

MMIC Amplifier

ERA-2SM+

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 = 40mA, Vd = 3.43V @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	16.34	19.72	33.63	31.10	1.07	0.68	29.48	13.77	3.13
100	16.33	19.78	34.04	30.03	1.08	0.67	29.39	13.69	3.14
200	16.27	19.77	33.71	29.05	1.08	0.67	29.76	13.87	3.18
300	16.22	19.78	33.24	28.57	1.08	0.66	29.58	13.83	3.17
400	16.16	19.79	32.85	27.70	1.09	0.66	29.41	13.71	3.14
500	16.09	19.77	32.38	26.53	1.09	0.65	29.20	13.73	3.19
600	16.01	19.76	31.70	25.45	1.09	0.65	29.08	13.73	3.21
700	15.94	19.75	30.87	24.57	1.09	0.64	29.08	13.76	3.19
800	15.86	19.76	30.24	23.60	1.10	0.64	29.51	13.65	3.25
900	15.77	19.75	29.34	22.60	1.10	0.63	29.10	13.49	3.22
1000	15.69	19.75	28.66	21.92	1.10	0.62	29.06	13.53	3.16
1100	15.61	19.75	27.96	21.31	1.11	0.62	29.24	13.39	3.24
1200	15.52	19.76	27.46	20.71	1.11	0.61	29.27	13.45	3.21
1300	15.43	19.76	27.18	20.22	1.11	0.60	29.10	13.56	3.28
1400	15.33	19.76	26.86	19.71	1.12	0.60	29.11	13.47	3.31
1500	15.24	19.77	26.45	19.28	1.12	0.59	29.29	13.49	3.24
1600	15.14	19.79	26.07	18.92	1.13	0.58	29.53	13.43	3.27
1700	15.05	19.80	25.96	18.62	1.13	0.57	30.02	13.54	3.30
1800	14.94	19.80	25.97	18.33	1.14	0.57	29.99	13.56	3.33
2000	14.76	19.82	25.90	17.89	1.15	0.55	29.70	13.60	3.34
2200	14.55	19.86	25.75	17.53	1.17	0.54	29.49	13.62	3.30
2400	14.35	19.90	25.86	17.26	1.18	0.52	29.22	13.40	3.21
2600	14.15	19.95	25.78	17.16	1.20	0.51	28.96	13.32	3.27
2800	13.93	20.00	25.76	17.09	1.22	0.49	29.08	13.31	3.28
3000	13.73	20.05	25.64	17.15	1.25	0.48	28.88	13.28	3.24
3200	13.54	20.10	25.68	17.30	1.27	0.46	28.46	13.04	3.28
3400	13.34	20.18	25.32	17.37	1.30	0.45	28.19	12.82	3.30
3600	13.13	20.31	24.79	17.41	1.33	0.43	27.31	12.50	3.37
3800	12.96	20.36	24.82	17.66	1.36	0.42	26.77	12.50	3.34
4000	12.77	20.46	24.67	17.80	1.39	0.41	26.35	12.33	3.33
4200	12.62	20.48	25.79	18.07	1.41	0.40	25.88	12.26	3.34
4400	12.46	20.54	27.02	18.48	1.44	0.39	25.71	11.91	3.31
4600	12.23	20.74	26.97	18.22	1.49	0.37	25.19	11.86	3.41
4800	12.07	20.83	28.73	18.54	1.53	0.36	24.96	11.88	3.46
5000	11.88	20.89	31.45	18.69	1.57	0.35	25.08	11.56	3.45
5200	11.77	20.96	37.23	19.36	1.60	0.35	25.04	11.22	3.54
5400	11.62	21.02	42.10	19.62	1.63	0.34	24.75	10.91	3.48
5600	11.37	21.08	32.11	19.61	1.67	0.33	24.17	10.62	3.43
5800	11.14	21.20	28.39	19.31	1.73	0.32	23.54	10.74	3.48
6000	11.07	21.49	28.36	19.52	1.79	0.30	23.41	10.66	3.64

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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 = 32mA, Vd = 3.33V @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	16.11	19.58	27.86	43.29	1.08	0.67	26.04	11.86	3.11
100	16.08	19.60	28.38	38.65	1.08	0.67	25.93	11.51	3.11
200	16.03	19.60	28.35	35.31	1.08	0.66	26.22	11.89	3.13
300	15.98	19.60	28.39	34.24	1.09	0.66	26.15	11.93	3.10
400	15.93	19.60	28.28	31.85	1.09	0.65	26.00	11.58	3.11
500	15.86	19.58	28.41	29.82	1.09	0.65	25.86	11.83	3.19
600	15.79	19.58	28.44	28.13	1.09	0.65	25.77	11.61	3.19
700	15.71	19.57	28.38	26.86	1.10	0.64	25.74	11.89	3.17
800	15.63	19.58	28.17	25.51	1.10	0.63	26.12	11.75	3.18
900	15.56	19.58	27.96	24.17	1.10	0.63	25.75	11.38	3.19
1000	15.47	19.57	27.72	23.36	1.11	0.62	25.71	11.62	3.13
1100	15.39	19.57	27.41	22.60	1.11	0.61	25.91	11.19	3.22
1200	15.30	19.59	27.18	21.92	1.11	0.61	25.91	11.43	3.15
1300	15.22	19.59	27.05	21.29	1.12	0.60	25.86	11.62	3.26
1400	15.14	19.59	26.88	20.66	1.12	0.59	25.92	11.48	3.24
1500	15.03	19.62	26.64	20.16	1.13	0.59	26.06	11.59	3.23
1600	14.94	19.62	26.39	19.78	1.13	0.58	26.24	11.47	3.23
1700	14.85	19.63	26.33	19.39	1.14	0.57	26.61	11.77	3.26
1800	14.76	19.64	26.39	19.05	1.14	0.56	26.72	11.78	3.30
2000	14.57	19.68	26.45	18.56	1.16	0.55	26.54	11.84	3.27
2200	14.38	19.72	26.20	18.13	1.17	0.54	26.50	11.88	3.22
2400	14.17	19.78	26.31	17.80	1.19	0.52	26.51	11.62	3.18
2600	13.98	19.81	26.03	17.65	1.21	0.51	26.62	11.44	3.20
2800	13.77	19.89	25.94	17.56	1.23	0.49	26.98	11.68	3.23
3000	13.58	19.95	25.71	17.58	1.26	0.48	26.97	11.90	3.22
3200	13.39	20.01	25.64	17.72	1.28	0.46	26.75	11.87	3.26
3400	13.19	20.09	25.23	17.76	1.31	0.45	26.65	11.72	3.27
3600	12.98	20.22	24.81	17.75	1.34	0.43	26.05	11.53	3.28
3800	12.82	20.28	24.79	18.00	1.37	0.42	25.62	11.55	3.30
4000	12.64	20.40	24.70	18.10	1.40	0.41	25.27	11.54	3.28
4200	12.48	20.45	25.93	18.37	1.43	0.40	24.85	11.43	3.27
4400	12.32	20.51	27.26	18.81	1.46	0.39	24.66	11.13	3.27
4600	12.10	20.72	27.78	18.50	1.51	0.37	24.23	11.01	3.40
4800	11.95	20.82	30.03	18.82	1.55	0.36	24.03	11.10	3.42
5000	11.75	20.91	34.60	18.99	1.59	0.35	24.17	10.86	3.41
5200	11.65	20.99	39.85	19.66	1.62	0.34	24.06	10.53	3.48
5400	11.50	21.07	36.15	19.94	1.66	0.33	23.69	10.29	3.46
5600	11.25	21.12	30.79	19.95	1.70	0.32	23.20	9.97	3.38
5800	11.01	21.29	27.93	19.68	1.77	0.31	22.71	10.05	3.42
6000	10.94	21.61	26.80	19.83	1.84	0.30	22.61	9.94	3.51

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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: I_{cc} = 48mA, V_d = 3.49V @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	16.49	19.88	40.53	27.65	1.08	0.68	32.18	15.07	3.18
100	16.47	19.89	40.93	27.06	1.08	0.67	32.10	15.11	3.19
200	16.41	19.93	38.62	26.45	1.08	0.67	32.47	15.11	3.21
300	16.36	19.91	36.90	26.18	1.08	0.66	32.23	15.05	3.20
400	16.30	19.90	35.59	25.57	1.08	0.66	32.03	15.02	3.20
500	16.23	19.89	33.88	24.68	1.09	0.66	31.77	14.98	3.24
600	16.15	19.88	32.43	23.84	1.09	0.65	31.64	15.08	3.24
700	16.08	19.87	31.20	23.23	1.09	0.64	31.54	14.96	3.23
800	15.99	19.87	30.31	22.41	1.09	0.64	31.99	14.80	3.29
900	15.91	19.87	29.13	21.57	1.10	0.63	31.64	14.76	3.24
1000	15.83	19.87	28.31	21.04	1.10	0.63	31.51	14.75	3.18
1100	15.74	19.86	27.53	20.51	1.10	0.62	31.62	14.63	3.28
1200	15.65	19.87	26.97	19.99	1.11	0.61	31.61	14.62	3.23
1300	15.55	19.86	26.61	19.54	1.11	0.60	31.33	14.70	3.33
1400	15.46	19.87	26.24	19.08	1.11	0.60	31.38	14.74	3.36
1500	15.36	19.88	25.82	18.71	1.12	0.59	31.56	14.63	3.32
1600	15.26	19.89	25.42	18.39	1.13	0.58	31.74	14.57	3.29
1700	15.17	19.90	25.30	18.13	1.13	0.57	32.20	14.48	3.34
1800	15.06	19.91	25.29	17.87	1.14	0.57	31.92	14.57	3.36
2000	14.87	19.93	25.20	17.48	1.15	0.55	31.53	14.55	3.39
2200	14.67	19.95	25.08	17.15	1.16	0.54	31.18	14.49	3.33
2400	14.45	19.99	25.20	16.91	1.18	0.52	30.58	14.41	3.25
2600	14.26	20.03	25.23	16.86	1.20	0.51	29.96	14.27	3.28
2800	14.03	20.08	25.27	16.80	1.22	0.49	29.80	14.15	3.31
3000	13.83	20.13	25.26	16.88	1.24	0.48	29.52	13.90	3.28
3200	13.64	20.17	25.33	17.04	1.26	0.46	29.16	13.60	3.36
3400	13.43	20.25	25.05	17.13	1.29	0.45	28.68	13.38	3.35
3600	13.22	20.36	24.48	17.21	1.32	0.43	27.90	13.02	3.41
3800	13.05	20.41	24.52	17.47	1.35	0.42	27.24	12.98	3.39
4000	12.87	20.50	24.33	17.63	1.38	0.41	26.84	12.81	3.38
4200	12.70	20.53	25.27	17.89	1.40	0.40	26.42	12.75	3.42
4400	12.54	20.56	26.29	18.31	1.43	0.39	26.20	12.41	3.41
4600	12.31	20.75	25.90	18.06	1.48	0.37	25.70	12.40	3.54
4800	12.16	20.82	27.10	18.39	1.51	0.36	25.43	12.39	3.55
5000	11.96	20.89	28.56	18.53	1.55	0.35	25.53	12.07	3.58
5200	11.85	20.95	31.63	19.19	1.58	0.35	25.49	11.65	3.59
5400	11.70	20.99	33.79	19.45	1.61	0.34	25.25	11.37	3.55
5600	11.45	21.02	29.98	19.39	1.65	0.33	24.69	11.07	3.54
5800	11.21	21.14	27.15	19.09	1.71	0.32	23.98	11.19	3.61
6000	11.15	21.42	27.99	19.35	1.76	0.31	23.79	11.10	3.70

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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 = 40mA, Vd = 3.60V @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	16.41	19.69	31.19	32.95	1.07	0.68	30.34	13.96	2.75
100	16.40	19.74	31.32	32.12	1.07	0.68	30.26	13.94	2.70
200	16.36	19.75	31.23	30.95	1.08	0.68	30.59	14.07	2.68
300	16.32	19.72	31.43	29.78	1.08	0.67	30.51	14.09	2.80
400	16.26	19.73	30.84	28.80	1.08	0.67	30.35	13.93	2.68
500	16.20	19.71	31.09	27.30	1.08	0.67	30.21	14.02	2.73
600	16.13	19.69	30.44	26.02	1.08	0.66	30.06	13.96	2.74
700	16.06	19.69	29.73	25.14	1.08	0.66	30.06	14.07	2.72
800	15.98	19.69	29.33	23.78	1.09	0.65	30.52	13.95	2.74
900	15.91	19.69	28.92	22.50	1.09	0.64	30.15	13.71	2.74
1000	15.83	19.67	28.77	21.62	1.09	0.64	30.09	13.78	2.67
1100	15.74	19.68	27.99	20.93	1.09	0.63	30.33	13.62	2.72
1200	15.66	19.68	27.48	20.54	1.10	0.63	30.37	13.82	2.70
1300	15.57	19.68	27.20	20.02	1.10	0.62	30.25	13.85	2.75
1400	15.48	19.68	26.67	19.36	1.10	0.61	30.27	13.75	2.79
1500	15.39	19.70	25.84	19.07	1.11	0.60	30.55	13.80	2.75
1600	15.29	19.74	25.07	18.69	1.11	0.59	30.73	13.80	2.77
1700	15.21	19.70	25.65	18.29	1.12	0.59	31.20	13.93	2.77
1800	15.11	19.72	25.57	17.91	1.12	0.58	31.22	13.96	2.81
2000	14.93	19.71	24.73	17.97	1.13	0.57	31.06	14.02	2.81
2200	14.73	19.76	25.21	17.10	1.15	0.55	30.92	14.03	2.73
2400	14.54	19.79	25.12	17.04	1.16	0.54	30.59	13.91	2.67
2600	14.35	19.82	24.91	17.12	1.18	0.52	30.34	13.82	2.70
2800	14.13	19.88	24.74	16.87	1.20	0.51	30.41	13.85	2.72
3000	13.95	19.91	24.65	17.22	1.22	0.50	30.27	13.97	2.71
3200	13.75	19.97	25.08	17.02	1.24	0.48	30.15	13.80	2.72
3400	13.56	20.02	24.71	17.42	1.26	0.47	29.77	13.65	2.72
3600	13.33	20.17	24.20	17.00	1.29	0.45	29.04	13.41	2.77
3800	13.19	20.19	23.80	17.60	1.31	0.44	28.43	13.38	2.75
4000	12.99	20.32	23.62	17.56	1.34	0.42	27.98	13.23	2.74
4200	12.84	20.30	24.47	17.92	1.36	0.42	27.59	13.15	2.76
4400	12.71	20.37	25.27	18.50	1.39	0.41	27.46	12.85	2.73
4600	12.47	20.47	25.48	18.41	1.43	0.39	26.90	12.79	2.79
4800	12.32	20.64	25.65	18.48	1.47	0.38	26.59	12.86	2.84
5000	12.17	20.56	27.88	19.27	1.48	0.38	26.60	12.58	2.91
5200	11.99	20.70	28.67	19.13	1.52	0.36	26.68	12.20	2.93
5400	11.85	20.80	30.02	19.49	1.56	0.35	26.42	11.98	2.88
5600	11.62	20.83	28.86	19.37	1.60	0.34	26.00	11.67	2.80
5800	11.48	20.89	27.68	19.85	1.63	0.34	25.24	11.77	2.88
6000	11.26	21.01	26.08	19.27	1.68	0.33	24.92	11.66	2.91

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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 = 32mA, Vd = 3.50V @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	16.20	19.57	27.31	49.30	1.07	0.68	26.71	11.77	2.72
100	16.20	19.62	27.41	41.88	1.08	0.67	26.57	11.58	2.69
200	16.16	19.59	27.20	36.41	1.08	0.67	26.85	11.96	2.67
300	16.11	19.57	27.54	34.47	1.08	0.67	26.84	11.94	2.77
400	16.06	19.57	27.36	32.26	1.08	0.67	26.70	11.74	2.64
500	16.00	19.56	27.85	29.84	1.08	0.66	26.59	11.91	2.70
600	15.94	19.54	27.80	28.16	1.08	0.66	26.50	11.68	2.68
700	15.87	19.53	27.57	26.97	1.09	0.65	26.49	11.93	2.68
800	15.79	19.53	27.57	25.23	1.09	0.65	26.86	11.84	2.72
900	15.72	19.54	27.76	23.71	1.09	0.64	26.53	11.37	2.70
1000	15.65	19.52	28.03	22.79	1.09	0.64	26.49	11.58	2.61
1100	15.56	19.54	27.74	22.02	1.10	0.63	26.69	11.23	2.68
1200	15.48	19.54	27.30	21.54	1.10	0.62	26.71	11.58	2.64
1300	15.40	19.53	27.07	20.87	1.10	0.62	26.68	11.75	2.73
1400	15.31	19.54	26.80	20.11	1.11	0.61	26.76	11.52	2.78
1500	15.22	19.54	26.19	19.85	1.11	0.60	26.94	11.67	2.71
1600	15.13	19.60	25.58	19.40	1.12	0.59	27.13	11.56	2.74
1700	15.05	19.56	26.11	18.92	1.12	0.59	27.52	11.85	2.75
1800	14.95	19.57	26.21	18.53	1.13	0.58	27.60	12.00	2.76
2000	14.78	19.59	25.37	18.57	1.14	0.57	27.49	12.01	2.76
2200	14.58	19.65	26.01	17.60	1.15	0.55	27.51	12.13	2.67
2400	14.39	19.68	25.89	17.50	1.17	0.54	27.60	11.77	2.66
2600	14.21	19.70	25.46	17.58	1.18	0.52	27.72	11.59	2.69
2800	13.99	19.77	25.23	17.28	1.20	0.51	28.10	11.90	2.70
3000	13.81	19.82	25.11	17.60	1.22	0.49	28.24	12.21	2.65
3200	13.62	19.88	25.45	17.40	1.24	0.48	28.10	12.30	2.67
3400	13.44	19.94	25.12	17.77	1.27	0.47	28.14	12.22	2.70
3600	13.21	20.10	24.49	17.31	1.30	0.45	27.54	12.13	2.70
3800	13.07	20.13	24.16	17.92	1.32	0.44	27.18	12.20	2.72
4000	12.87	20.26	24.03	17.85	1.36	0.42	26.76	12.23	2.72
4200	12.73	20.26	25.17	18.22	1.37	0.41	26.45	12.13	2.69
4400	12.60	20.33	26.22	18.82	1.40	0.41	26.27	11.92	2.72
4600	12.36	20.45	26.96	18.71	1.44	0.39	25.81	11.82	2.78
4800	12.21	20.64	27.26	18.75	1.48	0.37	25.47	11.94	2.81
5000	12.06	20.56	31.32	19.60	1.50	0.37	25.63	11.72	2.81
5200	11.88	20.71	33.34	19.43	1.54	0.36	25.56	11.46	2.85
5400	11.75	20.84	36.36	19.79	1.58	0.35	25.24	11.32	2.84
5600	11.52	20.86	32.73	19.68	1.62	0.34	24.86	10.98	2.75
5800	11.38	20.95	29.54	20.18	1.66	0.33	24.23	11.10	2.82
6000	11.17	21.07	27.30	19.60	1.71	0.32	24.03	10.96	2.83

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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 = 48mA, Vd = 3.67V @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	16.53	19.85	35.32	29.48	1.07	0.68	33.10	15.40	2.80
100	16.52	19.86	35.11	28.76	1.07	0.68	33.12	15.31	2.76
200	16.48	19.85	35.30	28.24	1.07	0.68	33.46	15.44	2.74
300	16.44	19.84	34.71	27.42	1.08	0.68	33.30	15.44	2.84
400	16.38	19.82	33.56	26.72	1.08	0.67	33.11	15.39	2.71
500	16.32	19.82	33.36	25.53	1.08	0.67	32.81	15.35	2.74
600	16.25	19.80	31.81	24.62	1.08	0.66	32.74	15.40	2.75
700	16.18	19.79	30.63	23.96	1.08	0.66	32.69	15.37	2.76
800	16.10	19.80	29.84	22.78	1.09	0.65	33.14	15.24	2.77
900	16.02	19.79	28.96	21.62	1.09	0.65	32.82	15.15	2.77
1000	15.94	19.78	28.49	20.88	1.09	0.64	32.77	15.20	2.72
1100	15.85	19.77	27.50	20.25	1.09	0.63	32.90	15.06	2.78
1200	15.77	19.78	27.04	19.90	1.10	0.63	33.03	15.10	2.74
1300	15.69	19.78	26.77	19.44	1.10	0.62	32.71	15.14	2.82
1400	15.59	19.77	26.22	18.83	1.10	0.61	32.79	15.20	2.83
1500	15.50	19.78	25.31	18.57	1.11	0.61	32.99	15.10	2.79
1600	15.40	19.83	24.47	18.22	1.11	0.59	33.23	15.13	2.80
1700	15.31	19.79	25.08	17.86	1.11	0.59	33.78	15.06	2.81
1800	15.21	19.80	24.90	17.51	1.12	0.58	33.41	15.18	2.83
2000	15.03	19.80	24.12	17.60	1.13	0.57	33.11	15.19	2.85
2200	14.83	19.85	24.50	16.76	1.14	0.55	32.91	15.18	2.79
2400	14.63	19.87	24.46	16.72	1.16	0.54	32.24	15.08	2.71
2600	14.44	19.89	24.37	16.84	1.17	0.53	31.63	15.02	2.75
2800	14.22	19.95	24.23	16.61	1.19	0.51	31.42	14.93	2.78
3000	14.03	19.98	24.14	16.97	1.21	0.50	31.21	14.77	2.72
3200	13.84	20.02	24.60	16.78	1.23	0.48	30.71	14.47	2.82
3400	13.64	20.08	24.23	17.19	1.25	0.47	30.56	14.30	2.78
3600	13.41	20.22	23.85	16.80	1.29	0.45	29.71	13.95	2.79
3800	13.26	20.24	23.39	17.41	1.31	0.44	29.00	13.96	2.82
4000	13.06	20.35	23.19	17.39	1.34	0.42	28.52	13.75	2.80
4200	12.91	20.34	23.82	17.73	1.36	0.42	28.19	13.69	2.81
4400	12.78	20.39	24.44	18.30	1.38	0.41	28.03	13.43	2.76
4600	12.54	20.50	24.33	18.22	1.42	0.39	27.49	13.38	2.83
4800	12.38	20.66	24.41	18.32	1.46	0.38	27.18	13.39	2.89
5000	12.23	20.56	25.84	19.08	1.47	0.38	27.27	13.11	2.95
5200	12.05	20.70	26.25	18.94	1.51	0.36	27.29	12.68	2.97
5400	11.91	20.80	26.96	19.30	1.55	0.36	27.01	12.44	2.92
5600	11.68	20.79	26.31	19.14	1.58	0.35	26.58	12.13	2.93
5800	11.54	20.86	25.72	19.62	1.61	0.34	25.82	12.21	2.90
6000	11.32	20.94	24.56	19.10	1.65	0.33	25.54	12.16	3.06

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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 = 40mA, Vd = 3.30V @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	16.29	19.68	33.27	31.79	1.08	0.68	29.10	13.61	3.56
100	16.28	19.74	33.77	29.78	1.08	0.67	29.01	13.49	3.54
200	16.22	19.70	34.31	29.09	1.08	0.67	29.38	13.68	3.55
300	16.18	19.70	33.40	28.81	1.08	0.67	29.19	13.63	3.65
400	16.11	19.70	32.80	27.78	1.08	0.66	28.97	13.54	3.57
500	16.05	19.69	32.61	26.51	1.09	0.66	28.73	13.56	3.64
600	15.97	19.68	31.66	25.43	1.09	0.65	28.60	13.58	3.61
700	15.90	19.67	30.64	24.75	1.09	0.65	28.54	13.54	3.64
800	15.82	19.67	29.84	23.81	1.09	0.64	28.96	13.39	3.66
900	15.73	19.68	28.96	22.88	1.10	0.63	28.57	13.27	3.67
1000	15.65	19.67	28.25	22.26	1.10	0.63	28.44	13.37	3.61
1100	15.56	19.67	27.63	21.69	1.10	0.62	28.63	13.19	3.69
1200	15.47	19.67	27.22	21.11	1.11	0.61	28.61	13.24	3.63
1300	15.38	19.66	26.93	20.59	1.11	0.61	28.41	13.30	3.75
1400	15.29	19.68	26.62	20.05	1.12	0.60	28.42	13.24	3.79
1500	15.20	19.68	26.28	19.60	1.12	0.59	28.56	13.29	3.75
1600	15.10	19.70	26.05	19.25	1.13	0.58	28.75	13.15	3.73
1700	15.01	19.70	25.76	18.92	1.13	0.58	29.22	13.18	3.76
1800	14.90	19.71	25.78	18.65	1.14	0.57	29.13	13.24	3.83
2000	14.71	19.74	25.89	18.12	1.15	0.55	28.76	13.28	3.81
2200	14.50	19.77	25.67	17.77	1.17	0.54	28.53	13.23	3.72
2400	14.30	19.82	25.80	17.51	1.18	0.52	28.09	13.02	3.70
2600	14.10	19.87	25.60	17.44	1.20	0.51	27.75	12.85	3.72
2800	13.89	19.91	25.65	17.43	1.22	0.49	27.69	12.85	3.73
3000	13.69	19.98	25.47	17.45	1.25	0.48	27.39	12.69	3.70
3200	13.50	20.04	25.47	17.63	1.27	0.47	27.00	12.40	3.82
3400	13.29	20.13	25.05	17.68	1.30	0.45	26.81	12.10	3.79
3600	13.08	20.24	24.45	17.77	1.33	0.43	25.88	11.76	3.83
3800	12.91	20.32	24.27	17.88	1.36	0.42	25.28	11.75	3.84
4000	12.73	20.41	24.32	17.94	1.39	0.41	24.81	11.62	3.80
4200	12.55	20.45	25.47	18.13	1.42	0.40	24.57	11.57	3.84
4400	12.38	20.51	26.49	18.44	1.45	0.39	24.25	11.12	3.85
4600	12.16	20.73	27.01	18.09	1.50	0.37	23.86	11.06	4.01
4800	11.98	20.82	29.55	18.30	1.54	0.36	23.65	11.13	4.05
5000	11.77	20.95	33.81	18.30	1.59	0.35	23.71	10.83	4.05
5200	11.66	20.97	42.52	19.06	1.61	0.34	23.70	10.39	4.04
5400	11.44	21.08	36.81	18.88	1.66	0.33	23.37	10.07	4.02
5600	11.20	21.12	29.43	19.01	1.71	0.32	22.68	9.70	4.04
5800	11.07	21.51	28.11	18.85	1.79	0.30	22.01	9.87	4.08
6000	10.92	21.64	25.23	19.12	1.84	0.30	21.83	9.78	4.28

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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 = 32mA, Vd = 3.21V @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	16.04	19.49	27.40	51.54	1.08	0.67	25.76	11.81	3.48
100	16.02	19.51	27.73	39.08	1.08	0.67	25.66	11.59	3.52
200	15.97	19.49	28.38	36.13	1.08	0.67	25.97	11.90	3.54
300	15.93	19.52	28.33	34.80	1.08	0.66	25.88	11.93	3.62
400	15.87	19.50	28.02	32.16	1.09	0.66	25.69	11.61	3.54
500	15.80	19.50	28.22	30.16	1.09	0.65	25.51	11.85	3.60
600	15.73	19.48	28.16	28.42	1.09	0.65	25.41	11.66	3.60
700	15.65	19.48	27.87	27.25	1.09	0.64	25.39	11.86	3.61
800	15.58	19.48	27.53	25.87	1.10	0.64	25.78	11.72	3.63
900	15.50	19.47	27.26	24.67	1.10	0.63	25.40	11.32	3.63
1000	15.41	19.47	26.91	23.83	1.10	0.62	25.32	11.63	3.55
1100	15.33	19.47	26.71	23.04	1.11	0.62	25.50	11.26	3.67
1200	15.25	19.49	26.47	22.34	1.11	0.61	25.51	11.48	3.59
1300	15.17	19.50	26.35	21.71	1.12	0.60	25.38	11.63	3.74
1400	15.08	19.49	26.15	21.10	1.12	0.60	25.43	11.44	3.74
1500	14.98	19.51	25.91	20.54	1.13	0.59	25.58	11.61	3.71
1600	14.89	19.52	25.91	20.12	1.13	0.58	25.74	11.44	3.71
1700	14.80	19.53	25.63	19.78	1.14	0.58	26.13	11.69	3.73
1800	14.70	19.54	25.68	19.43	1.14	0.57	26.22	11.72	3.79
2000	14.51	19.57	25.89	18.80	1.16	0.55	26.00	11.79	3.75
2200	14.32	19.62	25.63	18.39	1.17	0.54	25.92	11.79	3.70
2400	14.12	19.67	25.65	18.11	1.19	0.52	25.85	11.47	3.65
2600	13.92	19.73	25.31	17.97	1.21	0.51	25.92	11.34	3.70
2800	13.72	19.79	25.27	17.94	1.23	0.49	26.15	11.55	3.70
3000	13.52	19.87	24.95	17.92	1.26	0.48	26.02	11.65	3.69
3200	13.34	19.94	24.80	18.06	1.28	0.46	25.81	11.48	3.75
3400	13.14	20.02	24.30	18.09	1.31	0.45	25.68	11.23	3.74
3600	12.92	20.15	23.85	18.09	1.34	0.43	24.92	10.90	3.77
3800	12.76	20.23	23.61	18.17	1.37	0.42	24.43	10.99	3.79
4000	12.58	20.35	23.59	18.22	1.40	0.41	23.94	11.00	3.76
4200	12.40	20.39	24.66	18.41	1.43	0.40	23.73	10.85	3.81
4400	12.23	20.47	25.56	18.71	1.46	0.39	23.49	10.43	3.80
4600	12.02	20.70	26.30	18.35	1.52	0.37	23.16	10.30	3.93
4800	11.84	20.81	28.50	18.55	1.56	0.36	22.92	10.41	3.99
5000	11.63	20.94	31.88	18.55	1.61	0.34	23.03	10.20	3.95
5200	11.53	20.99	32.15	19.36	1.64	0.34	23.03	9.73	3.98
5400	11.30	21.12	30.48	19.21	1.69	0.33	22.56	9.51	3.97
5600	11.07	21.18	27.22	19.41	1.74	0.32	21.97	9.09	3.90
5800	10.93	21.61	25.94	19.21	1.84	0.30	21.42	9.26	4.01
6000	10.78	21.75	23.47	19.49	1.89	0.29	21.25	9.14	4.18

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 = 48mA, Vd = 3.38V @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	16.45	19.81	38.99	28.11	1.07	0.68	31.85	14.80	3.59
100	16.43	19.83	40.75	26.68	1.08	0.68	31.88	14.79	3.59
200	16.38	19.85	39.53	26.12	1.08	0.67	32.29	14.77	3.59
300	16.33	19.82	37.04	26.06	1.08	0.67	31.87	14.70	3.65
400	16.27	19.83	35.70	25.41	1.08	0.66	31.63	14.72	3.60
500	16.19	19.83	34.26	24.60	1.09	0.66	31.20	14.64	3.71
600	16.12	19.81	32.38	23.79	1.09	0.65	31.00	14.75	3.65
700	16.04	19.80	31.12	23.28	1.09	0.65	30.87	14.59	3.69
800	15.96	19.80	29.99	22.51	1.09	0.64	31.21	14.39	3.71
900	15.87	19.80	28.93	21.78	1.10	0.63	30.80	14.41	3.69
1000	15.79	19.79	28.12	21.28	1.10	0.63	30.53	14.43	3.63
1100	15.70	19.79	27.34	20.77	1.10	0.62	30.57	14.25	3.74
1200	15.61	19.80	26.95	20.25	1.11	0.61	30.49	14.18	3.67
1300	15.52	19.79	26.58	19.83	1.11	0.61	30.15	14.31	3.82
1400	15.42	19.79	26.25	19.39	1.11	0.60	30.09	14.35	3.81
1500	15.33	19.80	25.91	18.99	1.12	0.59	30.17	14.18	3.76
1600	15.23	19.81	25.61	18.67	1.12	0.58	30.32	14.08	3.75
1700	15.13	19.81	25.34	18.39	1.13	0.58	30.56	13.89	3.76
1800	15.03	19.82	25.33	18.16	1.13	0.57	30.11	14.04	3.84
2000	14.83	19.84	25.38	17.65	1.15	0.55	29.71	14.00	3.85
2200	14.62	19.88	25.30	17.36	1.16	0.54	29.21	13.90	3.77
2400	14.41	19.91	25.40	17.15	1.18	0.52	28.48	13.75	3.75
2600	14.21	19.95	25.32	17.08	1.20	0.51	27.85	13.55	3.76
2800	14.00	20.01	25.47	17.10	1.22	0.49	27.56	13.39	3.77
3000	13.79	20.06	25.41	17.16	1.24	0.48	27.20	13.15	3.76
3200	13.60	20.11	25.54	17.34	1.27	0.47	26.82	12.82	3.83
3400	13.39	20.18	25.21	17.44	1.29	0.45	26.52	12.58	3.88
3600	13.18	20.30	24.60	17.53	1.33	0.43	25.71	12.19	3.89
3800	13.00	20.37	24.49	17.66	1.35	0.42	25.08	12.18	3.91
4000	12.82	20.44	24.52	17.75	1.38	0.41	24.63	12.01	3.87
4200	12.64	20.48	25.69	17.94	1.41	0.40	24.47	11.96	3.92
4400	12.47	20.53	26.68	18.25	1.44	0.39	24.25	11.59	3.92
4600	12.24	20.74	26.85	17.94	1.49	0.37	23.86	11.54	4.09
4800	12.06	20.84	29.01	18.14	1.53	0.36	23.57	11.56	4.13
5000	11.86	20.93	31.88	18.12	1.57	0.35	23.54	11.24	4.09
5200	11.74	20.94	40.94	18.86	1.60	0.35	23.58	10.81	4.15
5400	11.52	21.05	36.74	18.67	1.64	0.33	23.30	10.48	4.08
5600	11.29	21.08	29.32	18.75	1.69	0.33	22.62	10.16	4.11
5800	11.15	21.45	28.40	18.63	1.77	0.31	21.91	10.29	4.13
6000	11.01	21.54	25.96	18.88	1.81	0.30	21.69	10.21	4.35

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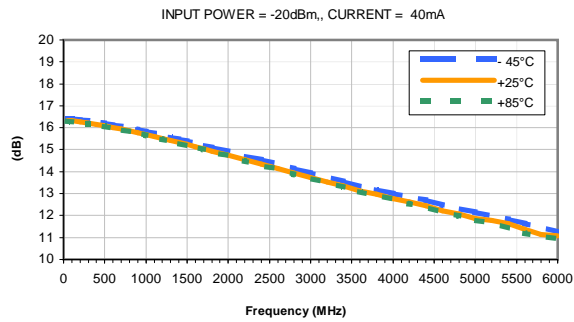


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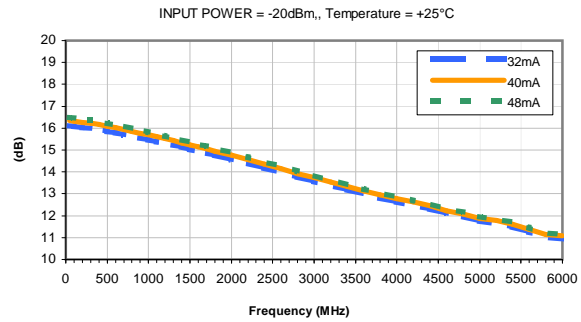


Typical Performance Curves

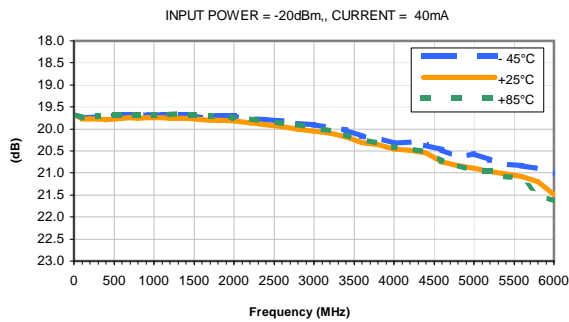
GAIN vs. TEMPERATURE



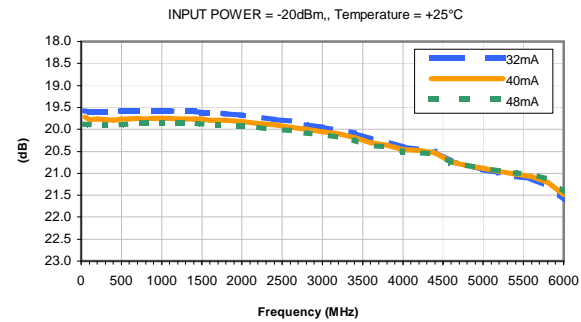
GAIN vs. CURRENT



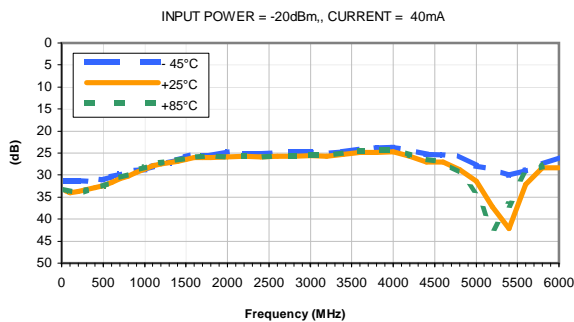
ISOLATION vs. TEMPERATURE



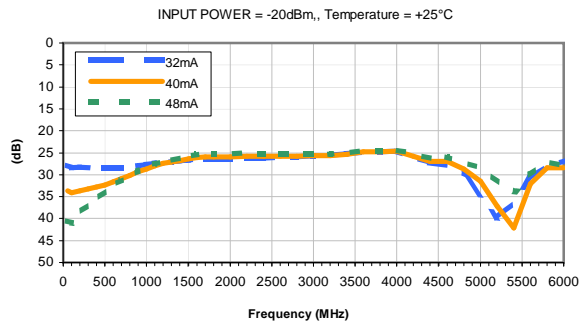
ISOLATION vs. CURRENT



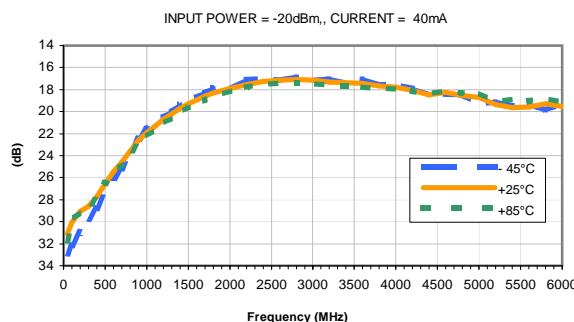
INPUT RETURN LOSS vs. TEMPERATURE



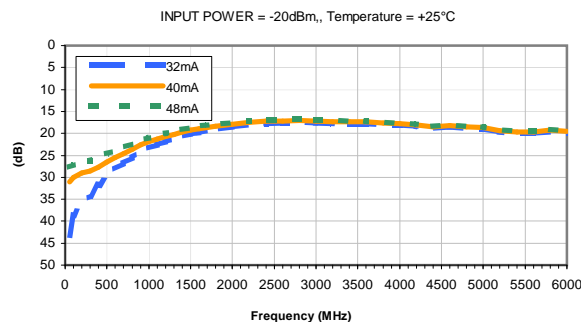
INPUT RETURN LOSS vs. CURRENT



OUTPUT RETURN LOSS vs. TEMPERATURE

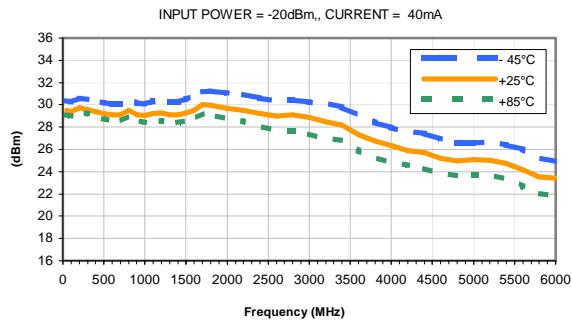


OUTPUT RETURN LOSS vs. CURRENT

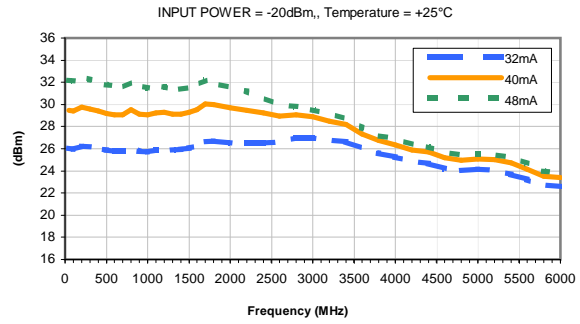


Typical Performance Curves

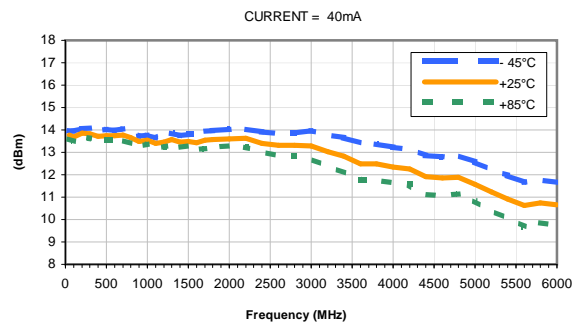
OUTPUT IP3 vs. TEMPERATURE



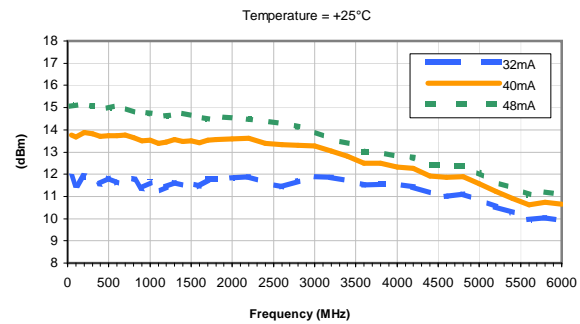
OUTPUT IP3 vs. CURRENT



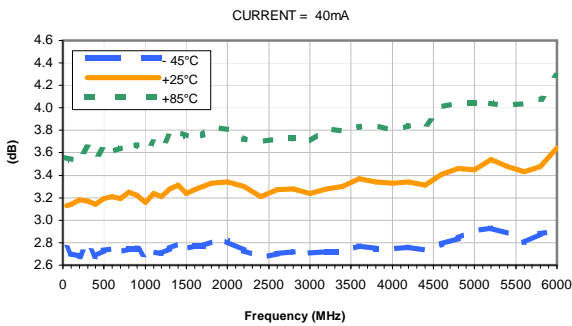
OUTPUT POWER at 1dB Compression vs. TEMPERATURE



OUTPUT POWER at 1dB Compression vs. CURRENT



Noise Figure vs. TEMPERATURE



Noise Figure vs. CURRENT

