

MMIC Amplifier

ERA-6SM+

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 = 70mA, Vd = 4.84V @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	12.82	18.69	25.03	40.23	1.23	0.51	36.57	17.30	4.44
100	12.79	18.64	25.30	38.49	1.23	0.51	36.42	17.26	4.46
200	12.75	18.67	25.52	36.49	1.24	0.51	36.66	17.36	4.55
300	12.72	18.68	25.56	34.88	1.24	0.50	36.50	17.42	4.55
400	12.67	18.68	25.77	32.90	1.24	0.50	35.97	17.57	4.52
500	12.63	18.68	25.99	31.20	1.25	0.50	35.78	17.60	4.57
600	12.59	18.67	26.35	29.76	1.25	0.50	35.64	17.67	4.58
700	12.54	18.68	26.76	28.56	1.26	0.49	35.47	17.77	4.57
800	12.50	18.69	27.20	27.38	1.26	0.49	35.67	17.77	4.60
900	12.45	18.70	27.66	26.42	1.27	0.49	35.68	17.89	4.56
1000	12.40	18.72	28.06	25.51	1.27	0.48	35.47	17.79	4.54
1100	12.35	18.73	28.71	24.76	1.28	0.48	35.27	17.76	4.60
1200	12.30	18.75	29.18	24.17	1.28	0.47	35.29	17.68	4.60
1300	12.25	18.77	29.94	23.61	1.29	0.47	35.28	17.59	4.61
1400	12.20	18.79	30.53	23.26	1.29	0.47	34.91	17.69	4.58
1500	12.15	18.80	31.30	22.86	1.30	0.46	35.03	17.65	4.62
1600	12.09	18.84	31.81	22.52	1.31	0.46	35.30	17.66	4.68
1700	12.04	18.87	32.59	22.30	1.32	0.45	35.99	17.70	4.61
1800	11.98	18.89	33.31	22.16	1.32	0.45	35.71	17.59	4.66
1900	11.92	18.92	33.87	22.04	1.33	0.45	35.19	17.58	4.61
2000	11.88	18.93	34.73	22.01	1.34	0.44	35.06	17.66	4.59
2100	11.81	19.00	35.16	21.84	1.35	0.44	34.50	17.58	4.57
2200	11.75	19.04	35.35	21.85	1.36	0.43	34.63	17.51	4.57
2300	11.69	19.06	35.20	21.94	1.37	0.43	34.19	17.39	4.63
2400	11.62	19.09	34.93	21.96	1.38	0.42	33.80	17.26	4.66
2500	11.56	19.14	34.75	22.03	1.40	0.42	33.67	17.21	4.64
2600	11.49	19.21	35.04	21.90	1.41	0.41	32.92	17.08	4.59
2700	11.43	19.21	33.58	22.13	1.42	0.41	32.99	16.96	4.68
2800	11.36	19.28	33.70	22.13	1.44	0.40	32.64	16.83	4.66
2900	11.30	19.32	32.53	22.20	1.45	0.40	32.85	16.70	4.62
3000	11.24	19.36	31.98	22.27	1.46	0.39	32.50	16.60	4.64
3100	11.14	19.46	32.27	22.01	1.49	0.38	31.88	16.39	4.70
3200	11.09	19.48	30.93	22.25	1.50	0.38	31.87	16.33	4.74
3300	11.03	19.52	30.06	22.39	1.51	0.38	31.77	16.28	4.71
3400	10.95	19.58	29.88	22.30	1.53	0.37	31.23	16.19	4.76
3500	10.85	19.71	30.35	21.88	1.56	0.36	31.15	16.11	4.81
3600	10.82	19.72	29.03	22.25	1.56	0.36	30.57	15.95	4.73
3700	10.74	19.77	28.99	22.23	1.58	0.36	30.19	15.80	4.71
3800	10.69	19.83	28.41	22.28	1.60	0.35	29.88	15.70	4.73
4000	10.52	19.93	29.07	22.15	1.64	0.34	29.21	15.49	4.86

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TEST CONDITIONS: Icc = 56mA, Vd = 4.68V @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	12.70	18.55	23.92	45.50	1.23	0.51	33.37	16.00	4.30
100	12.68	18.57	24.24	44.22	1.24	0.51	33.23	16.15	4.38
200	12.63	18.58	24.36	40.11	1.24	0.50	33.42	16.01	4.41
300	12.61	18.59	24.46	37.50	1.24	0.50	33.52	15.91	4.49
400	12.57	18.58	24.64	34.73	1.25	0.50	33.00	16.07	4.42
500	12.52	18.59	24.86	32.77	1.25	0.50	32.86	15.99	4.48
600	12.48	18.59	25.19	31.09	1.25	0.49	32.71	16.14	4.50
700	12.43	18.60	25.55	29.78	1.26	0.49	32.67	16.22	4.43
800	12.40	18.61	25.97	28.45	1.26	0.49	32.73	16.20	4.46
900	12.34	18.62	26.38	27.40	1.27	0.48	32.79	16.28	4.44
1000	12.30	18.64	26.76	26.39	1.27	0.48	32.61	16.12	4.41
1100	12.25	18.65	27.36	25.60	1.28	0.48	32.51	16.05	4.47
1200	12.20	18.67	27.80	24.97	1.28	0.47	32.52	15.91	4.46
1300	12.15	18.69	28.52	24.37	1.29	0.47	32.67	15.84	4.52
1400	12.10	18.70	29.03	23.99	1.30	0.47	32.31	15.97	4.51
1500	12.05	18.72	29.71	23.56	1.30	0.46	32.42	15.97	4.53
1600	11.99	18.76	30.21	23.20	1.31	0.46	32.83	15.97	4.54
1700	11.95	18.79	30.88	22.96	1.32	0.45	33.39	16.03	4.51
1800	11.89	18.82	31.48	22.80	1.33	0.45	33.33	15.94	4.56
1900	11.83	18.84	31.86	22.67	1.34	0.45	32.86	15.94	4.49
2000	11.79	18.87	32.47	22.65	1.34	0.44	32.95	16.06	4.48
2100	11.72	18.93	32.77	22.45	1.36	0.44	32.41	16.05	4.50
2200	11.66	18.97	32.80	22.43	1.37	0.43	32.66	16.07	4.45
2300	11.60	18.98	32.47	22.52	1.38	0.43	32.39	16.09	4.56
2400	11.54	19.02	32.21	22.53	1.39	0.42	32.15	16.09	4.52
2500	11.48	19.07	31.88	22.57	1.40	0.42	32.14	16.06	4.53
2600	11.40	19.15	32.11	22.44	1.42	0.41	31.44	16.01	4.49
2700	11.35	19.16	30.92	22.65	1.42	0.41	31.59	16.02	4.55
2800	11.28	19.21	30.92	22.62	1.44	0.40	31.21	15.92	4.55
2900	11.22	19.26	30.08	22.66	1.45	0.40	31.44	15.80	4.47
3000	11.16	19.30	29.57	22.74	1.47	0.39	31.08	15.75	4.57
3100	11.06	19.41	29.80	22.44	1.49	0.38	30.56	15.60	4.58
3200	11.01	19.44	28.73	22.66	1.50	0.38	30.53	15.49	4.62
3300	10.95	19.47	28.06	22.77	1.51	0.38	30.42	15.51	4.57
3400	10.87	19.53	27.88	22.67	1.53	0.37	30.00	15.39	4.62
3500	10.77	19.66	28.23	22.23	1.56	0.36	29.90	15.25	4.69
3600	10.74	19.68	27.16	22.57	1.57	0.36	29.34	15.13	4.59
3700	10.67	19.72	27.11	22.55	1.59	0.36	29.10	14.98	4.60
3800	10.61	19.79	26.60	22.57	1.60	0.35	28.74	14.89	4.62
4000	10.44	19.90	27.10	22.44	1.65	0.34	28.17	14.64	4.72

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Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: I_{cc} = 84mA, V_d = 5.00V @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	12.89	18.65	25.79	36.07	1.22	0.51	38.70	17.54	4.57
100	12.86	18.71	26.19	35.26	1.23	0.51	38.57	17.47	4.60
200	12.81	18.72	26.29	34.02	1.24	0.51	38.63	17.62	4.65
300	12.78	18.73	26.39	32.94	1.24	0.50	38.50	17.75	4.67
400	12.74	18.72	26.58	31.38	1.24	0.50	37.75	17.92	4.65
500	12.69	18.74	26.82	30.00	1.25	0.50	37.59	18.05	4.68
600	12.65	18.72	27.21	28.75	1.25	0.50	37.43	18.09	4.69
700	12.60	18.74	27.64	27.67	1.26	0.49	37.14	18.24	4.66
800	12.56	18.75	28.10	26.61	1.26	0.49	37.21	18.30	4.69
900	12.51	18.76	28.57	25.73	1.26	0.49	37.31	18.48	4.65
1000	12.47	18.77	29.01	24.90	1.27	0.48	36.98	18.56	4.67
1100	12.41	18.78	29.68	24.18	1.27	0.48	36.81	18.66	4.75
1200	12.36	18.79	30.15	23.65	1.28	0.47	36.80	18.68	4.72
1300	12.30	18.82	30.94	23.12	1.29	0.47	36.66	18.56	4.73
1400	12.26	18.83	31.55	22.78	1.29	0.47	36.31	18.68	4.70
1500	12.20	18.86	32.37	22.38	1.30	0.46	36.31	18.61	4.72
1600	12.15	18.89	32.82	22.06	1.31	0.46	36.58	18.55	4.78
1700	12.09	18.92	33.67	21.86	1.32	0.45	37.01	18.58	4.78
1800	12.04	18.94	34.42	21.71	1.32	0.45	36.72	18.47	4.78
1900	11.98	18.97	35.08	21.60	1.33	0.45	36.14	18.48	4.73
2000	11.93	18.98	36.17	21.58	1.34	0.44	35.93	18.47	4.73
2100	11.86	19.04	36.60	21.43	1.35	0.44	35.42	18.31	4.71
2200	11.80	19.09	36.98	21.44	1.36	0.43	35.47	18.16	4.69
2300	11.74	19.10	37.19	21.53	1.37	0.43	34.96	17.97	4.78
2400	11.67	19.13	37.12	21.57	1.38	0.42	34.64	17.81	4.76
2500	11.61	19.18	37.22	21.64	1.40	0.42	34.32	17.74	4.77
2600	11.53	19.25	37.55	21.53	1.41	0.41	33.73	17.56	4.72
2700	11.48	19.25	36.00	21.76	1.42	0.41	33.65	17.46	4.84
2800	11.41	19.31	36.21	21.76	1.43	0.40	33.22	17.33	4.75
2900	11.34	19.36	34.86	21.83	1.45	0.40	33.39	17.19	4.76
3000	11.29	19.39	34.20	21.93	1.46	0.39	33.11	17.10	4.82
3100	11.18	19.50	34.54	21.67	1.48	0.38	32.56	16.90	4.86
3200	11.13	19.51	32.88	21.93	1.49	0.38	32.51	16.84	4.87
3300	11.08	19.55	31.88	22.06	1.51	0.38	32.52	16.81	4.85
3400	11.00	19.61	31.72	21.98	1.52	0.37	31.91	16.72	4.92
3500	10.90	19.73	32.31	21.59	1.55	0.36	31.73	16.65	4.95
3600	10.86	19.74	30.70	21.97	1.56	0.36	31.18	16.50	4.90
3700	10.79	19.79	30.71	21.94	1.58	0.36	30.79	16.37	4.89
3800	10.74	19.84	30.00	22.01	1.59	0.35	30.45	16.26	4.86
4000	10.57	19.94	30.87	21.86	1.63	0.34	29.83	16.09	4.95

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Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: I_{cc} = 70mA, V_d = 5.09V @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	12.89	18.71	24.27	43.83	1.23	0.51	37.25	17.68	3.85
100	12.86	18.69	23.85	46.54	1.23	0.51	37.18	17.69	3.85
200	12.82	18.71	23.43	38.22	1.23	0.51	37.28	17.73	3.92
300	12.80	18.69	24.48	35.05	1.23	0.51	37.37	17.73	3.90
400	12.77	18.69	25.53	32.41	1.24	0.51	36.74	17.87	3.91
500	12.73	18.68	26.24	30.47	1.24	0.50	36.64	17.90	3.92
600	12.69	18.68	26.80	29.14	1.24	0.50	36.58	17.98	3.92
700	12.65	18.68	26.69	28.60	1.25	0.50	36.46	18.07	3.89
800	12.61	18.68	26.67	27.69	1.25	0.50	36.65	18.07	3.91
900	12.56	18.70	27.28	26.60	1.25	0.49	36.74	18.16	3.88
1000	12.52	18.71	27.63	25.57	1.26	0.49	36.66	18.03	3.84
1100	12.47	18.71	27.86	24.72	1.26	0.49	36.32	17.97	3.89
1200	12.42	18.73	28.40	24.12	1.27	0.48	36.59	17.88	3.93
1300	12.37	18.75	29.62	23.60	1.27	0.48	36.65	17.82	3.95
1400	12.32	18.75	30.26	23.25	1.28	0.48	36.28	17.92	3.89
1500	12.27	18.78	30.73	22.73	1.29	0.47	36.44	17.91	3.96
1600	12.22	18.80	31.36	22.22	1.29	0.47	36.78	17.95	3.97
1700	12.17	18.83	32.48	21.84	1.30	0.46	37.49	17.99	3.96
1800	12.12	18.85	33.46	21.67	1.31	0.46	37.27	17.88	3.96
1900	12.06	18.88	34.01	21.57	1.32	0.45	36.76	17.91	3.94
2000	12.01	18.88	35.09	21.54	1.32	0.45	36.65	17.99	3.92
2100	11.94	18.95	36.22	21.25	1.33	0.45	36.19	17.98	3.86
2200	11.89	18.98	37.49	21.16	1.34	0.44	36.41	17.96	3.87
2300	11.83	19.00	37.15	21.20	1.35	0.44	35.95	17.91	3.94
2400	11.76	19.03	36.86	21.24	1.36	0.43	35.67	17.85	3.98
2500	11.71	19.07	37.44	21.47	1.37	0.43	35.49	17.82	3.96
2600	11.62	19.15	37.04	21.42	1.39	0.42	34.75	17.69	3.92
2700	11.59	19.14	35.38	21.77	1.39	0.42	34.85	17.64	3.96
2800	11.51	19.18	36.00	21.74	1.41	0.41	34.32	17.51	3.92
2900	11.45	19.23	35.31	21.66	1.42	0.41	34.64	17.38	3.94
3000	11.39	19.26	34.33	21.71	1.43	0.40	34.30	17.30	3.96
3100	11.31	19.33	34.69	21.79	1.45	0.40	33.72	17.06	4.01
3200	11.24	19.39	34.40	21.98	1.46	0.39	33.56	17.06	4.03
3300	11.18	19.42	34.19	22.07	1.48	0.39	33.61	17.02	3.96
3400	11.12	19.44	34.03	22.08	1.49	0.38	33.00	16.91	4.09
3500	11.01	19.59	35.14	21.52	1.52	0.37	32.87	16.85	4.04
3600	10.98	19.58	32.38	22.06	1.52	0.37	32.32	16.70	4.01
3700	10.91	19.64	32.24	22.11	1.54	0.37	31.89	16.51	3.98
3800	10.86	19.69	31.86	22.35	1.56	0.36	31.57	16.39	4.02
4000	10.72	19.75	32.23	22.22	1.58	0.36	30.92	16.17	4.10

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Output Return Loss = -S22 (dB)

TEST CONDITIONS: Icc = 56mA, Vd =4.92V @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	12.79	18.59	23.45	45.84	1.23	0.51	33.98	16.12	3.75
100	12.76	18.61	23.08	42.22	1.23	0.51	33.87	16.27	3.78
200	12.73	18.62	22.65	36.43	1.23	0.51	34.07	16.09	3.80
300	12.71	18.62	23.61	36.07	1.24	0.51	34.19	16.00	3.80
400	12.68	18.62	24.58	34.09	1.24	0.50	33.69	16.20	3.81
500	12.64	18.61	25.23	31.94	1.24	0.50	33.61	16.14	3.79
600	12.60	18.61	25.74	30.50	1.24	0.50	33.47	16.31	3.82
700	12.56	18.61	25.64	29.77	1.25	0.50	33.45	16.35	3.82
800	12.52	18.62	25.66	28.66	1.25	0.49	33.56	16.40	3.82
900	12.48	18.63	26.24	27.46	1.26	0.49	33.67	16.48	3.78
1000	12.43	18.63	26.55	26.31	1.26	0.49	33.53	16.28	3.77
1100	12.38	18.64	26.76	25.40	1.26	0.49	33.39	16.20	3.82
1200	12.33	18.66	27.34	24.79	1.27	0.48	33.42	16.04	3.83
1300	12.29	18.68	28.53	24.27	1.28	0.48	33.62	15.97	3.85
1400	12.24	18.69	29.08	23.89	1.28	0.47	33.30	16.11	3.80
1500	12.19	18.71	29.55	23.31	1.29	0.47	33.50	16.08	3.84
1600	12.14	18.74	30.18	22.77	1.29	0.47	33.89	16.14	3.86
1700	12.09	18.76	31.24	22.39	1.30	0.46	34.51	16.22	3.89
1800	12.04	18.79	32.17	22.22	1.31	0.46	34.41	16.11	3.87
1900	11.98	18.81	32.70	22.10	1.32	0.45	34.05	16.13	3.82
2000	11.94	18.82	33.60	22.05	1.32	0.45	34.07	16.25	3.80
2100	11.87	18.88	34.70	21.75	1.34	0.44	33.61	16.28	3.77
2200	11.81	18.91	35.36	21.65	1.34	0.44	34.01	16.39	3.81
2300	11.76	18.93	34.66	21.68	1.35	0.44	33.65	16.43	3.83
2400	11.69	18.97	34.47	21.74	1.36	0.43	33.58	16.51	3.88
2500	11.63	19.01	34.55	21.96	1.37	0.43	33.61	16.55	3.88
2600	11.56	19.09	34.40	21.87	1.39	0.42	32.91	16.49	3.81
2700	11.52	19.08	32.82	22.22	1.40	0.42	33.07	16.50	3.86
2800	11.44	19.14	33.22	22.19	1.41	0.41	32.70	16.44	3.84
2900	11.38	19.18	32.49	22.08	1.42	0.41	33.03	16.40	3.81
3000	11.32	19.21	31.70	22.13	1.43	0.40	32.67	16.36	3.84
3100	11.24	19.28	31.97	22.19	1.45	0.40	32.15	16.15	3.87
3200	11.17	19.34	31.83	22.36	1.47	0.39	32.23	16.13	3.89
3300	11.11	19.38	31.53	22.44	1.48	0.39	32.03	16.12	3.89
3400	11.05	19.40	31.32	22.45	1.49	0.38	31.60	16.01	3.96
3500	10.94	19.55	32.06	21.85	1.52	0.37	31.54	15.94	3.95
3600	10.92	19.55	30.00	22.40	1.53	0.37	31.06	15.82	3.93
3700	10.84	19.60	29.81	22.44	1.55	0.37	30.66	15.66	3.91
3800	10.79	19.67	29.57	22.66	1.56	0.36	30.25	15.54	3.88
4000	10.66	19.73	29.75	22.52	1.59	0.35	29.63	15.37	3.93

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MMIC Amplifier

ERA-6SM+

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} = 84mA, V_d = 5.25V @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	12.95	18.74	24.88	38.47	1.23	0.51	39.35	17.99	3.92
100	12.92	18.73	24.41	41.37	1.23	0.51	39.25	17.93	3.96
200	12.88	18.74	23.98	37.62	1.23	0.51	39.46	18.08	4.01
300	12.86	18.73	25.08	33.58	1.23	0.51	39.31	18.19	4.01
400	12.83	18.73	26.24	31.15	1.24	0.51	38.75	18.34	4.00
500	12.79	18.74	26.99	29.43	1.24	0.50	38.72	18.48	4.03
600	12.75	18.72	27.59	28.26	1.24	0.50	38.58	18.54	4.03
700	12.71	18.73	27.43	27.77	1.25	0.50	38.46	18.70	3.97
800	12.66	18.73	27.42	26.97	1.25	0.50	38.60	18.79	4.03
900	12.62	18.74	28.05	25.97	1.25	0.49	38.66	18.94	3.99
1000	12.57	18.75	28.41	25.00	1.26	0.49	38.49	18.99	3.98
1100	12.52	18.75	28.63	24.23	1.26	0.49	38.26	19.06	4.01
1200	12.48	18.77	29.14	23.65	1.27	0.48	38.20	19.00	4.03
1300	12.42	18.79	30.37	23.13	1.27	0.48	38.35	18.92	4.04
1400	12.38	18.80	31.03	22.81	1.28	0.48	38.02	19.03	4.01
1500	12.32	18.81	31.51	22.31	1.28	0.47	38.06	18.97	4.04
1600	12.27	18.84	32.07	21.83	1.29	0.47	38.36	18.98	4.07
1700	12.21	18.87	33.17	21.46	1.30	0.46	39.06	19.04	4.08
1800	12.16	18.89	34.07	21.30	1.30	0.46	38.74	18.90	4.09
1900	12.10	18.92	34.63	21.20	1.31	0.45	38.24	18.95	4.03
2000	12.06	18.92	35.60	21.16	1.32	0.45	38.06	19.00	4.01
2100	11.99	18.99	36.56	20.90	1.33	0.45	37.56	18.89	3.99
2200	11.93	19.01	38.18	20.82	1.34	0.44	37.73	18.76	4.02
2300	11.88	19.03	38.57	20.86	1.35	0.44	37.11	18.59	4.05
2400	11.81	19.06	38.24	20.90	1.36	0.43	36.81	18.49	4.07
2500	11.75	19.10	39.31	21.12	1.37	0.43	36.46	18.40	4.06
2600	11.67	19.18	38.52	21.09	1.39	0.42	35.81	18.22	4.03
2700	11.63	19.17	37.39	21.43	1.39	0.42	35.76	18.15	4.11
2800	11.55	19.22	38.15	21.42	1.41	0.41	35.30	18.02	4.04
2900	11.49	19.26	37.96	21.34	1.42	0.41	35.55	17.88	4.06
3000	11.43	19.28	36.94	21.40	1.43	0.40	35.18	17.79	4.07
3100	11.35	19.35	37.21	21.47	1.45	0.40	34.67	17.58	4.11
3200	11.28	19.41	36.74	21.66	1.46	0.39	34.62	17.55	4.11
3300	11.22	19.44	36.76	21.77	1.47	0.39	34.57	17.54	4.11
3400	11.16	19.47	36.98	21.77	1.49	0.38	33.98	17.40	4.16
3500	11.05	19.61	38.44	21.22	1.52	0.37	33.93	17.39	4.20
3600	11.02	19.60	34.82	21.77	1.52	0.37	33.19	17.26	4.15
3700	10.95	19.66	34.60	21.82	1.54	0.37	32.66	17.10	4.13
3800	10.89	19.72	34.16	22.08	1.55	0.36	32.40	17.00	4.15
4000	10.76	19.77	34.81	21.96	1.58	0.36	31.53	16.79	4.22

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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 = 70mA, Vd = 4.66V @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	12.75	18.65	25.42	38.93	1.24	0.51	35.99	16.77	4.86
100	12.72	18.64	26.57	35.27	1.24	0.50	35.89	16.72	4.91
200	12.67	18.65	27.97	32.37	1.24	0.50	36.17	16.83	4.98
300	12.64	18.66	27.35	33.29	1.25	0.50	36.01	16.93	4.96
400	12.59	18.66	26.38	33.63	1.25	0.50	35.37	17.08	5.00
500	12.55	18.67	26.01	32.19	1.26	0.49	35.09	17.16	5.05
600	12.50	18.67	26.22	30.69	1.26	0.49	34.91	17.20	5.04
700	12.45	18.68	26.45	29.52	1.26	0.49	34.75	17.32	5.04
800	12.41	18.69	26.53	28.40	1.27	0.48	34.76	17.34	5.07
900	12.35	18.71	26.53	27.39	1.27	0.48	34.80	17.46	5.01
1000	12.31	18.72	26.69	26.27	1.28	0.48	34.54	17.38	5.03
1100	12.25	18.73	27.15	25.40	1.28	0.47	34.28	17.35	5.07
1200	12.20	18.75	27.63	24.65	1.29	0.47	34.27	17.28	5.10
1300	12.14	18.78	28.47	23.93	1.30	0.46	34.18	17.18	5.11
1400	12.10	18.79	29.38	23.44	1.30	0.46	33.79	17.29	5.06
1500	12.04	18.82	30.55	22.97	1.31	0.46	33.89	17.22	5.16
1600	11.98	18.86	31.35	22.56	1.32	0.45	34.25	17.18	5.20
1700	11.93	18.88	32.68	22.24	1.33	0.45	34.67	17.21	5.12
1800	11.88	18.91	33.95	22.06	1.34	0.44	34.29	17.13	5.15
1900	11.81	18.94	35.05	21.97	1.35	0.44	33.78	17.11	5.12
2000	11.76	18.97	36.31	21.98	1.36	0.44	33.72	17.14	5.12
2100	11.70	19.02	36.61	21.92	1.37	0.43	33.20	17.01	5.09
2200	11.64	19.06	36.17	22.09	1.38	0.42	33.21	16.88	5.11
2300	11.58	19.09	35.09	22.35	1.39	0.42	32.74	16.73	5.13
2400	11.51	19.13	34.04	22.49	1.40	0.42	32.37	16.60	5.18
2500	11.45	19.17	32.75	22.69	1.42	0.41	32.16	16.52	5.20
2600	11.37	19.25	32.27	22.67	1.43	0.40	31.50	16.35	5.15
2700	11.32	19.26	30.86	22.91	1.44	0.40	31.49	16.27	5.21
2800	11.23	19.34	30.49	22.87	1.46	0.39	31.13	16.15	5.16
2900	11.18	19.37	29.55	22.94	1.47	0.39	31.26	16.00	5.16
3000	11.11	19.42	29.03	22.89	1.49	0.39	30.93	15.89	5.23
3100	11.02	19.51	29.14	22.57	1.51	0.38	30.41	15.66	5.19
3200	10.96	19.55	28.04	22.62	1.52	0.37	30.33	15.59	5.24
3300	10.90	19.59	27.60	22.55	1.54	0.37	30.24	15.57	5.26
3400	10.83	19.64	27.39	22.48	1.55	0.36	29.69	15.42	5.33
3500	10.73	19.77	27.39	22.06	1.58	0.36	29.58	15.34	5.34
3600	10.68	19.80	26.79	22.21	1.60	0.35	29.00	15.19	5.29
3700	10.60	19.87	26.73	22.13	1.62	0.35	28.69	14.96	5.30
3800	10.54	19.92	26.37	22.23	1.63	0.34	28.40	14.88	5.43
4000	10.38	20.05	26.42	22.12	1.68	0.33	27.88	14.66	5.38

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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 = 56mA, Vd = 4.50V @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	12.62	18.55	24.19	43.42	1.24	0.51	32.96	15.81	4.76
100	12.59	18.53	25.15	40.32	1.24	0.50	32.82	15.90	4.82
200	12.55	18.55	26.37	36.49	1.24	0.50	33.04	15.84	4.88
300	12.52	18.57	25.84	37.55	1.25	0.50	33.15	15.77	4.89
400	12.48	18.57	25.04	36.32	1.25	0.50	32.54	15.91	4.88
500	12.43	18.59	24.75	33.98	1.26	0.49	32.34	15.80	4.94
600	12.38	18.58	24.94	32.12	1.26	0.49	32.17	15.92	4.96
700	12.33	18.59	25.15	30.82	1.27	0.49	32.14	16.00	4.96
800	12.29	18.61	25.27	29.47	1.27	0.48	32.16	15.95	4.96
900	12.24	18.61	25.27	28.27	1.28	0.48	32.18	16.01	4.93
1000	12.19	18.63	25.43	27.07	1.28	0.48	32.04	15.87	4.91
1100	12.14	18.64	25.87	26.14	1.29	0.47	31.83	15.79	4.98
1200	12.09	18.66	26.31	25.39	1.29	0.47	31.84	15.69	4.97
1300	12.03	18.69	27.10	24.65	1.30	0.46	31.90	15.60	4.99
1400	11.99	18.71	27.89	24.19	1.31	0.46	31.53	15.71	4.97
1500	11.93	18.73	28.90	23.72	1.31	0.46	31.65	15.72	5.02
1600	11.87	18.77	29.65	23.28	1.32	0.45	32.05	15.69	5.10
1700	11.82	18.80	30.73	22.97	1.33	0.45	32.57	15.75	5.02
1800	11.77	18.83	31.70	22.79	1.34	0.44	32.37	15.67	5.07
1900	11.71	18.86	32.36	22.69	1.35	0.44	31.90	15.65	5.00
2000	11.67	18.88	33.14	22.70	1.36	0.44	31.89	15.74	5.00
2100	11.60	18.94	33.22	22.64	1.37	0.43	31.37	15.70	4.97
2200	11.54	18.99	32.79	22.82	1.38	0.42	31.54	15.70	4.99
2300	11.48	19.01	31.91	23.06	1.39	0.42	31.22	15.66	5.00
2400	11.41	19.06	31.12	23.18	1.41	0.41	30.97	15.61	5.02
2500	11.35	19.11	30.11	23.37	1.42	0.41	30.89	15.55	5.05
2600	11.27	19.18	29.75	23.29	1.44	0.40	30.24	15.43	5.01
2700	11.22	19.20	28.67	23.50	1.45	0.40	30.30	15.44	5.10
2800	11.14	19.28	28.38	23.42	1.47	0.39	30.02	15.32	5.03
2900	11.08	19.31	27.64	23.45	1.48	0.39	30.10	15.19	4.99
3000	11.02	19.36	27.18	23.35	1.49	0.38	29.83	15.11	5.07
3100	10.92	19.45	27.26	23.01	1.51	0.38	29.25	14.91	5.10
3200	10.87	19.49	26.37	23.00	1.53	0.37	29.29	14.79	5.18
3300	10.80	19.54	26.00	22.91	1.54	0.37	29.14	14.80	5.11
3400	10.74	19.59	25.80	22.85	1.56	0.36	28.69	14.70	5.17
3500	10.64	19.72	25.77	22.39	1.59	0.35	28.58	14.54	5.19
3600	10.59	19.75	25.24	22.52	1.60	0.35	28.03	14.38	5.13
3700	10.51	19.83	25.22	22.45	1.62	0.35	27.78	14.18	5.17
3800	10.45	19.88	24.89	22.53	1.64	0.34	27.49	14.12	5.21
4000	10.29	20.01	24.90	22.42	1.68	0.33	27.02	13.82	5.27

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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 = 84mA, Vd = 4.82V @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	12.82	18.70	26.28	35.49	1.23	0.51	38.33	17.01	5.01
100	12.79	18.68	27.57	32.57	1.24	0.51	38.26	16.93	5.03
200	12.74	18.72	29.13	30.37	1.24	0.50	38.32	17.07	5.13
300	12.71	18.73	28.45	31.11	1.25	0.50	38.08	17.20	5.11
400	12.66	18.72	27.34	31.67	1.25	0.50	37.31	17.40	5.11
500	12.61	18.73	26.93	30.78	1.25	0.49	36.98	17.54	5.15
600	12.57	18.72	27.17	29.47	1.26	0.49	36.84	17.57	5.20
700	12.52	18.74	27.38	28.49	1.26	0.49	36.50	17.75	5.16
800	12.47	18.75	27.46	27.53	1.27	0.48	36.31	17.81	5.14
900	12.42	18.76	27.46	26.65	1.27	0.48	36.34	18.00	5.14
1000	12.37	18.78	27.57	25.63	1.28	0.48	35.95	18.08	5.16
1100	12.32	18.78	28.09	24.79	1.28	0.47	35.71	18.18	5.18
1200	12.26	18.81	28.54	24.09	1.29	0.47	35.60	18.20	5.20
1300	12.20	18.83	29.43	23.39	1.30	0.46	35.37	18.05	5.23
1400	12.16	18.85	30.41	22.91	1.30	0.46	34.98	18.18	5.24
1500	12.10	18.88	31.64	22.42	1.31	0.46	35.05	18.06	5.24
1600	12.04	18.91	32.48	22.05	1.32	0.45	35.34	17.99	5.31
1700	11.99	18.94	33.93	21.75	1.33	0.45	35.53	18.01	5.26
1800	11.93	18.96	35.37	21.56	1.34	0.44	34.96	17.91	5.29
1900	11.87	19.00	36.75	21.46	1.35	0.44	34.53	17.90	5.22
2000	11.82	19.01	38.66	21.48	1.35	0.44	34.21	17.86	5.22
2100	11.75	19.08	39.19	21.43	1.37	0.43	33.86	17.69	5.27
2200	11.69	19.11	39.11	21.61	1.38	0.42	33.75	17.48	5.24
2300	11.63	19.14	37.96	21.85	1.39	0.42	33.16	17.33	5.33
2400	11.56	19.18	36.62	21.99	1.40	0.42	32.88	17.17	5.32
2500	11.50	19.21	35.00	22.19	1.41	0.41	32.57	17.08	5.34
2600	11.42	19.29	34.32	22.18	1.43	0.40	31.97	16.90	5.30
2700	11.37	19.31	32.68	22.44	1.44	0.40	31.90	16.81	5.34
2800	11.29	19.38	32.19	22.42	1.46	0.39	31.50	16.70	5.31
2900	11.23	19.42	31.12	22.51	1.47	0.39	31.60	16.55	5.35
3000	11.16	19.46	30.50	22.46	1.48	0.39	31.25	16.42	5.37
3100	11.07	19.55	30.63	22.17	1.51	0.38	30.68	16.20	5.33
3200	11.02	19.58	29.35	22.24	1.52	0.37	30.62	16.14	5.43
3300	10.95	19.63	28.87	22.18	1.53	0.37	30.53	16.12	5.43
3400	10.88	19.67	28.67	22.12	1.55	0.37	29.95	16.00	5.49
3500	10.78	19.80	28.66	21.72	1.58	0.36	29.86	15.94	5.49
3600	10.73	19.83	27.96	21.87	1.59	0.35	29.32	15.77	5.45
3700	10.65	19.89	27.92	21.80	1.61	0.35	28.94	15.59	5.51
3800	10.59	19.94	27.48	21.89	1.63	0.34	28.65	15.47	5.55
4000	10.44	20.07	27.57	21.77	1.67	0.33	28.16	15.35	5.55

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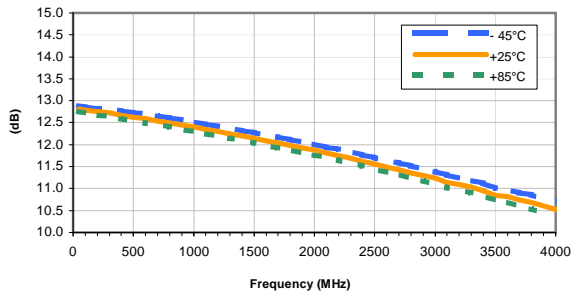
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Typical Performance Curves

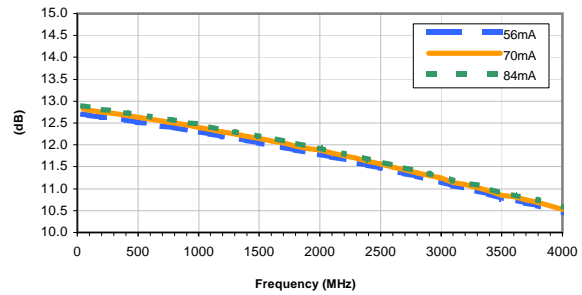
GAIN vs. TEMPERATURE

INPUT POWER = -15dBm, CURRENT = 70mA



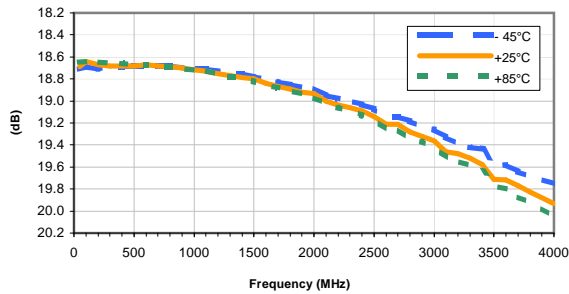
GAIN vs. CURRENT

INPUT POWER = -15dBm, Temperature = +25°C



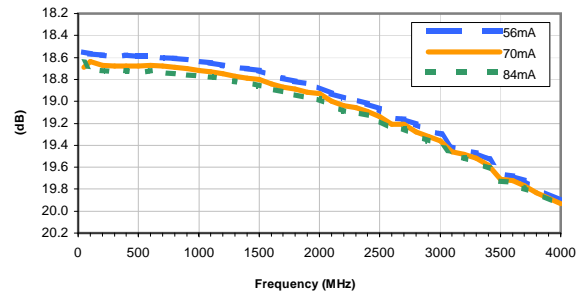
ISOLATION vs. TEMPERATURE

INPUT POWER = -15dBm, CURRENT = 70mA



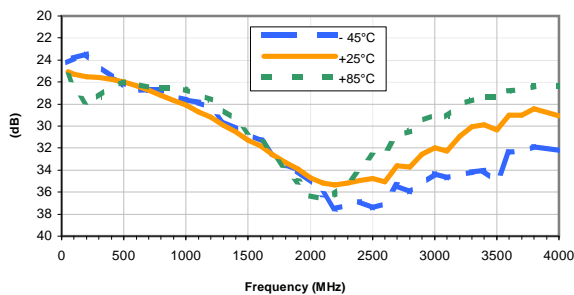
ISOLATION vs. CURRENT

INPUT POWER = -15dBm, Temperature = +25°C



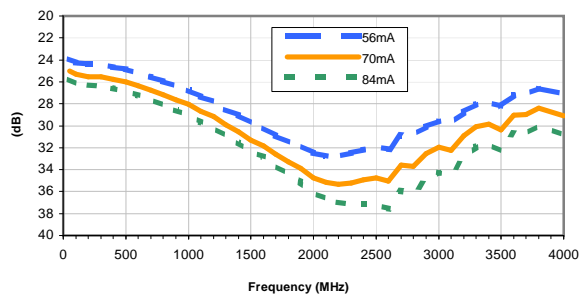
INPUT RETURN LOSS vs. TEMPERATURE

INPUT POWER = -15dBm, CURRENT = 70mA



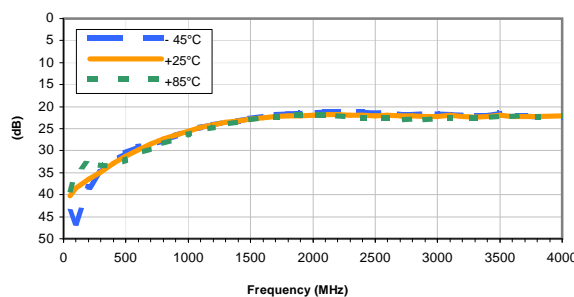
INPUT RETURN LOSS vs. CURRENT

INPUT POWER = -15dBm, Temperature = +25°C



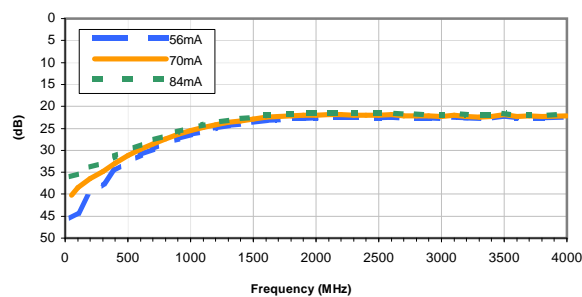
OUTPUT RETURN LOSS vs. TEMPERATURE

INPUT POWER = -15dBm, CURRENT = 70mA



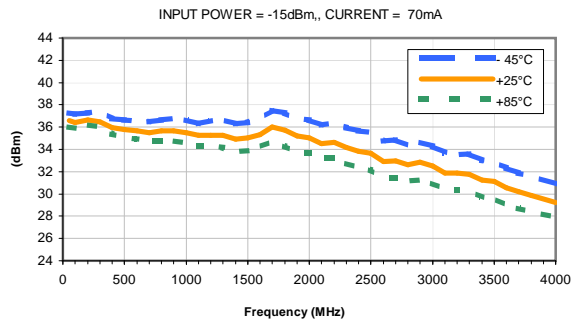
OUTPUT RETURN LOSS vs. CURRENT

INPUT POWER = -15dBm, Temperature = +25°C

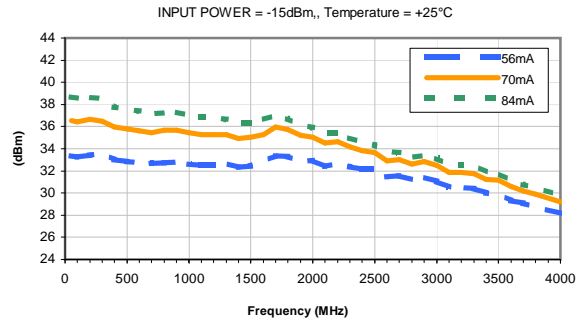


Typical Performance Curves

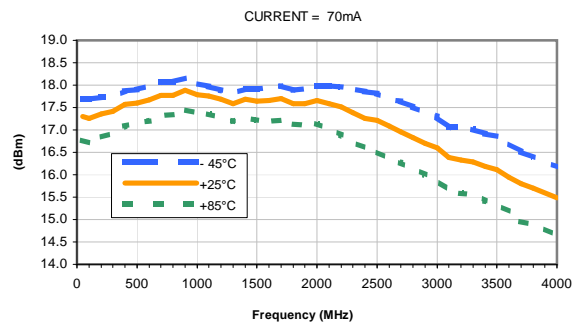
OUTPUT IP3 vs. TEMPERATURE



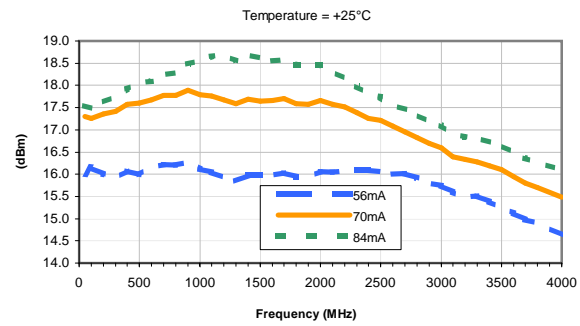
OUTPUT IP3 vs. CURRENT



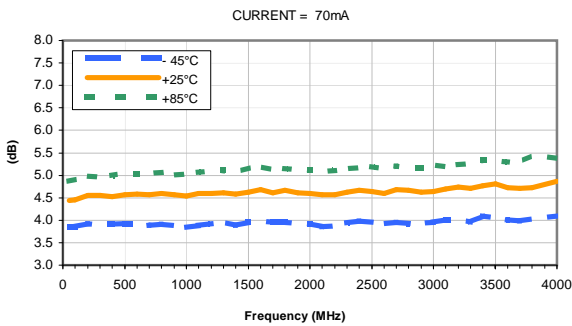
OUTPUT POWER at 1dB Compression vs. TEMPERATURE



OUTPUT POWER at 1dB Compression vs. CURRENT



Noise Figure vs. TEMPERATURE



Noise Figure vs. CURRENT

