	6.58	8.64	1.57	1.05	17.57	6.55	5.63
12000	9.40	23.55	5.70	7.32	1.40	1.08	17.14	6.29	5.82

Typical Performance Data

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 4.75V, Id =39.04 mA @ Temperature = -45degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
10	14.30	23.78	9.87	12.10	1.35	0.97	--	14.81	6.50
20	14.66	22.50	10.47	12.28	1.22	0.89	33.28	15.20	6.57
30	15.22	22.13	11.05	12.82	1.19	0.82	29.82	15.24	5.75
40	15.75	21.55	11.84	13.42	1.14	0.74	27.99	14.00	5.11
50	16.21	21.15	12.70	14.16	1.11	0.67	27.93	13.37	4.76
60	16.54	20.62	13.69	14.99	1.08	0.59	28.32	13.21	4.41
70	16.82	20.49	14.71	15.76	1.07	0.55	27.90	13.20	4.08
80	17.03	20.29	15.75	16.68	1.06	0.50	27.45	12.81	3.82
90	17.19	20.15	16.79	17.54	1.05	0.47	27.74	12.83	3.71
100	17.31	20.02	17.84	18.44	1.04	0.44	27.17	12.99	3.49
200	17.56	19.87	27.99	26.26	1.03	0.41	27.62	13.23	3.04
250	17.53	19.96	31.29	28.65	1.04	0.43	28.42	13.86	3.05
300	17.49	20.02	30.19	30.18	1.04	0.44	28.14	13.80	3.19
350	17.45	20.04	28.40	30.64	1.04	0.45	28.49	14.16	3.17
400	17.42	20.12	27.54	31.18	1.05	0.46	28.46	14.26	3.13
450	17.39	20.14	26.81	31.65	1.05	0.47	28.76	14.45	3.10
500	17.37	20.15	26.71	31.94	1.05	0.47	28.34	14.35	3.12
550	17.36	20.20	26.48	31.58	1.05	0.48	28.26	14.19	3.15
600	17.34	20.21	26.17	30.90	1.05	0.49	28.53	14.49	3.14
650	17.33	20.22	26.06	30.04	1.05	0.49	28.61	14.50	3.16
700	17.32	20.24	25.60	29.35	1.05	0.49	28.86	14.58	3.10
750	17.31	20.24	25.28	29.36	1.05	0.49	28.90	14.42	3.09
800	17.30	20.28	25.10	29.14	1.06	0.50	28.86	14.52	3.06
850	17.29	20.26	25.21	29.10	1.06	0.50	28.55	14.37	3.07
1000	17.26	20.27	25.92	28.04	1.06	0.50	28.02	14.32	3.14
1500	17.15	20.32	23.16	24.23	1.06	0.52	28.50	14.34	3.12
2000	17.05	20.36	23.72	22.45	1.07	0.53	27.92	14.24	3.13
2500	16.92	20.44	24.76	19.75	1.08	0.54	27.35	13.85	3.19
3000	16.82	20.52	26.46	17.95	1.08	0.55	27.39	13.94	3.18
3500	16.73	20.51	25.93	16.44	1.08	0.55	26.90	13.97	3.19
4000	16.64	20.57	23.70	15.61	1.09	0.56	26.46	14.01	3.19
4500	16.60	20.62	22.84	15.29	1.09	0.56	25.96	13.99	3.22
5000	16.60	20.61	23.51	15.12	1.09	0.56	25.35	14.05	3.36
5500	16.61	20.50	23.21	14.19	1.08	0.54	24.82	13.39	3.42
6000	16.68	20.53	19.39	13.61	1.08	0.53	24.83	13.46	3.47
6500	16.88	20.56	16.29	11.71	1.05	0.49	24.58	13.14	3.56
7000	16.87	20.58	13.02	9.87	1.02	0.46	23.97	12.63	3.59
7500	17.03	20.61	10.06	8.24	0.99	0.39	23.33	12.01	3.81
8000	16.99	20.83	8.57	7.11	0.95	0.39	22.50	11.08	3.90
8500	16.89	21.06	7.55	6.43	0.93	0.39	21.98	10.17	4.02
9000	16.54	21.75	6.78	5.95	0.91	0.49	21.08	9.72	4.20
9500	15.85	22.19	6.79	5.89	0.96	0.56	20.09	8.82	4.32
10000	14.58	21.93	7.69	7.06	1.11	0.66	20.24	8.24	4.55
10500	13.08	22.73	7.62	7.39	1.26	0.80	18.68	7.50	4.87
11000	11.73	23.64	7.06	8.46	1.50	0.95	17.53	6.78	5.16
11500	10.35	23.57	6.56	8.34	1.53	1.04	16.91	6.12	5.50
12000	9.25	23.43	5.68	7.28	1.40	1.08	16.45	5.86	5.72

Typical Performance Data

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 5.25V, Id = 48.74 mA @ Temperature = -45degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
10	14.39	22.94	9.64	11.84	1.23	0.95	--	16.37	6.82
20	14.79	22.81	9.99	12.52	1.23	0.91	16.54	17.10	6.88
30	15.37	22.21	10.62	13.01	1.18	0.83	17.65	17.41	5.96
40	15.90	21.69	11.41	13.60	1.14	0.75	18.83	17.38	5.32
50	16.38	21.36	12.26	14.25	1.11	0.67	20.33	17.11	4.90
60	16.71	21.02	13.29	15.11	1.09	0.61	23.53	17.01	4.59
70	17.00	20.65	14.29	15.87	1.07	0.55	26.67	16.93	4.20
80	17.21	20.47	15.34	16.77	1.06	0.50	29.62	16.28	3.94
90	17.38	20.31	16.40	17.61	1.05	0.47	30.49	16.12	3.83
100	17.49	20.21	17.47	18.44	1.04	0.44	30.58	16.12	3.63
200	17.75	20.03	27.11	26.08	1.03	0.40	31.20	15.80	3.16
250	17.72	20.07	28.53	28.36	1.04	0.42	31.92	16.40	3.11
300	17.67	20.17	27.04	29.27	1.04	0.44	31.85	16.33	3.21
350	17.63	20.26	25.51	29.39	1.04	0.45	31.74	16.62	3.25
400	17.60	20.25	24.91	30.19	1.05	0.46	32.07	16.70	3.18
450	17.57	20.27	24.36	30.83	1.05	0.46	32.50	16.81	3.19
500	17.55	20.34	24.30	31.55	1.05	0.47	31.80	16.75	3.18
550	17.54	20.32	24.14	31.67	1.05	0.47	31.85	16.62	3.26
600	17.52	20.31	23.94	31.31	1.05	0.48	31.76	16.75	3.18
650	17.51	20.36	23.84	30.59	1.05	0.48	32.00	16.82	3.23
700	17.50	20.36	23.42	30.10	1.05	0.48	32.44	16.87	3.19
750	17.48	20.38	23.21	30.15	1.05	0.49	32.40	16.78	3.16
800	17.47	20.39	23.04	30.00	1.05	0.49	32.37	16.80	3.14
850	17.46	20.41	23.19	30.12	1.06	0.49	32.09	16.71	3.13
1000	17.43	20.41	23.75	29.62	1.06	0.50	31.34	16.65	3.21
1500	17.33	20.45	21.57	24.79	1.06	0.51	31.67	16.69	3.18
2000	17.23	20.52	22.07	23.14	1.07	0.53	31.00	16.55	3.21
2500	17.12	20.57	22.97	20.61	1.08	0.54	30.07	16.11	3.30
3000	17.02	20.63	24.73	18.95	1.08	0.55	29.86	16.10	3.28
3500	16.94	20.65	24.82	17.45	1.08	0.55	28.95	15.99	3.26
4000	16.86	20.76	23.19	16.62	1.09	0.56	28.12	15.83	3.29
4500	16.81	20.80	22.13	16.32	1.10	0.57	27.21	15.61	3.30
5000	16.82	20.81	22.41	16.14	1.10	0.57	26.42	15.48	3.49
5500	16.85	20.71	22.04	15.04	1.09	0.55	25.88	14.95	3.48
6000	16.92	20.76	18.71	14.36	1.08	0.54	25.76	14.69	3.56
6500	17.16	20.81	16.13	12.26	1.06	0.49	25.38	14.25	3.66
7000	17.17	20.87	13.05	10.29	1.03	0.46	24.70	13.56	3.69
7500	17.35	20.88	10.11	8.56	1.00	0.39	24.16	12.83	3.93
8000	17.40	21.12	8.60	7.41	0.96	0.38	23.21	11.78	4.01
8500	17.34	21.34	7.57	6.72	0.94	0.38	22.71	10.88	4.19
9000	17.00	21.99	6.78	6.29	0.93	0.49	21.96	10.41	4.33
9500	16.33	22.41	6.80	6.26	0.97	0.56	20.97	9.45	4.45
10000	15.05	22.18	7.74	7.56	1.11	0.67	21.12	8.93	4.71
10500	13.53	23.02	7.65	7.95	1.28	0.82	19.72	8.14	5.04
11000	12.14	23.91	7.14	8.81	1.49	0.97	18.65	7.52	5.32
11500	10.68	24.10	6.70	8.77	1.61	1.05	18.14	6.79	5.74
12000	9.53	23.60	5.69	7.42	1.40	1.08	17.78	6.62	5.94

Typical Performance Data

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 5V, Id = 51.35 mA @ Temperature = +85degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
10	14.59	22.78	11.62	12.64	1.27	0.90	--	16.21	7.58
20	14.90	22.17	11.63	13.19	1.21	0.86	19.01	16.86	7.64
30	15.31	21.84	12.15	13.73	1.18	0.80	19.62	17.19	6.94
40	15.72	21.41	12.79	14.38	1.14	0.74	20.26	17.26	6.46
50	16.10	21.16	13.54	15.10	1.12	0.68	20.54	17.07	6.10
60	16.37	20.69	14.19	15.99	1.09	0.62	20.96	17.03	5.77
70	16.63	20.45	15.10	16.81	1.08	0.57	21.81	17.01	5.49
80	16.83	20.25	16.01	17.74	1.06	0.53	22.52	16.81	5.21
90	16.98	20.13	16.94	18.61	1.06	0.50	22.73	16.71	5.10
100	17.10	20.04	17.92	19.54	1.05	0.48	23.94	16.71	4.84
200	17.35	19.85	26.66	27.12	1.04	0.43	29.90	16.54	4.30
250	17.31	19.90	28.58	30.03	1.04	0.45	31.36	16.72	4.37
300	17.27	19.97	29.04	32.41	1.05	0.46	31.73	16.71	4.50
350	17.23	20.04	28.81	33.47	1.05	0.48	31.58	16.82	4.50
400	17.19	20.05	28.62	33.75	1.05	0.48	32.06	16.80	4.49
450	17.17	20.08	27.78	33.85	1.06	0.49	32.36	16.89	4.47
500	17.14	20.14	27.37	33.81	1.06	0.50	31.73	16.88	4.47
550	17.12	20.14	26.83	33.10	1.06	0.50	31.46	16.76	4.53
600	17.10	20.14	26.38	32.94	1.06	0.51	31.97	16.79	4.46
650	17.09	20.15	26.40	32.62	1.06	0.51	32.17	16.83	4.53
700	17.07	20.22	26.10	32.03	1.06	0.52	32.14	16.87	4.50
750	17.06	20.18	26.18	31.82	1.06	0.51	31.97	16.80	4.40
800	17.04	20.20	26.11	31.15	1.06	0.52	32.33	16.79	4.42
850	17.03	20.24	25.93	31.00	1.07	0.52	31.81	16.77	4.46
1000	16.99	20.22	25.65	29.85	1.07	0.53	30.87	16.69	4.51
1500	16.87	20.30	25.49	27.08	1.08	0.54	30.95	16.64	4.55
2000	16.75	20.36	25.22	24.65	1.09	0.56	29.95	16.53	4.59
2500	16.61	20.47	25.34	22.45	1.10	0.58	28.93	16.14	4.66
3000	16.48	20.54	24.47	20.55	1.11	0.60	28.16	15.84	4.70
3500	16.36	20.59	22.77	19.15	1.11	0.61	27.18	15.53	4.67
4000	16.23	20.68	20.77	18.41	1.12	0.62	26.47	15.03	4.75
4500	16.14	20.69	20.64	18.59	1.13	0.63	25.77	14.62	4.78
5000	16.11	20.79	22.08	19.14	1.14	0.65	25.11	13.95	4.96
5500	16.07	20.67	33.03	18.76	1.13	0.64	24.61	13.25	4.97
6000	16.07	20.69	25.38	18.19	1.13	0.64	24.16	12.62	5.07
6500	15.92	20.49	17.21	15.57	1.12	0.63	23.46	11.87	5.24
7000	15.87	20.87	13.34	14.04	1.11	0.68	22.64	11.11	5.21
7500	15.82	20.76	10.99	12.81	1.08	0.67	21.99	10.35	5.47
8000	15.39	21.07	9.46	11.74	1.08	0.74	20.92	9.56	5.59
8500	14.84	21.30	8.30	11.17	1.10	0.80	20.22	8.76	5.78
9000	13.85	22.05	7.20	10.14	1.16	0.91	19.66	8.38	6.09
9500	12.53	22.25	7.28	10.36	1.31	0.96	18.48	7.61	6.33
10000	10.93	22.09	7.38	11.02	1.47	1.03	18.34	7.00	6.62
10500	9.51	23.11	7.13	10.15	1.76	1.07	16.99	6.57	6.97
11000	8.11	24.72	7.00	9.80	2.37	1.09	16.41	5.97	7.33
11500	6.92	23.90	6.22	8.08	2.15	1.08	15.98	5.56	7.55
12000	5.85	25.51	5.97	7.30	2.76	1.05	15.24	5.10	7.75

Typical Performance Data

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 4.75V, Id = 46.26 mA @ Temperature = +85degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
10	14.16	22.16	10.85	11.57	1.20	0.90	--	15.92	8.03
20	14.56	22.34	10.98	12.45	1.23	0.88	17.15	16.08	8.08
30	15.09	21.82	11.56	13.00	1.18	0.81	18.09	16.37	7.19
40	15.59	21.35	12.31	13.71	1.14	0.74	19.05	16.37	6.57
50	16.03	20.94	13.12	14.49	1.11	0.67	20.03	16.06	6.19
60	16.33	20.69	13.98	15.47	1.10	0.62	21.78	16.01	5.79
70	16.59	20.34	14.96	16.35	1.07	0.56	23.46	15.97	5.44
80	16.79	20.14	15.94	17.36	1.06	0.52	25.30	15.65	5.18
90	16.94	20.04	16.93	18.31	1.06	0.49	26.38	15.51	5.07
100	17.05	19.94	17.91	19.26	1.05	0.47	27.42	15.52	4.82
200	17.27	19.77	27.48	27.32	1.04	0.44	29.73	15.37	4.31
250	17.23	19.81	30.23	30.18	1.04	0.45	30.17	15.73	4.35
300	17.18	19.89	30.96	31.97	1.05	0.46	30.13	15.70	4.44
350	17.13	19.97	30.83	32.08	1.05	0.48	29.98	15.90	4.43
400	17.10	20.00	30.55	31.71	1.06	0.49	30.37	15.92	4.44
450	17.07	20.02	29.49	31.86	1.06	0.49	30.55	15.98	4.43
500	17.05	20.05	28.98	31.50	1.06	0.50	30.16	15.99	4.48
550	17.03	20.06	28.35	31.10	1.06	0.50	30.17	15.87	4.47
600	17.01	20.08	27.76	30.94	1.06	0.51	30.37	15.91	4.44
650	16.99	20.11	27.79	30.51	1.06	0.51	30.57	15.95	4.47
700	16.98	20.10	27.57	30.05	1.06	0.51	30.52	16.01	4.48
750	16.96	20.12	27.51	29.78	1.06	0.52	30.57	15.92	4.38
800	16.95	20.15	27.51	29.33	1.07	0.52	30.62	15.90	4.38
850	16.94	20.15	27.27	29.09	1.07	0.52	30.29	15.90	4.42
1000	16.89	20.16	26.87	28.26	1.07	0.53	29.73	15.82	4.49
1500	16.78	20.23	26.58	25.81	1.08	0.55	29.72	15.75	4.51
2000	16.65	20.31	26.08	23.65	1.09	0.56	29.06	15.67	4.54
2500	16.50	20.36	25.96	21.60	1.10	0.58	27.98	15.29	4.61
3000	16.37	20.42	24.76	19.68	1.11	0.59	27.60	15.08	4.63
3500	16.24	20.53	22.74	18.37	1.12	0.61	26.61	14.89	4.65
4000	16.12	20.60	20.75	17.70	1.13	0.62	26.02	14.45	4.70
4500	16.02	20.64	20.65	17.79	1.13	0.64	25.46	14.10	4.74
5000	15.99	20.70	22.23	18.19	1.14	0.64	24.83	13.52	4.88
5500	15.95	20.56	34.47	17.88	1.13	0.64	24.34	12.88	4.90
6000	15.94	20.58	25.54	17.46	1.13	0.64	23.96	12.29	4.99
6500	15.88	20.39	17.82	15.64	1.11	0.62	23.24	11.56	5.15
7000	15.72	20.71	13.30	13.64	1.10	0.68	22.51	10.82	5.14
7500	15.66	20.63	11.00	12.54	1.07	0.67	21.79	10.08	5.37
8000	15.22	20.88	9.49	11.41	1.07	0.74	20.68	9.37	5.49
8500	14.65	21.13	8.34	10.77	1.10	0.79	19.97	8.49	5.68
9000	13.66	21.94	7.20	9.74	1.15	0.90	19.35	8.15	5.98
9500	12.32	22.12	7.33	9.97	1.31	0.95	18.16	7.36	6.19
10000	10.74	21.96	7.36	10.60	1.47	1.02	17.97	6.67	6.49
10500	9.37	22.92	7.04	9.74	1.72	1.07	16.59	6.23	6.82
11000	7.92	24.68	7.02	9.66	2.41	1.08	15.99	5.67	7.18
11500	6.76	23.85	6.29	8.00	2.18	1.07	15.57	5.15	7.39
12000	5.70	25.52	6.02	7.32	2.83	1.05	14.81	4.85	7.59

Typical Performance Data

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 5.25V, Id = 57.82 mA @ Temperature = +85degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
10	16.25	20.64	17.54	19.35	1.09	0.66	--	16.34	5.06
20	16.27	20.97	17.03	20.65	1.11	0.69	22.19	16.91	5.20
30	16.36	20.97	17.26	20.87	1.11	0.68	22.29	17.40	5.09
40	16.45	20.83	17.60	21.09	1.10	0.65	22.72	17.70	5.01
50	16.57	20.78	18.06	21.41	1.10	0.64	22.99	17.69	4.96
60	16.63	20.76	18.43	22.09	1.10	0.63	23.55	17.80	4.88
70	16.73	20.55	18.87	22.54	1.08	0.59	24.49	17.84	4.80
80	16.82	20.51	19.32	23.24	1.08	0.58	25.08	17.76	4.73
90	16.90	20.41	19.84	23.79	1.07	0.56	25.40	17.72	4.73
100	16.98	20.36	20.34	24.43	1.07	0.54	26.82	17.76	4.59
200	17.28	20.10	24.88	29.91	1.05	0.48	37.37	17.66	4.43
250	17.29	20.05	25.96	32.10	1.05	0.47	37.05	17.72	4.44
300	17.27	20.13	26.42	34.24	1.05	0.48	34.35	17.75	4.52
350	17.25	20.15	26.43	35.09	1.05	0.49	34.37	17.74	4.56
400	17.23	20.13	26.35	35.53	1.05	0.49	34.74	17.72	4.55
450	17.21	20.19	25.91	35.93	1.06	0.50	34.73	17.76	4.51
500	17.19	20.20	25.61	35.82	1.06	0.50	33.50	17.78	4.57
550	17.18	20.22	25.33	35.27	1.06	0.51	33.82	17.64	4.59
600	17.16	20.26	24.98	35.05	1.06	0.51	33.52	17.64	4.58
650	17.15	20.26	25.00	34.54	1.06	0.51	33.81	17.67	4.59
700	17.14	20.28	24.84	34.02	1.06	0.52	33.48	17.73	4.56
750	17.13	20.29	24.93	33.98	1.06	0.52	33.52	17.63	4.52
800	17.11	20.29	24.89	33.24	1.07	0.52	33.60	17.62	4.49
850	17.10	20.29	24.75	32.92	1.07	0.52	33.09	17.63	4.53
1000	17.06	20.32	24.62	31.73	1.07	0.53	31.97	17.53	4.58
1500	16.95	20.35	24.63	28.50	1.08	0.54	31.68	17.48	4.59
2000	16.83	20.40	24.44	25.80	1.08	0.56	30.57	17.36	4.66
2500	16.69	20.49	24.71	23.52	1.10	0.58	29.13	16.93	4.75
3000	16.56	20.53	24.20	21.49	1.10	0.59	28.42	16.56	4.79
3500	16.44	20.63	22.73	20.09	1.11	0.61	27.27	16.12	4.78
4000	16.32	20.76	20.80	19.32	1.13	0.63	26.51	15.55	4.82
4500	16.22	20.74	20.60	19.64	1.13	0.63	25.82	15.03	4.89
5000	16.19	20.87	22.01	20.29	1.14	0.65	25.11	14.32	5.01
5500	16.14	20.76	31.89	19.94	1.14	0.64	24.66	13.49	5.11
6000	16.15	20.73	25.33	19.18	1.13	0.64	24.02	12.86	5.17
6500	16.20	20.65	18.44	17.02	1.12	0.62	23.18	12.07	5.32
7000	15.95	20.96	13.35	14.56	1.11	0.68	22.47	11.32	5.33
7500	15.93	20.87	11.05	13.38	1.09	0.68	21.75	10.56	5.56
8000	15.50	21.13	9.53	12.28	1.09	0.74	20.80	9.80	5.75
8500	14.95	21.35	8.41	11.65	1.11	0.80	20.12	8.95	5.94
9000	13.97	22.22	7.18	10.52	1.18	0.91	19.61	8.59	6.21
9500	12.59	22.20	7.41	10.96	1.32	0.97	18.55	7.85	6.53
10000	11.00	22.07	7.41	11.52	1.47	1.04	18.43	7.20	6.86
10500	9.63	23.16	7.02	10.42	1.75	1.08	17.17	6.73	7.19
11000	8.12	24.82	7.09	10.21	2.44	1.10	16.59	6.20	7.60
11500	6.92	24.07	6.37	8.19	2.23	1.08	16.18	5.69	7.74
12000	5.85	26.19	6.07	7.48	3.06	1.05	15.34	5.39	8.03