

MMIC Amplifier

MAR-3+

Typical Performance Data

NOTE: Use PDF Bookmarks to view DATA at required conditions or to view GRAPHS.

Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Icc = 35mA, Vd = 4.94V @Temperature = +25degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP3 Output	1dB Comp. Output	Noise Figure
					K	Delta			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(dBm)	(dBm)	(dB)
50	13.23	18.53	29.26	24.75	1.19	0.55	28.35	11.79	3.67
100	13.22	18.50	28.85	25.18	1.19	0.55	29.15	11.72	3.72
150	13.20	18.47	29.41	25.14	1.19	0.55	30.11	11.81	3.75
200	13.19	18.46	29.26	25.14	1.19	0.55	31.43	11.78	3.77
250	13.17	18.49	29.22	25.30	1.19	0.54	28.82	11.81	3.74
300	13.16	18.45	29.31	25.24	1.19	0.55	31.02	11.73	3.79
350	13.13	18.48	29.18	25.29	1.19	0.54	30.33	11.73	3.82
400	13.11	18.47	29.21	25.40	1.19	0.54	30.47	11.69	3.77
450	13.09	18.49	29.41	25.40	1.20	0.54	29.23	11.74	3.77
500	13.07	18.46	29.50	25.50	1.20	0.54	29.78	11.68	3.80
550	13.03	18.45	29.79	25.57	1.20	0.54	28.98	11.61	3.83
600	13.01	18.44	29.62	25.58	1.20	0.54	29.22	11.53	3.80
650	12.99	18.44	30.02	25.63	1.20	0.54	28.71	11.57	3.76
700	12.94	18.45	30.15	25.68	1.20	0.53	28.95	11.53	3.82
750	12.91	18.42	30.26	25.60	1.21	0.53	29.23	11.59	3.83
800	12.89	18.42	30.67	25.69	1.21	0.53	29.49	11.49	3.83
850	12.85	18.41	31.00	25.52	1.21	0.53	29.11	11.47	3.80
900	12.81	18.39	31.29	25.48	1.21	0.53	28.66	11.36	3.76
940	12.78	18.38	31.50	25.26	1.21	0.52	28.78	11.45	3.78
1000	12.73	18.38	31.82	25.00	1.22	0.52	28.02	11.35	3.75
1050	12.69	18.36	32.71	24.73	1.22	0.52	28.08	11.27	3.77
1100	12.65	18.36	32.75	24.44	1.22	0.52	27.48	11.21	3.83
1150	12.60	18.34	32.71	24.20	1.22	0.52	27.31	11.02	3.88
1200	12.54	18.34	33.56	23.76	1.23	0.51	27.03	10.92	3.85
1250	12.51	18.32	33.48	23.55	1.23	0.51	27.28	10.88	3.86
1300	12.47	18.30	34.27	23.04	1.23	0.51	26.84	10.77	3.88
1350	12.41	18.29	35.02	22.72	1.23	0.51	26.87	10.72	3.88
1400	12.35	18.27	34.33	22.25	1.23	0.50	26.35	10.76	3.88
1450	12.30	18.25	34.85	21.89	1.24	0.50	26.47	10.67	3.93
1500	12.27	18.26	34.82	21.43	1.24	0.50	26.41	10.59	3.98
1550	12.19	18.21	34.63	21.09	1.24	0.50	26.67	10.51	3.92
1600	12.15	18.22	34.28	20.76	1.24	0.50	26.53	10.36	3.94
1650	12.08	18.20	34.38	20.35	1.25	0.49	26.40	10.41	3.90
1700	12.01	18.18	33.46	20.05	1.25	0.49	26.41	10.23	3.93
1750	11.95	18.16	32.91	19.63	1.25	0.49	25.89	10.22	3.86
1800	11.91	18.14	32.61	19.39	1.25	0.49	25.42	10.06	3.85
1850	11.83	18.12	32.47	19.00	1.26	0.48	24.53	10.02	3.88
1900	11.77	18.11	31.52	18.77	1.26	0.48	24.53	9.81	3.87
1950	11.72	18.09	31.02	18.46	1.26	0.48	24.33	9.77	3.81
2000	11.66	18.07	30.39	18.18	1.27	0.48	24.26	9.71	3.88

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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: Icc = 28mA, Vd = 4.85V @Temperature = +25degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP3 Output	1dB Comp. Output	Noise Figure
					K	Delta			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(dBm)	(dBm)	(dB)
50	12.97	18.30	25.97	22.40	1.19	0.55	24.52	9.88	3.66
100	12.99	18.33	25.82	22.50	1.19	0.54	24.71	9.73	3.67
150	12.96	18.30	26.18	22.51	1.19	0.54	25.48	9.78	3.73
200	12.94	18.31	26.11	22.72	1.19	0.54	25.53	9.77	3.73
250	12.92	18.34	26.01	22.66	1.20	0.54	24.13	9.71	3.70
300	12.91	18.31	26.04	22.76	1.20	0.54	25.36	9.73	3.75
350	12.89	18.32	26.04	22.76	1.20	0.54	24.88	9.72	3.79
400	12.87	18.29	26.02	22.90	1.20	0.54	25.10	9.83	3.72
450	12.85	18.30	26.30	23.08	1.20	0.54	24.30	9.61	3.77
500	12.83	18.29	26.18	23.02	1.20	0.54	24.87	9.69	3.78
550	12.80	18.29	26.49	23.29	1.20	0.53	24.26	9.54	3.77
600	12.78	18.28	26.38	23.28	1.20	0.53	24.51	9.64	3.77
650	12.75	18.29	26.63	23.46	1.21	0.53	24.19	9.62	3.75
700	12.72	18.27	26.70	23.61	1.21	0.53	24.44	9.53	3.80
750	12.69	18.27	26.91	23.75	1.21	0.53	24.75	9.69	3.76
800	12.65	18.27	27.05	23.82	1.21	0.53	24.92	9.38	3.79
850	12.61	18.25	27.21	23.88	1.21	0.52	24.74	9.72	3.75
900	12.61	18.24	27.42	24.01	1.21	0.52	24.39	9.44	3.73
940	12.56	18.23	27.59	23.94	1.22	0.52	24.66	9.48	3.77
1000	12.51	18.22	27.94	24.02	1.22	0.52	24.16	9.41	3.71
1050	12.46	18.20	28.26	23.90	1.22	0.52	24.49	9.37	3.75
1100	12.42	18.19	28.30	23.84	1.22	0.52	23.95	9.38	3.80
1150	12.39	18.17	28.47	23.79	1.22	0.51	24.11	9.21	3.83
1200	12.34	18.18	28.89	23.50	1.23	0.51	23.73	9.26	3.80
1250	12.30	18.15	28.66	23.43	1.23	0.51	24.14	9.12	3.80
1300	12.25	18.14	29.27	23.06	1.23	0.51	23.89	9.21	3.84
1350	12.20	18.12	29.93	22.90	1.23	0.50	24.11	9.06	3.87
1400	12.16	18.09	29.36	22.50	1.23	0.50	23.66	9.09	3.85
1450	12.10	18.09	29.59	22.24	1.24	0.50	23.69	9.10	3.89
1500	12.04	18.08	29.86	21.87	1.24	0.50	23.70	9.14	3.94
1550	12.01	18.06	29.61	21.57	1.24	0.50	23.93	9.02	3.83
1600	11.94	18.05	29.86	21.27	1.25	0.49	23.92	8.95	3.88
1650	11.88	18.05	30.10	20.90	1.25	0.49	23.95	8.92	3.87
1700	11.83	18.00	29.50	20.63	1.25	0.49	24.12	8.99	3.89
1750	11.77	18.00	29.26	20.25	1.25	0.48	23.85	8.81	3.80
1800	11.70	17.98	29.37	20.00	1.26	0.48	23.53	8.91	3.82
1850	11.65	17.94	29.34	19.61	1.26	0.48	22.85	8.75	3.84
1900	11.60	17.95	28.91	19.36	1.26	0.48	22.74	8.75	3.82
1950	11.53	17.92	28.54	19.07	1.26	0.47	22.68	8.76	3.77
2000	11.46	17.90	28.27	18.79	1.27	0.47	22.55	8.61	3.80

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Definitions:

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Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Icc = 42mA, Vd = 5.02V @Temperature = +25degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP3 Output	1dB Comp. Output	Noise Figure
					K	Delta			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(dBm)	(dBm)	(dB)
50	13.38	18.52	32.10	26.89	1.18	0.55	31.22	12.50	3.74
100	13.37	18.58	31.56	27.23	1.18	0.55	32.31	12.50	3.78
150	13.35	18.55	32.27	27.08	1.18	0.55	32.89	12.49	3.80
200	13.34	18.57	32.03	27.15	1.19	0.55	37.34	12.59	3.81
250	13.31	18.60	32.16	27.33	1.19	0.54	34.53	12.54	3.79
300	13.30	18.56	32.10	27.25	1.19	0.55	37.91	12.40	3.81
350	13.27	18.57	31.99	27.24	1.19	0.54	38.18	12.59	3.88
400	13.25	18.58	31.95	27.19	1.19	0.54	37.33	12.27	3.84
450	13.23	18.56	32.30	27.24	1.19	0.54	35.13	12.60	3.87
500	13.20	18.57	32.44	27.26	1.20	0.54	35.67	12.27	3.85
550	13.18	18.56	32.63	27.18	1.20	0.54	34.24	12.52	3.87
600	13.16	18.55	32.60	27.07	1.20	0.54	33.69	12.32	3.83
650	13.13	18.55	33.19	27.03	1.20	0.54	32.88	12.29	3.84
700	13.08	18.53	33.34	27.01	1.20	0.53	32.94	12.32	3.89
750	13.06	18.53	33.49	26.70	1.20	0.53	32.44	12.27	3.84
800	13.02	18.52	34.29	26.63	1.21	0.53	32.89	12.40	3.88
850	12.98	18.50	34.59	26.28	1.21	0.53	31.94	12.34	3.83
900	12.96	18.50	34.98	26.13	1.21	0.53	32.06	12.24	3.85
940	12.92	18.49	35.50	25.71	1.21	0.53	31.51	12.19	3.84
1000	12.87	18.48	36.01	25.31	1.21	0.52	30.77	12.10	3.80
1050	12.82	18.45	37.45	24.85	1.21	0.52	30.23	12.05	3.85
1100	12.78	18.46	37.32	24.47	1.22	0.52	29.72	11.84	3.88
1150	12.74	18.42	37.48	24.16	1.22	0.52	29.20	11.70	3.96
1200	12.68	18.44	39.04	23.58	1.22	0.51	29.31	11.56	3.89
1250	12.65	18.42	38.75	23.28	1.22	0.51	29.25	11.49	3.90
1300	12.60	18.40	39.88	22.72	1.23	0.51	28.61	11.37	3.95
1350	12.54	18.39	40.79	22.41	1.23	0.51	28.31	11.37	3.97
1400	12.48	18.38	39.73	21.86	1.23	0.51	28.01	11.37	3.91
1450	12.42	18.36	39.55	21.47	1.23	0.50	28.18	11.21	3.99
1500	12.38	18.36	38.88	21.01	1.24	0.50	28.13	11.12	4.05
1550	12.33	18.33	38.52	20.66	1.24	0.50	28.37	11.03	4.00
1600	12.27	18.32	37.19	20.32	1.24	0.50	28.13	10.85	4.01
1650	12.20	18.29	37.03	19.94	1.24	0.49	27.95	10.93	3.99
1700	12.14	18.28	35.75	19.60	1.25	0.49	27.77	10.70	4.01
1750	12.09	18.26	34.61	19.20	1.25	0.49	27.04	10.77	3.93
1800	12.01	18.25	34.00	18.98	1.26	0.49	26.59	10.51	3.96
1850	11.95	18.23	33.65	18.57	1.26	0.48	25.64	10.55	3.97
1900	11.90	18.23	32.38	18.35	1.26	0.48	25.71	10.27	3.90
1950	11.84	18.21	31.81	18.01	1.26	0.48	25.42	10.23	3.92
2000	11.77	18.18	31.23	17.79	1.26	0.48	25.35	10.24	3.92

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Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Icc = 35mA, Vd = 5.19V @Temperature = -45degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP3 Output	1dB Comp. Output	Noise Figure
					K	Delta			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(dBm)	(dBm)	(dB)
50	13.33	18.55	28.44	24.88	1.18	0.55	28.74	11.95	3.02
100	13.32	18.51	27.20	24.15	1.18	0.55	28.76	11.92	3.04
150	13.31	18.52	26.76	23.52	1.18	0.55	29.45	12.01	3.08
200	13.30	18.46	26.36	23.48	1.18	0.56	29.32	11.95	3.07
250	13.27	18.54	27.17	24.19	1.19	0.55	27.77	11.89	3.04
300	13.28	18.50	28.29	25.10	1.18	0.55	28.99	11.88	3.13
350	13.26	18.50	29.46	25.90	1.19	0.55	28.58	11.96	3.13
400	13.25	18.49	30.28	26.39	1.19	0.55	28.72	11.90	3.07
450	13.24	18.48	30.84	26.50	1.19	0.55	28.00	11.92	3.10
500	13.21	18.47	30.71	26.30	1.19	0.55	28.43	11.91	3.10
550	13.19	18.46	30.71	26.30	1.19	0.55	27.91	11.79	3.11
600	13.17	18.46	30.62	26.15	1.19	0.54	28.11	11.85	3.09
650	13.15	18.45	31.16	26.38	1.19	0.54	27.81	11.81	3.10
700	13.11	18.43	31.24	26.39	1.19	0.54	28.02	11.74	3.09
750	13.08	18.42	31.31	26.04	1.19	0.54	28.44	11.86	3.07
800	13.05	18.41	31.61	25.82	1.19	0.54	28.53	11.71	3.11
850	13.01	18.40	31.56	25.50	1.20	0.54	28.31	11.85	3.03
900	13.00	18.38	31.72	25.39	1.19	0.54	27.99	11.65	3.04
940	12.95	18.37	32.11	25.19	1.20	0.54	28.10	11.74	3.09
1000	12.92	18.36	32.63	25.15	1.20	0.53	27.73	11.66	3.05
1050	12.88	18.34	33.55	24.94	1.20	0.53	27.97	11.57	3.04
1100	12.84	18.32	33.68	24.65	1.20	0.53	27.42	11.53	3.07
1150	12.81	18.32	33.94	24.39	1.20	0.53	27.47	11.38	3.15
1200	12.75	18.31	35.24	23.92	1.21	0.53	27.15	11.35	3.13
1250	12.71	18.29	35.33	23.68	1.21	0.52	27.57	11.31	3.12
1300	12.67	18.28	36.71	23.09	1.21	0.52	27.17	11.26	3.13
1350	12.63	18.25	37.26	22.85	1.21	0.52	27.38	11.19	3.14
1400	12.58	18.25	36.25	22.33	1.21	0.52	26.90	11.30	3.15
1450	12.52	18.22	36.10	21.96	1.22	0.52	26.93	11.17	3.18
1500	12.49	18.22	35.76	21.46	1.22	0.52	26.85	11.16	3.22
1550	12.43	18.23	36.86	21.24	1.22	0.51	27.06	11.05	3.16
1600	12.39	18.18	35.03	20.81	1.22	0.51	27.11	10.95	3.19
1650	12.32	18.16	34.76	20.36	1.22	0.51	27.12	10.94	3.18
1700	12.27	18.14	33.89	20.08	1.23	0.51	27.23	10.86	3.19
1750	12.20	18.13	33.20	19.62	1.23	0.50	26.87	10.77	3.11
1800	12.16	18.12	32.82	19.43	1.23	0.50	26.55	10.67	3.12
1850	12.10	18.08	32.70	19.02	1.23	0.50	25.78	10.65	3.13
1900	12.04	18.06	31.60	18.76	1.23	0.50	25.76	10.44	3.14
1950	11.98	18.04	30.91	18.39	1.24	0.50	25.62	10.52	3.09
2000	11.94	18.05	30.08	18.01	1.24	0.49	25.46	10.39	3.09

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Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Icc = 28mA, Vd =5.12V @Temperature = -45degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP3 Output	1dB Comp. Output	Noise Figure
					K	Delta			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(dBm)	(dBm)	(dB)
50	13.11	18.40	26.01	22.68	1.19	0.55	24.61	9.75	2.96
100	13.11	18.33	24.96	22.15	1.18	0.55	24.55	9.66	3.01
150	13.11	18.37	24.51	21.62	1.18	0.55	25.10	9.72	3.02
200	13.08	18.37	24.38	21.65	1.19	0.55	24.93	9.67	3.04
250	13.07	18.38	24.84	22.14	1.19	0.55	23.85	9.60	3.00
300	13.07	18.36	25.73	22.74	1.19	0.55	24.77	9.73	3.12
350	13.05	18.36	26.66	23.63	1.19	0.55	24.41	9.59	3.08
400	13.06	18.33	27.22	23.98	1.19	0.55	24.61	9.81	3.06
450	13.03	18.34	27.66	24.21	1.19	0.55	23.98	9.51	3.06
500	13.01	18.33	27.38	24.13	1.19	0.54	24.51	9.61	3.03
550	12.98	18.31	27.60	24.07	1.19	0.54	23.95	9.49	3.08
600	12.97	18.31	27.46	24.22	1.19	0.54	24.24	9.59	3.07
650	12.95	18.32	27.83	24.32	1.19	0.54	23.96	9.62	3.07
700	12.90	18.29	27.90	24.54	1.20	0.54	24.19	9.45	3.06
750	12.89	18.28	28.08	24.41	1.20	0.54	24.43	9.64	3.05
800	12.86	18.28	28.09	24.39	1.20	0.54	24.59	9.29	3.04
850	12.82	18.27	28.06	24.09	1.20	0.54	24.47	9.65	3.01
900	12.80	18.24	28.21	24.21	1.20	0.54	24.18	9.31	2.98
940	12.77	18.25	28.43	24.19	1.20	0.53	24.44	9.51	3.01
1000	12.72	18.23	28.88	24.28	1.20	0.53	24.05	9.47	3.00
1050	12.70	18.20	29.32	24.27	1.20	0.53	24.45	9.34	3.01
1100	12.65	18.20	29.44	24.14	1.21	0.53	23.98	9.43	3.04
1150	12.62	18.17	29.81	24.07	1.21	0.53	24.21	9.28	3.13
1200	12.57	18.18	30.39	23.73	1.21	0.52	23.84	9.36	3.10
1250	12.53	18.15	30.30	23.66	1.21	0.52	24.30	9.17	3.07
1300	12.50	18.15	31.33	23.26	1.21	0.52	24.06	9.28	3.11
1350	12.45	18.11	32.09	23.09	1.21	0.52	24.38	9.13	3.10
1400	12.40	18.09	31.48	22.69	1.21	0.52	23.96	9.22	3.12
1450	12.35	18.09	31.51	22.38	1.22	0.51	23.99	9.30	3.14
1500	12.32	18.07	31.66	21.95	1.22	0.51	24.03	9.33	3.19
1550	12.26	18.10	32.21	21.77	1.23	0.51	24.25	9.17	3.14
1600	12.21	18.06	31.60	21.35	1.23	0.51	24.25	9.19	3.14
1650	12.15	18.01	31.80	20.91	1.23	0.51	24.33	9.11	3.14
1700	12.10	18.00	31.12	20.66	1.23	0.50	24.57	9.20	3.13
1750	12.06	17.99	30.70	20.19	1.23	0.50	24.49	9.07	3.06
1800	12.00	17.96	30.85	20.01	1.23	0.50	24.33	9.26	3.07
1850	11.93	17.95	30.89	19.61	1.24	0.50	23.74	9.02	3.11
1900	11.88	17.93	30.28	19.32	1.24	0.50	23.58	9.15	3.07
1950	11.84	17.90	29.86	18.92	1.24	0.49	23.67	9.04	3.04
2000	11.78	17.89	29.28	18.61	1.24	0.49	23.50	9.06	3.06

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MMIC Amplifier

MAR-3+

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: Icc = 42mA, Vd = 5.30V @Temperature = -45degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP3 Output	1dB Comp. Output	Noise Figure
					K	Delta			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(dBm)	(dBm)	(dB)
50	13.45	18.50	31.00	26.41	1.17	0.56	32.27	12.92	3.06
100	13.45	18.56	29.15	25.86	1.18	0.56	32.40	12.98	3.06
150	13.44	18.55	28.27	24.91	1.18	0.56	33.17	12.99	3.11
200	13.42	18.55	28.03	24.89	1.18	0.56	33.16	13.03	3.14
250	13.40	18.60	28.93	25.74	1.18	0.55	30.98	13.01	3.09
300	13.40	18.57	30.19	26.76	1.18	0.55	32.47	12.86	3.20
350	13.38	18.59	32.00	27.83	1.18	0.55	32.00	13.07	3.18
400	13.37	18.57	32.97	28.23	1.18	0.55	32.10	12.72	3.13
450	13.35	18.58	33.78	28.27	1.19	0.55	31.32	13.06	3.13
500	13.33	18.56	33.60	27.97	1.19	0.55	31.65	12.75	3.16
550	13.30	18.54	33.61	27.77	1.19	0.55	31.11	12.94	3.16
600	13.29	18.54	33.71	27.55	1.19	0.55	31.24	12.69	3.15
650	13.26	18.53	34.09	27.58	1.19	0.55	30.76	12.78	3.13
700	13.22	18.51	34.46	27.48	1.19	0.54	30.95	12.84	3.19
750	13.20	18.51	34.42	26.90	1.19	0.54	31.38	12.81	3.14
800	13.17	18.50	34.91	26.55	1.19	0.54	31.51	12.82	3.15
850	13.12	18.49	34.61	26.08	1.19	0.54	31.19	12.78	3.12
900	13.11	18.48	35.28	25.91	1.19	0.54	30.84	12.76	3.07
940	13.07	18.47	35.92	25.63	1.20	0.54	30.92	12.70	3.13
1000	13.02	18.45	36.46	25.40	1.20	0.54	30.31	12.65	3.09
1050	13.00	18.43	37.87	25.04	1.20	0.53	30.36	12.55	3.08
1100	12.95	18.42	37.88	24.63	1.20	0.53	29.89	12.50	3.15
1150	12.91	18.41	38.63	24.28	1.20	0.53	29.70	12.22	3.21
1200	12.86	18.41	41.22	23.72	1.21	0.53	29.44	12.04	3.14
1250	12.82	18.37	40.82	23.42	1.21	0.53	29.63	12.12	3.15
1300	12.79	18.37	41.69	22.83	1.21	0.53	29.26	11.97	3.21
1350	12.72	18.34	41.38	22.51	1.21	0.52	29.31	12.00	3.22
1400	12.68	18.32	40.64	21.96	1.21	0.52	28.85	11.92	3.21
1450	12.63	18.33	38.29	21.56	1.22	0.52	28.91	11.84	3.26
1500	12.59	18.29	37.44	21.10	1.22	0.52	28.83	11.81	3.31
1550	12.53	18.31	38.27	20.81	1.22	0.51	29.06	11.79	3.23
1600	12.48	18.28	35.95	20.41	1.22	0.51	28.97	11.64	3.20
1650	12.42	18.25	35.45	19.96	1.22	0.51	28.89	11.64	3.23
1700	12.36	18.24	34.53	19.65	1.23	0.51	28.98	11.36	3.28
1750	12.32	18.21	33.47	19.21	1.23	0.51	28.42	11.45	3.20
1800	12.26	18.19	33.03	19.03	1.23	0.50	28.12	11.15	3.16
1850	12.20	18.16	32.78	18.64	1.23	0.50	27.12	11.20	3.21
1900	12.14	18.16	31.42	18.37	1.23	0.50	27.14	10.93	3.18
1950	12.09	18.13	30.74	17.99	1.24	0.50	26.86	11.02	3.15
2000	12.03	18.13	29.89	17.65	1.24	0.50	26.79	10.88	3.14

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MMIC Amplifier

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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: Icc = 35mA, Vd = 4.69V @Temperature = +85degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP3 Output	1dB Comp. Output	Noise Figure
					K	Delta			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(dBm)	(dBm)	(dB)
50	13.06	18.33	28.99	24.15	1.19	0.55	27.91	11.48	4.23
100	13.06	18.34	30.08	25.20	1.19	0.55	28.58	11.53	4.30
150	13.05	18.32	31.99	26.04	1.19	0.55	29.52	11.57	4.30
200	13.03	18.34	32.44	26.60	1.19	0.54	30.63	11.48	4.33
250	12.99	18.34	32.76	26.42	1.19	0.54	28.01	11.56	4.29
300	12.99	18.35	31.30	25.59	1.19	0.54	29.97	11.37	4.35
350	12.95	18.37	30.21	25.17	1.20	0.54	29.26	11.50	4.37
400	12.94	18.36	29.10	24.52	1.20	0.54	29.40	11.30	4.33
450	12.91	18.36	28.89	24.47	1.20	0.54	28.21	11.51	4.32
500	12.88	18.37	28.75	24.34	1.20	0.53	28.66	11.32	4.34
550	12.86	18.34	28.68	24.48	1.20	0.53	27.91	11.40	4.36
600	12.83	18.34	28.79	24.56	1.21	0.53	28.04	11.28	4.39
650	12.80	18.34	28.86	24.58	1.21	0.53	27.58	11.33	4.37
700	12.75	18.33	28.94	24.65	1.21	0.53	27.76	11.27	4.40
750	12.72	18.32	28.62	24.54	1.21	0.53	27.94	11.23	4.39
800	12.68	18.31	28.96	24.54	1.21	0.52	28.14	11.23	4.39
850	12.64	18.31	28.53	24.37	1.22	0.52	27.68	11.22	4.38
900	12.61	18.30	28.69	24.51	1.22	0.52	27.34	11.12	4.37
940	12.57	18.30	28.87	24.46	1.22	0.52	27.29	11.07	4.38
1000	12.52	18.29	28.88	24.40	1.22	0.52	26.66	11.01	4.34
1050	12.48	18.28	29.46	24.29	1.23	0.51	26.59	10.91	4.36
1100	12.43	18.26	29.40	24.14	1.23	0.51	26.06	10.87	4.44
1150	12.40	18.25	29.80	24.08	1.23	0.51	25.84	10.68	4.47
1200	12.33	18.25	30.43	23.79	1.24	0.51	25.67	10.52	4.42
1250	12.29	18.23	30.53	23.74	1.24	0.50	25.80	10.43	4.43
1300	12.24	18.21	31.22	23.25	1.24	0.50	25.35	10.36	4.51
1350	12.19	18.19	32.14	23.04	1.24	0.50	25.36	10.21	4.49
1400	12.12	18.18	32.06	22.53	1.25	0.50	24.86	10.30	4.50
1450	12.05	18.16	32.85	22.13	1.25	0.49	24.88	10.15	4.57
1500	12.03	18.14	33.09	21.65	1.25	0.49	24.79	10.13	4.63
1550	11.95	18.14	33.57	21.43	1.26	0.49	25.00	9.98	4.57
1600	11.90	18.15	33.27	20.92	1.26	0.49	24.94	9.81	4.51
1650	11.83	18.11	33.34	20.44	1.26	0.48	24.81	9.85	4.55
1700	11.77	18.09	33.00	20.15	1.26	0.48	24.75	9.69	4.57
1750	11.69	18.07	32.48	19.68	1.27	0.48	24.32	9.65	4.49
1800	11.64	18.05	32.09	19.43	1.27	0.48	23.90	9.49	4.51
1850	11.57	18.04	31.81	18.99	1.27	0.47	23.15	9.49	4.49
1900	11.50	18.02	30.81	18.71	1.28	0.47	23.07	9.24	4.49
1950	11.43	17.99	30.21	18.40	1.28	0.47	22.84	9.23	4.45
2000	11.37	17.98	29.29	18.15	1.28	0.46	22.76	9.12	4.49

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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: Icc = 28mA, Vd = 4.61V @Temperature = +85degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP3 Output	1dB Comp. Output	Noise Figure
					K	Delta			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(dBm)	(dBm)	(dB)
50	12.79	18.12	25.29	21.58	1.19	0.55	24.11	9.79	4.19
100	12.79	18.19	26.21	22.32	1.20	0.54	24.34	9.66	4.23
150	12.77	18.16	27.53	23.07	1.20	0.54	25.13	9.83	4.28
200	12.76	18.17	27.78	23.30	1.20	0.54	25.13	9.73	4.32
250	12.72	18.17	27.66	23.34	1.20	0.54	23.66	9.70	4.26
300	12.72	18.17	27.13	22.81	1.20	0.54	24.91	9.68	4.32
350	12.68	18.15	26.32	22.44	1.20	0.54	24.45	9.68	4.33
400	12.67	18.17	25.68	22.17	1.20	0.53	24.63	9.68	4.32
450	12.64	18.18	25.57	21.98	1.21	0.53	23.82	9.59	4.30
500	12.61	18.17	25.31	22.02	1.21	0.53	24.31	9.67	4.32
550	12.59	18.19	25.57	22.11	1.21	0.53	23.74	9.51	4.35
600	12.55	18.17	25.36	22.24	1.21	0.53	23.98	9.54	4.35
650	12.53	18.18	25.58	22.40	1.21	0.53	23.66	9.57	4.34
700	12.48	18.16	25.53	22.38	1.22	0.52	23.86	9.47	4.36
750	12.46	18.15	25.42	22.43	1.22	0.52	24.16	9.66	4.32
800	12.41	18.14	25.44	22.62	1.22	0.52	24.30	9.28	4.37
850	12.39	18.14	25.44	22.55	1.22	0.52	24.09	9.59	4.31
900	12.35	18.12	25.39	22.72	1.22	0.52	23.74	9.42	4.29
940	12.31	18.11	25.39	22.81	1.23	0.52	23.94	9.44	4.37
1000	12.27	18.11	25.54	22.89	1.23	0.51	23.44	9.28	4.28
1050	12.23	18.09	25.96	23.06	1.23	0.51	23.67	9.26	4.35
1100	12.19	18.08	26.01	23.02	1.23	0.51	23.13	9.26	4.36
1150	12.14	18.07	26.11	23.14	1.24	0.51	23.20	9.11	4.43
1200	12.08	18.06	26.48	23.09	1.24	0.50	22.90	9.08	4.39
1250	12.04	18.06	26.64	23.28	1.24	0.50	23.20	8.94	4.38
1300	12.01	18.03	27.17	22.98	1.24	0.50	22.91	8.97	4.50
1350	11.95	18.02	27.61	22.92	1.25	0.50	23.09	8.88	4.48
1400	11.88	18.00	27.49	22.65	1.25	0.49	22.63	9.04	4.44
1450	11.82	17.98	28.03	22.38	1.25	0.49	22.67	8.93	4.49
1500	11.80	17.97	28.35	21.97	1.25	0.49	22.63	8.95	4.55
1550	11.72	17.96	28.47	21.84	1.26	0.49	22.82	8.74	4.48
1600	11.67	17.96	28.59	21.40	1.26	0.48	22.79	8.73	4.50
1650	11.60	17.92	28.81	20.99	1.26	0.48	22.79	8.68	4.47
1700	11.53	17.91	28.55	20.77	1.27	0.48	22.86	8.55	4.52
1750	11.47	17.88	28.46	20.26	1.27	0.47	22.56	8.50	4.46
1800	11.42	17.89	28.54	20.04	1.27	0.47	22.30	8.58	4.45
1850	11.36	17.85	28.54	19.66	1.28	0.47	21.65	8.34	4.48
1900	11.28	17.85	27.96	19.40	1.28	0.47	21.51	8.27	4.44
1950	11.21	17.80	27.48	19.07	1.28	0.46	21.42	8.27	4.43
2000	11.16	17.81	26.99	18.76	1.29	0.46	21.30	8.14	4.45

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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: Icc = 42mA, Vd = 4.78V @Temperature = +85degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP3 Output	1dB Comp. Output	Noise Figure
					K	Delta			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(dBm)	(dBm)	(dB)
50	13.23	18.48	31.76	26.34	1.19	0.55	30.82	12.12	4.31
100	13.23	18.45	33.77	27.76	1.18	0.55	31.94	12.15	4.32
150	13.21	18.44	36.76	28.80	1.19	0.55	32.31	12.11	4.34
200	13.19	18.47	37.93	29.46	1.19	0.54	35.99	12.10	4.37
250	13.17	18.47	38.12	29.07	1.19	0.54	32.39	12.21	4.34
300	13.14	18.47	35.83	28.01	1.19	0.54	35.75	11.90	4.38
350	13.12	18.48	33.92	27.22	1.20	0.54	34.96	12.26	4.44
400	13.09	18.47	32.36	26.45	1.20	0.54	34.67	11.78	4.37
450	13.08	18.48	31.99	26.40	1.20	0.54	32.38	12.23	4.40
500	13.05	18.48	31.59	26.03	1.20	0.54	32.76	11.96	4.37
550	13.00	18.47	31.95	26.20	1.20	0.53	31.57	12.01	4.43
600	12.99	18.48	31.65	26.09	1.20	0.53	31.41	11.93	4.43
650	12.96	18.46	32.04	26.17	1.21	0.53	30.51	11.88	4.43
700	12.92	18.45	32.03	26.03	1.21	0.53	30.66	11.88	4.45
750	12.88	18.45	31.68	25.82	1.21	0.53	30.60	11.78	4.44
800	12.85	18.43	31.85	25.67	1.21	0.53	30.67	11.96	4.45
850	12.79	18.42	31.63	25.46	1.22	0.52	30.02	11.82	4.41
900	12.76	18.42	31.69	25.41	1.22	0.52	29.74	11.73	4.42
940	12.73	18.42	31.79	25.24	1.22	0.52	29.56	11.67	4.44
1000	12.67	18.41	32.01	25.05	1.22	0.52	28.74	11.63	4.40
1050	12.63	18.38	32.90	24.76	1.22	0.52	28.30	11.49	4.41
1100	12.58	18.35	33.04	24.49	1.22	0.51	27.93	11.37	4.46
1150	12.55	18.36	33.34	24.28	1.23	0.51	27.41	11.23	4.53
1200	12.48	18.37	34.20	23.85	1.23	0.51	27.34	10.99	4.53
1250	12.43	18.34	34.48	23.71	1.24	0.51	27.35	10.96	4.51
1300	12.38	18.33	35.87	23.10	1.24	0.50	26.83	10.87	4.58
1350	12.33	18.30	37.28	22.82	1.24	0.50	26.67	10.86	4.54
1400	12.27	18.28	36.98	22.24	1.24	0.50	26.29	10.78	4.55
1450	12.21	18.27	38.08	21.80	1.25	0.50	26.33	10.64	4.63
1500	12.16	18.26	38.44	21.22	1.25	0.49	26.18	10.61	4.66
1550	12.10	18.27	39.09	21.02	1.25	0.49	26.41	10.51	4.60
1600	12.03	18.24	37.74	20.46	1.26	0.49	26.26	10.27	4.64
1650	11.96	18.22	37.39	20.01	1.26	0.48	26.10	10.41	4.60
1700	11.90	18.20	36.31	19.71	1.26	0.48	25.95	10.14	4.61
1750	11.85	18.19	34.74	19.21	1.26	0.48	25.40	10.13	4.59
1800	11.77	18.18	33.96	18.97	1.27	0.48	24.97	9.94	4.58
1850	11.70	18.15	33.37	18.52	1.27	0.47	24.18	9.96	4.55
1900	11.65	18.14	31.81	18.29	1.27	0.47	24.10	9.70	4.55
1950	11.58	18.14	31.11	17.99	1.28	0.47	23.88	9.74	4.52
2000	11.51	18.12	30.16	17.70	1.28	0.47	23.82	9.58	4.57

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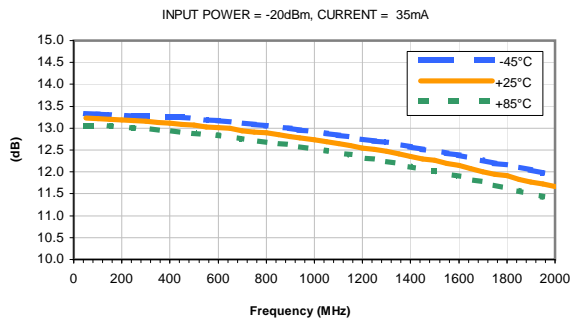


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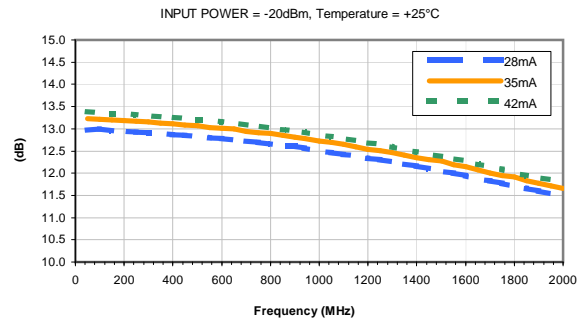


Typical Performance Curves

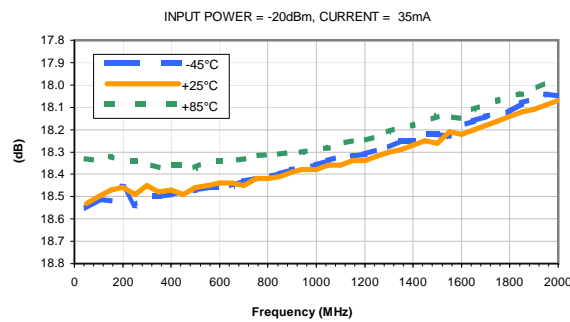
GAIN vs. TEMPERATURE



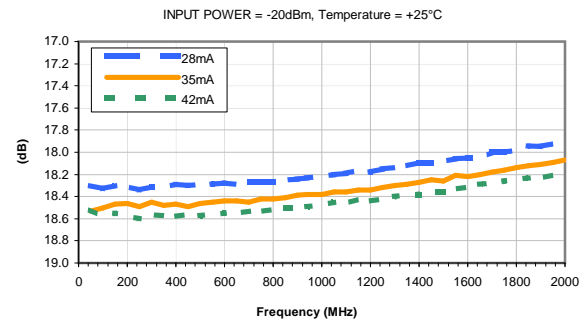
GAIN vs. CURRENT



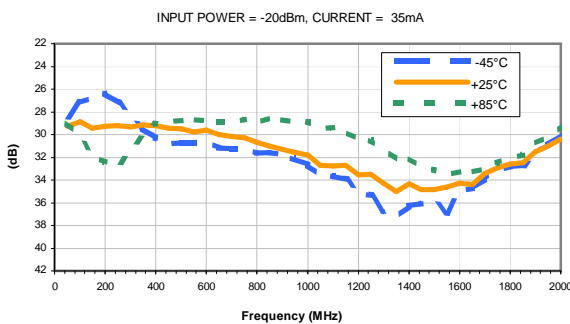
ISOLATION vs. TEMPERATURE



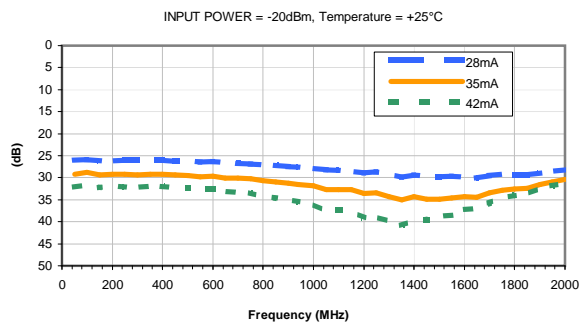
ISOLATION vs. CURRENT



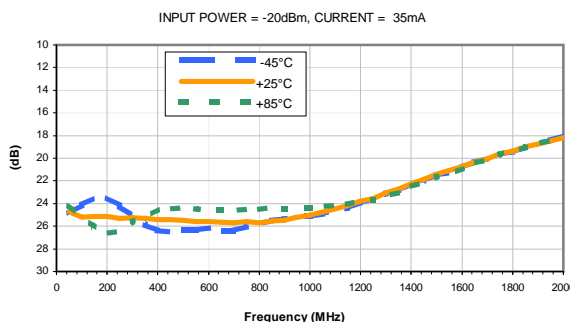
INPUT RETURN LOSS vs. TEMPERATURE



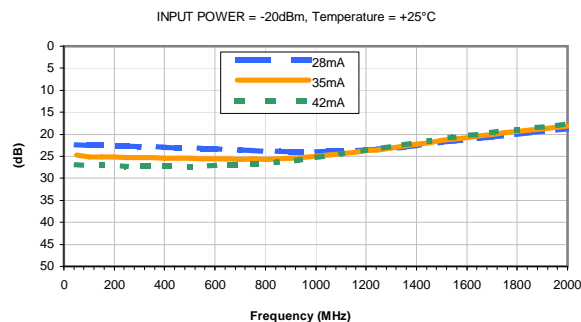
INPUT RETURN LOSS vs. CURRENT



OUTPUT RETURN LOSS vs. TEMPERATURE



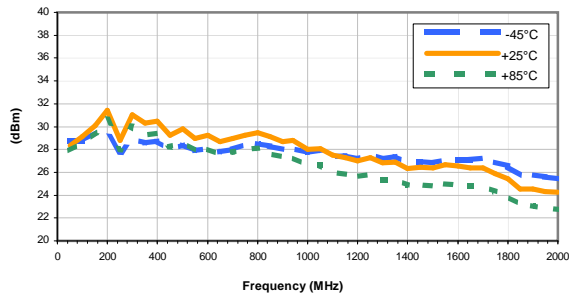
OUTPUT RETURN LOSS vs. CURRENT



Typical Performance Curves

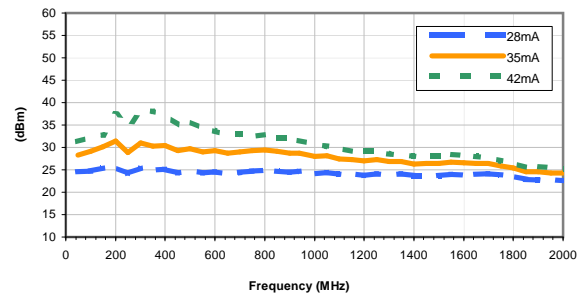
OUTPUT IP3 vs. TEMPERATURE

INPUT POWER = -20dBm, CURRENT = 35mA



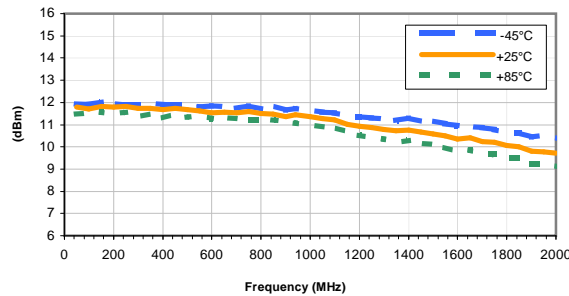
OUTPUT IP-3 vs. CURRENT

INPUT POWER = -20dBm, Temperature = +25°C



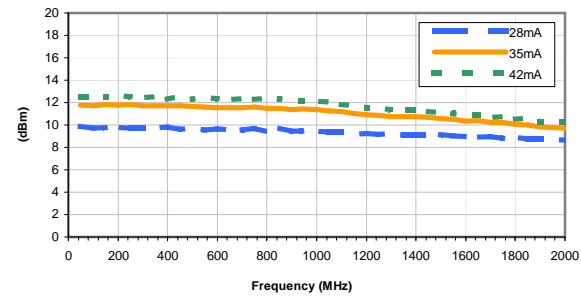
OUTPUT POWER at 1dB Compression vs. TEMPERATURE

CURRENT = 35mA



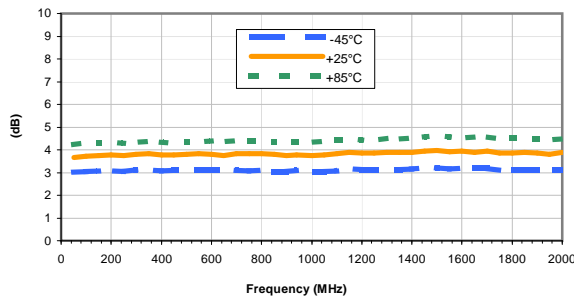
OUTPUT POWER at 1dB Compression vs. CURRENT

Temperature = +25°C



Noise Figure vs. TEMPERATURE

CURRENT = 35mA



Noise Figure vs. CURRENT

Temperature = +25°C

