

MMIC Amplifier

ERA-50SM+

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: I_{cc} = 60mA, V_d = 4.40V @ 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	21.58	24.27	43.71	26.95	1.05	0.73	33.74	18.37	3.29
100	21.52	24.32	42.45	26.66	1.05	0.72	33.71	18.36	3.39
150	21.48	24.30	39.93	26.49	1.05	0.72	34.32	18.50	3.38
200	21.45	24.29	37.13	26.36	1.05	0.72	33.90	18.46	3.36
250	21.40	24.28	35.22	26.08	1.05	0.72	32.92	18.40	3.43
300	21.34	24.30	34.46	25.88	1.06	0.71	33.80	18.34	3.47
350	21.28	24.24	33.15	25.58	1.06	0.71	33.47	18.34	3.40
400	21.21	24.24	32.37	25.23	1.06	0.71	33.41	18.33	3.39
450	21.15	24.24	31.13	24.97	1.06	0.70	32.83	18.17	3.42
500	21.07	24.21	30.42	24.59	1.06	0.70	33.11	18.21	3.35
550	20.99	24.20	29.81	24.26	1.07	0.69	32.90	18.24	3.40
600	20.90	24.18	29.26	23.94	1.07	0.69	32.87	18.24	3.42
650	20.82	24.15	28.59	23.69	1.07	0.68	32.63	18.15	3.33
700	20.73	24.13	28.11	23.32	1.07	0.68	32.85	17.97	3.42
750	20.63	24.11	27.72	23.04	1.08	0.67	32.75	18.04	3.44
800	20.54	24.07	27.34	22.74	1.08	0.67	32.79	17.88	3.38
850	20.44	24.05	26.99	22.43	1.08	0.66	32.67	17.85	3.42
900	20.33	24.04	26.58	22.16	1.09	0.65	32.61	17.78	3.42
940	20.25	24.02	26.48	21.91	1.09	0.65	32.60	17.80	3.33
1000	20.12	23.97	26.17	21.63	1.09	0.64	32.35	17.69	3.34
1050	20.01	23.94	25.88	21.36	1.10	0.64	32.31	17.63	3.38
1100	19.90	23.91	25.64	21.10	1.10	0.63	32.07	17.73	3.45
1150	19.79	23.87	25.48	20.89	1.10	0.63	31.90	17.62	3.43
1200	19.67	23.85	25.37	20.67	1.11	0.62	31.88	17.61	3.40
1250	19.56	23.80	25.20	20.46	1.11	0.61	31.96	17.54	3.44
1300	19.45	23.76	25.20	20.23	1.12	0.61	31.65	17.66	3.53
1350	19.33	23.73	25.15	19.97	1.12	0.60	31.38	17.60	3.46
1400	19.22	23.69	25.29	19.80	1.12	0.60	31.11	17.51	3.40
1450	19.10	23.65	25.28	19.55	1.13	0.59	31.31	17.45	3.40
1500	18.99	23.61	25.25	19.39	1.13	0.59	31.30	17.45	3.42
1550	18.87	23.57	25.24	19.17	1.14	0.58	31.51	17.36	3.47
1600	18.76	23.52	25.25	19.02	1.14	0.58	31.44	17.23	3.41
1650	18.63	23.49	25.14	18.91	1.15	0.57	31.47	17.17	3.40
1700	18.52	23.44	25.21	18.67	1.15	0.57	31.59	17.14	3.51
1750	18.40	23.39	25.28	18.56	1.15	0.56	31.07	17.03	3.43
1800	18.28	23.34	25.42	18.39	1.16	0.56	31.00	16.85	3.51
1850	18.17	23.29	25.48	18.24	1.16	0.55	30.17	16.91	3.43
1900	18.06	23.22	25.43	18.12	1.16	0.55	30.41	16.75	3.41
1950	17.94	23.18	25.62	17.96	1.17	0.54	30.04	16.42	3.36
2000	17.83	23.12	25.58	17.82	1.17	0.54	30.32	16.46	3.39

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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 = 4.35V @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	21.34	24.06	33.44	33.97	1.05	0.73	30.42	16.63	3.21
100	21.27	24.07	33.60	32.73	1.05	0.72	30.41	16.30	3.30
150	21.25	24.09	33.08	32.80	1.05	0.72	30.92	16.62	3.28
200	21.21	24.05	32.46	31.95	1.05	0.72	30.66	16.53	3.29
250	21.16	24.07	31.88	31.17	1.06	0.72	29.84	16.42	3.34
300	21.11	24.06	31.70	30.55	1.06	0.71	30.71	16.30	3.40
350	21.05	24.04	30.72	29.83	1.06	0.71	30.34	16.33	3.30
400	20.99	24.03	30.49	29.18	1.06	0.70	30.41	16.43	3.30
450	20.92	24.01	29.65	28.39	1.06	0.70	29.81	16.02	3.31
500	20.85	24.02	29.35	27.79	1.07	0.69	30.24	16.19	3.29
550	20.77	23.99	28.88	27.12	1.07	0.69	30.00	16.21	3.36
600	20.69	23.98	28.46	26.59	1.07	0.68	30.08	16.27	3.34
650	20.60	23.95	27.93	26.14	1.07	0.68	29.88	16.13	3.28
700	20.52	23.94	27.58	25.55	1.08	0.67	30.11	15.82	3.35
750	20.43	23.89	27.29	25.11	1.08	0.67	30.08	16.20	3.35
800	20.33	23.88	26.97	24.70	1.08	0.66	30.19	15.78	3.30
850	20.24	23.87	26.69	24.23	1.08	0.66	30.19	15.78	3.33
900	20.14	23.83	26.31	23.84	1.09	0.65	30.10	15.71	3.28
940	20.06	23.81	26.24	23.48	1.09	0.65	30.28	15.74	3.27
1000	19.93	23.78	25.89	23.05	1.09	0.64	29.97	15.64	3.26
1050	19.83	23.76	25.65	22.72	1.10	0.64	30.31	15.46	3.33
1100	19.72	23.72	25.41	22.35	1.10	0.63	29.88	15.87	3.38
1150	19.61	23.68	25.22	22.05	1.10	0.63	29.98	15.55	3.32
1200	19.50	23.67	25.10	21.77	1.11	0.62	29.80	15.68	3.33
1250	19.39	23.61	24.93	21.46	1.11	0.61	30.10	15.48	3.35
1300	19.28	23.59	24.93	21.21	1.12	0.61	29.88	15.80	3.40
1350	19.17	23.55	24.87	20.87	1.12	0.60	29.67	15.70	3.37
1400	19.06	23.50	24.94	20.64	1.12	0.60	29.42	15.60	3.34
1450	18.95	23.48	24.92	20.34	1.13	0.59	29.59	15.56	3.30
1500	18.83	23.44	24.87	20.13	1.13	0.59	29.71	15.65	3.35
1550	18.71	23.40	24.82	19.89	1.14	0.58	29.91	15.53	3.36
1600	18.60	23.36	24.69	19.69	1.14	0.58	29.93	15.52	3.34
1650	18.49	23.31	24.61	19.53	1.14	0.57	29.99	15.43	3.32
1700	18.37	23.28	24.65	19.26	1.15	0.57	30.28	15.61	3.44
1750	18.26	23.22	24.67	19.12	1.15	0.56	29.91	15.38	3.35
1800	18.14	23.18	24.75	18.92	1.16	0.56	29.82	15.48	3.44
1850	18.03	23.15	24.72	18.74	1.16	0.55	29.11	15.41	3.36
1900	17.92	23.10	24.62	18.59	1.16	0.55	29.21	15.46	3.31
1950	17.81	23.04	24.76	18.41	1.17	0.54	29.09	15.21	3.26
2000	17.70	23.01	24.63	18.24	1.17	0.54	29.22	15.18	3.29

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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 = 72mA, Vd = 4.44V @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	21.73	24.43	35.28	24.37	1.05	0.73	36.12	19.49	3.36
100	21.67	24.48	34.69	23.95	1.05	0.72	36.11	19.67	3.43
150	21.63	24.42	34.23	23.93	1.05	0.73	36.83	19.72	3.44
200	21.59	24.44	33.37	23.87	1.05	0.72	36.19	19.67	3.43
250	21.55	24.38	32.38	23.71	1.05	0.72	35.13	19.68	3.48
300	21.49	24.40	31.97	23.60	1.05	0.72	35.90	19.55	3.51
350	21.43	24.40	31.24	23.42	1.06	0.71	35.60	19.53	3.43
400	21.36	24.39	30.83	23.24	1.06	0.71	35.42	19.47	3.46
450	21.29	24.38	29.83	23.07	1.06	0.70	34.87	19.43	3.46
500	21.21	24.35	29.26	22.79	1.06	0.70	34.95	19.40	3.45
550	21.13	24.35	28.81	22.61	1.07	0.69	34.79	19.42	3.46
600	21.04	24.32	28.30	22.39	1.07	0.69	34.62	19.39	3.48
650	20.95	24.32	27.83	22.20	1.07	0.68	34.36	19.28	3.45
700	20.86	24.28	27.40	21.94	1.07	0.68	34.49	19.20	3.47
750	20.76	24.24	27.07	21.73	1.08	0.67	34.29	19.10	3.50
800	20.66	24.22	26.76	21.50	1.08	0.67	34.27	19.09	3.44
850	20.57	24.19	26.48	21.26	1.08	0.66	34.04	18.96	3.49
900	20.46	24.17	26.11	21.07	1.09	0.65	33.97	18.91	3.49
940	20.37	24.14	26.01	20.88	1.09	0.65	33.79	18.92	3.43
1000	20.24	24.11	25.80	20.66	1.09	0.64	33.59	18.81	3.38
1050	20.13	24.07	25.55	20.44	1.10	0.64	33.31	18.78	3.42
1100	20.02	24.03	25.35	20.25	1.10	0.63	33.19	18.68	3.50
1150	19.91	24.00	25.22	20.09	1.10	0.62	32.82	18.73	3.53
1200	19.79	23.98	25.13	19.92	1.11	0.62	32.92	18.56	3.44
1250	19.67	23.93	25.00	19.75	1.11	0.61	32.83	18.63	3.48
1300	19.56	23.88	25.00	19.55	1.12	0.61	32.52	18.58	3.59
1350	19.44	23.85	24.99	19.36	1.12	0.60	32.19	18.51	3.53
1400	19.33	23.80	25.19	19.21	1.12	0.60	31.97	18.42	3.47
1450	19.21	23.76	25.21	18.99	1.13	0.59	32.16	18.31	3.44
1500	19.09	23.73	25.19	18.85	1.13	0.59	32.08	18.22	3.49
1550	18.97	23.68	25.23	18.67	1.14	0.58	32.25	18.16	3.53
1600	18.86	23.64	25.30	18.53	1.14	0.58	32.13	17.92	3.52
1650	18.73	23.60	25.23	18.46	1.15	0.57	32.15	17.93	3.48
1700	18.62	23.54	25.33	18.24	1.15	0.57	32.14	17.75	3.63
1750	18.50	23.49	25.48	18.16	1.15	0.56	31.61	17.76	3.49
1800	18.38	23.46	25.65	18.02	1.16	0.56	31.55	17.44	3.58
1850	18.27	23.38	25.75	17.90	1.16	0.55	30.73	17.57	3.51
1900	18.15	23.33	25.76	17.77	1.16	0.55	31.03	17.33	3.50
1950	18.04	23.26	26.00	17.65	1.17	0.55	30.53	17.05	3.43
2000	17.93	23.24	26.10	17.52	1.17	0.54	30.91	17.10	3.46

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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 = 60mA, Vd = 4.64V @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	21.65	24.27	45.11	26.98	1.04	0.74	34.51	18.56	2.89
100	21.60	24.33	42.03	27.16	1.05	0.73	34.46	18.55	2.92
150	21.57	24.31	39.64	27.37	1.05	0.73	35.04	18.71	2.93
200	21.53	24.32	36.45	27.34	1.05	0.73	34.64	18.62	2.92
250	21.49	24.25	34.86	26.80	1.05	0.73	33.74	18.58	2.95
300	21.44	24.28	34.21	26.29	1.05	0.72	34.60	18.53	3.01
350	21.39	24.28	33.19	25.80	1.05	0.72	34.25	18.53	2.89
400	21.32	24.25	32.49	25.46	1.06	0.71	34.26	18.56	2.93
450	21.25	24.22	31.16	25.27	1.06	0.71	33.70	18.34	2.91
500	21.18	24.21	30.34	24.87	1.06	0.71	34.04	18.41	2.88
550	21.11	24.18	29.56	24.61	1.06	0.70	33.85	18.41	2.94
600	21.02	24.17	28.86	24.27	1.06	0.70	33.86	18.45	2.93
650	20.94	24.15	28.21	23.98	1.07	0.69	33.64	18.35	2.87
700	20.86	24.13	27.70	23.55	1.07	0.69	33.88	18.14	2.93
750	20.76	24.10	27.39	23.20	1.07	0.68	33.79	18.31	2.94
800	20.67	24.07	26.84	22.95	1.07	0.68	33.89	18.05	2.90
850	20.58	24.05	26.64	22.54	1.08	0.67	33.77	18.06	2.95
900	20.47	24.04	26.31	22.22	1.08	0.66	33.74	17.96	2.90
940	20.39	24.00	26.14	21.94	1.08	0.66	33.76	17.99	2.81
1000	20.27	23.96	25.75	21.66	1.09	0.65	33.51	17.91	2.84
1050	20.17	23.93	25.46	21.39	1.09	0.65	33.58	17.78	2.87
1100	20.05	23.89	25.28	21.13	1.09	0.64	33.33	18.00	2.95
1150	19.95	23.86	25.20	20.93	1.10	0.64	33.23	17.81	2.92
1200	19.84	23.83	25.22	20.73	1.10	0.63	33.20	17.89	2.88
1250	19.73	23.77	25.16	20.49	1.10	0.63	33.36	17.77	2.94
1300	19.62	23.75	25.06	20.29	1.11	0.62	33.06	17.96	3.00
1350	19.50	23.71	24.94	19.99	1.11	0.62	32.81	17.88	2.94
1400	19.40	23.67	24.93	19.73	1.11	0.61	32.58	17.82	2.92
1450	19.28	23.63	24.87	19.42	1.12	0.61	32.79	17.76	2.87
1500	19.18	23.58	25.00	19.06	1.12	0.60	32.84	17.80	2.93
1550	19.05	23.56	24.78	19.01	1.12	0.59	33.02	17.72	2.93
1600	18.94	23.49	25.09	18.82	1.13	0.59	32.96	17.68	2.89
1650	18.83	23.47	25.15	18.70	1.13	0.59	33.02	17.59	2.87
1700	18.71	23.41	25.21	18.55	1.13	0.58	33.23	17.65	3.01
1750	18.60	23.34	25.25	18.43	1.14	0.58	32.71	17.52	2.90
1800	18.49	23.31	25.35	18.23	1.14	0.57	32.59	17.48	3.01
1850	18.37	23.26	25.34	18.09	1.15	0.57	31.81	17.46	2.89
1900	18.26	23.22	25.34	17.92	1.15	0.56	32.10	17.38	2.91
1950	18.16	23.17	25.73	17.73	1.15	0.56	31.74	17.12	2.84
2000	18.04	23.11	25.58	17.75	1.16	0.56	32.04	17.11	2.84

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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 = 48mA, Vd = 4.59V @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	21.44	24.19	33.12	32.92	1.05	0.73	31.14	16.63	2.84
100	21.38	24.13	32.65	32.81	1.05	0.73	31.05	16.25	2.86
150	21.36	24.14	31.75	33.25	1.05	0.73	31.54	16.62	2.87
200	21.33	24.11	31.30	32.70	1.05	0.73	31.25	16.52	2.87
250	21.29	24.09	31.08	31.49	1.05	0.72	30.48	16.39	2.91
300	21.24	24.07	31.11	30.66	1.05	0.72	31.34	16.30	2.95
350	21.18	24.09	30.74	29.66	1.05	0.72	30.97	16.32	2.87
400	21.13	24.08	30.40	28.93	1.06	0.71	31.08	16.46	2.87
450	21.06	24.06	29.55	28.39	1.06	0.71	30.48	16.01	2.87
500	20.99	24.02	29.00	27.72	1.06	0.70	30.97	16.19	2.85
550	20.92	24.03	28.48	27.23	1.06	0.70	30.73	16.19	2.88
600	20.84	24.00	28.09	26.62	1.06	0.70	30.84	16.28	2.88
650	20.76	23.98	27.50	26.16	1.07	0.69	30.65	16.15	2.85
700	20.67	23.95	27.21	25.57	1.07	0.69	30.89	15.85	2.86
750	20.58	23.92	27.03	25.11	1.07	0.68	30.89	16.23	2.87
800	20.49	23.91	26.55	24.74	1.07	0.67	30.99	15.80	2.85
850	20.40	23.89	26.43	24.21	1.08	0.67	31.02	15.83	2.85
900	20.31	23.86	26.11	23.78	1.08	0.66	30.94	15.75	2.82
940	20.23	23.84	26.04	23.39	1.08	0.66	31.17	15.76	2.77
1000	20.10	23.79	25.61	22.96	1.09	0.65	30.85	15.69	2.80
1050	20.01	23.77	25.37	22.61	1.09	0.65	31.28	15.53	2.82
1100	19.90	23.74	25.23	22.29	1.09	0.64	30.80	15.94	2.89
1150	19.79	23.70	25.18	22.01	1.10	0.64	31.02	15.61	2.88
1200	19.68	23.68	25.14	21.78	1.10	0.63	30.83	15.77	2.84
1250	19.58	23.63	25.08	21.48	1.10	0.63	31.21	15.57	2.88
1300	19.47	23.61	24.98	21.23	1.11	0.62	30.98	15.89	2.95
1350	19.36	23.57	24.85	20.84	1.11	0.62	30.82	15.81	2.90
1400	19.25	23.51	24.86	20.54	1.11	0.61	30.62	15.72	2.89
1450	19.14	23.47	24.79	20.16	1.12	0.61	30.77	15.67	2.84
1500	19.04	23.44	25.01	19.74	1.12	0.60	30.98	15.80	2.83
1550	18.91	23.42	24.78	19.66	1.13	0.59	31.15	15.69	2.87
1600	18.80	23.36	24.97	19.43	1.13	0.59	31.20	15.72	2.82
1650	18.70	23.32	24.99	19.29	1.13	0.59	31.27	15.63	2.83
1700	18.58	23.28	25.03	19.12	1.13	0.58	31.67	15.86	2.99
1750	18.48	23.21	25.00	18.96	1.14	0.58	31.33	15.69	2.86
1800	18.36	23.17	25.09	18.72	1.14	0.57	31.24	15.84	2.92
1850	18.25	23.14	25.01	18.58	1.15	0.57	30.57	15.71	2.87
1900	18.14	23.09	24.93	18.37	1.15	0.56	30.68	15.83	2.82
1950	18.04	23.04	25.32	18.15	1.15	0.56	30.68	15.65	2.80
2000	17.92	22.98	25.06	18.14	1.15	0.56	30.76	15.60	2.80

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MMIC Amplifier

ERA-50SM+

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 = 72mA, Vd = 4.68V @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	21.79	24.42	38.04	24.68	1.04	0.74	37.03	19.85	2.93
100	21.73	24.47	38.45	24.65	1.05	0.73	36.99	19.93	3.00
150	21.70	24.46	37.76	24.94	1.05	0.73	37.72	20.02	2.98
200	21.67	24.43	35.79	24.82	1.05	0.73	37.11	19.98	2.95
250	21.63	24.42	33.97	24.52	1.05	0.73	36.08	19.94	2.99
300	21.57	24.42	33.14	24.15	1.05	0.72	36.89	19.88	3.07
350	21.51	24.41	32.12	23.80	1.05	0.72	36.57	19.87	2.94
400	21.45	24.37	31.67	23.61	1.05	0.72	36.48	19.82	2.98
450	21.38	24.37	30.50	23.46	1.06	0.71	35.96	19.73	2.96
500	21.31	24.34	29.71	23.20	1.06	0.71	36.10	19.73	2.95
550	21.23	24.30	29.09	23.01	1.06	0.70	35.95	19.74	2.97
600	21.15	24.28	28.40	22.77	1.06	0.70	35.81	19.73	2.97
650	21.06	24.28	27.78	22.59	1.07	0.69	35.60	19.64	2.92
700	20.98	24.25	27.30	22.25	1.07	0.69	35.76	19.53	2.96
750	20.88	24.23	26.92	22.01	1.07	0.68	35.59	19.48	2.98
800	20.78	24.20	26.43	21.79	1.07	0.68	35.58	19.41	2.92
850	20.69	24.18	26.28	21.46	1.08	0.67	35.38	19.35	2.99
900	20.59	24.14	25.92	21.22	1.08	0.67	35.36	19.28	2.95
940	20.50	24.13	25.76	20.97	1.08	0.66	35.19	19.28	2.88
1000	20.38	24.08	25.43	20.75	1.09	0.65	35.01	19.20	2.88
1050	20.27	24.04	25.16	20.56	1.09	0.65	34.75	19.16	2.92
1100	20.16	24.00	25.00	20.34	1.09	0.64	34.68	19.15	2.98
1150	20.05	23.97	24.91	20.17	1.09	0.64	34.34	19.13	2.97
1200	19.94	23.93	24.97	20.00	1.10	0.63	34.48	19.07	2.92
1250	19.83	23.88	24.91	19.81	1.10	0.63	34.40	19.08	2.97
1300	19.71	23.86	24.84	19.64	1.11	0.62	34.09	19.10	3.04
1350	19.60	23.82	24.75	19.39	1.11	0.62	33.79	19.05	3.00
1400	19.49	23.77	24.74	19.17	1.11	0.61	33.60	18.98	2.96
1450	19.38	23.73	24.66	18.90	1.12	0.61	33.84	18.91	2.93
1500	19.28	23.68	24.75	18.58	1.12	0.60	33.75	18.86	2.96
1550	19.14	23.64	24.57	18.54	1.12	0.60	33.92	18.80	2.98
1600	19.03	23.60	24.96	18.37	1.13	0.59	33.80	18.62	2.92
1650	18.92	23.54	25.02	18.28	1.13	0.59	33.83	18.61	2.94
1700	18.81	23.51	25.14	18.14	1.13	0.58	33.88	18.48	3.08
1750	18.70	23.43	25.29	18.05	1.14	0.58	33.36	18.47	2.94
1800	18.58	23.40	25.41	17.87	1.14	0.57	33.21	18.19	3.04
1850	18.46	23.35	25.39	17.76	1.14	0.57	32.43	18.31	2.94
1900	18.35	23.31	25.36	17.59	1.15	0.56	32.84	18.08	2.93
1950	18.25	23.24	25.84	17.44	1.15	0.56	32.29	17.81	2.91
2000	18.13	23.16	25.77	17.45	1.15	0.56	32.72	17.85	2.93

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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 = 60mA, Vd = 4.23V @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	21.48	24.22	42.82	27.97	1.05	0.73	33.23	18.22	3.67
100	21.41	24.24	40.57	27.07	1.05	0.72	33.20	18.23	3.74
150	21.37	24.23	38.88	26.66	1.05	0.72	33.84	18.34	3.75
200	21.33	24.23	36.51	26.31	1.05	0.72	33.41	18.34	3.74
250	21.28	24.23	34.96	26.10	1.06	0.71	32.39	18.26	3.79
300	21.23	24.18	34.29	25.86	1.06	0.71	33.23	18.17	3.83
350	21.16	24.23	33.09	25.73	1.06	0.70	32.88	18.17	3.78
400	21.09	24.17	32.57	25.52	1.06	0.70	32.80	18.14	3.81
450	21.02	24.16	31.07	25.29	1.06	0.70	32.21	18.02	3.79
500	20.94	24.16	30.33	24.95	1.07	0.69	32.45	18.05	3.78
550	20.86	24.15	29.73	24.56	1.07	0.69	32.25	18.07	3.83
600	20.77	24.14	29.21	24.29	1.07	0.68	32.18	18.06	3.82
650	20.68	24.12	28.62	23.98	1.08	0.67	31.94	17.94	3.78
700	20.59	24.08	28.14	23.57	1.08	0.67	32.11	17.83	3.84
750	20.49	24.04	27.77	23.26	1.08	0.66	31.97	17.84	3.84
800	20.38	24.03	27.24	23.07	1.08	0.66	32.00	17.72	3.79
850	20.29	24.01	26.87	22.73	1.09	0.65	31.86	17.63	3.83
900	20.18	24.00	26.48	22.53	1.09	0.64	31.77	17.59	3.84
940	20.09	23.97	26.31	22.27	1.10	0.64	31.72	17.62	3.77
1000	19.96	23.93	25.94	22.00	1.10	0.63	31.45	17.50	3.80
1050	19.85	23.92	25.70	21.73	1.10	0.63	31.39	17.44	3.79
1100	19.74	23.88	25.54	21.37	1.11	0.62	31.16	17.46	3.87
1150	19.62	23.84	25.33	21.18	1.11	0.62	30.93	17.43	3.88
1200	19.50	23.81	25.19	20.94	1.12	0.61	30.91	17.33	3.79
1250	19.39	23.76	24.99	20.68	1.12	0.60	30.94	17.33	3.84
1300	19.27	23.73	24.82	20.48	1.12	0.60	30.65	17.39	3.95
1350	19.15	23.68	24.73	20.19	1.13	0.59	30.33	17.32	3.87
1400	19.03	23.65	24.76	20.03	1.13	0.59	30.09	17.21	3.85
1450	18.92	23.62	24.75	19.76	1.14	0.58	30.25	17.14	3.80
1500	18.81	23.58	24.92	19.45	1.14	0.58	30.21	17.10	3.87
1550	18.67	23.53	24.59	19.45	1.15	0.57	30.42	16.98	3.89
1600	18.56	23.51	24.55	19.26	1.15	0.56	30.39	16.76	3.89
1650	18.43	23.46	24.43	19.07	1.16	0.56	30.40	16.74	3.81
1700	18.32	23.42	24.41	18.87	1.16	0.55	30.47	16.65	3.99
1750	18.20	23.36	24.36	18.73	1.16	0.55	29.94	16.56	3.88
1800	18.08	23.33	24.43	18.54	1.17	0.54	29.86	16.31	3.95
1850	17.96	23.28	24.35	18.42	1.17	0.54	29.06	16.40	3.86
1900	17.85	23.22	24.37	18.22	1.18	0.54	29.26	16.22	3.87
1950	17.73	23.17	24.76	18.03	1.18	0.53	28.89	15.86	3.82
2000	17.61	23.09	24.33	18.00	1.18	0.53	29.16	15.88	3.85

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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 = 4.18V @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	21.21	24.01	31.72	37.18	1.05	0.72	30.19	16.61	3.65
100	21.15	23.97	32.46	34.84	1.05	0.72	30.15	16.32	3.69
150	21.12	24.00	32.78	33.63	1.05	0.72	30.68	16.62	3.69
200	21.08	24.01	32.43	32.72	1.06	0.71	30.39	16.57	3.69
250	21.03	23.98	32.03	31.63	1.06	0.71	29.47	16.44	3.73
300	20.97	23.97	31.47	30.95	1.06	0.71	30.35	16.38	3.78
350	20.91	23.94	30.46	30.38	1.06	0.71	29.98	16.41	3.74
400	20.84	23.94	29.92	29.51	1.06	0.70	30.01	16.47	3.73
450	20.77	23.95	29.05	28.94	1.07	0.69	29.38	16.15	3.73
500	20.70	23.91	28.67	28.17	1.07	0.69	29.78	16.24	3.75
550	20.62	23.89	28.25	27.58	1.07	0.69	29.55	16.30	3.77
600	20.54	23.87	27.92	26.98	1.07	0.68	29.59	16.34	3.78
650	20.45	23.88	27.46	26.39	1.08	0.67	29.40	16.18	3.74
700	20.36	23.85	27.06	25.81	1.08	0.67	29.60	15.94	3.77
750	20.27	23.84	26.83	25.32	1.08	0.66	29.55	16.22	3.78
800	20.17	23.81	26.37	24.98	1.09	0.66	29.62	15.85	3.76
850	20.07	23.78	26.00	24.46	1.09	0.65	29.60	15.80	3.79
900	19.97	23.78	25.62	24.14	1.09	0.64	29.51	15.77	3.76
940	19.89	23.75	25.54	23.79	1.09	0.64	29.65	15.79	3.70
1000	19.75	23.73	25.14	23.37	1.10	0.63	29.34	15.69	3.71
1050	19.65	23.68	24.94	22.98	1.10	0.63	29.59	15.53	3.76
1100	19.54	23.66	24.77	22.54	1.11	0.62	29.19	15.88	3.80
1150	19.43	23.65	24.60	22.30	1.11	0.61	29.23	15.60	3.81
1200	19.31	23.61	24.44	21.95	1.12	0.61	29.08	15.67	3.73
1250	19.20	23.57	24.23	21.62	1.12	0.60	29.30	15.50	3.80
1300	19.09	23.54	24.11	21.37	1.12	0.60	29.06	15.80	3.87
1350	18.97	23.50	23.97	21.00	1.13	0.59	28.83	15.70	3.84
1400	18.86	23.47	23.99	20.80	1.13	0.59	28.58	15.58	3.80
1450	18.74	23.43	23.92	20.47	1.14	0.58	28.72	15.52	3.75
1500	18.64	23.40	24.06	20.13	1.14	0.58	28.81	15.62	3.82
1550	18.50	23.37	23.71	20.11	1.15	0.57	29.04	15.47	3.85
1600	18.39	23.30	23.61	19.83	1.15	0.57	29.06	15.40	3.80
1650	18.28	23.28	23.50	19.63	1.15	0.56	29.11	15.32	3.75
1700	18.15	23.26	23.44	19.36	1.16	0.55	29.32	15.45	3.91
1750	18.04	23.18	23.34	19.20	1.16	0.55	28.91	15.23	3.86
1800	17.92	23.15	23.42	19.00	1.17	0.54	28.82	15.21	3.91
1850	17.81	23.08	23.35	18.85	1.17	0.54	28.09	15.20	3.84
1900	17.70	23.06	23.27	18.63	1.18	0.54	28.19	15.18	3.76
1950	17.58	23.01	23.53	18.39	1.18	0.53	28.00	14.84	3.73
2000	17.46	22.93	23.12	18.38	1.18	0.53	28.16	14.84	3.81

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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 = 72mA, Vd = 4.27V @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	21.64	24.36	35.65	24.62	1.05	0.73	35.70	19.30	3.78
100	21.57	24.41	34.22	24.13	1.05	0.72	35.75	19.46	3.82
150	21.53	24.45	33.03	23.90	1.05	0.72	36.52	19.46	3.82
200	21.49	24.34	32.09	23.72	1.05	0.72	35.81	19.47	3.80
250	21.44	24.36	31.51	23.54	1.05	0.72	34.69	19.44	3.84
300	21.38	24.35	31.38	23.52	1.06	0.71	35.38	19.30	3.90
350	21.32	24.36	31.10	23.47	1.06	0.71	35.07	19.27	3.84
400	21.24	24.36	30.79	23.35	1.06	0.70	34.84	19.17	3.85
450	21.17	24.33	29.88	23.25	1.06	0.70	34.28	19.17	3.86
500	21.09	24.32	29.32	23.03	1.07	0.69	34.28	19.09	3.84
550	21.01	24.29	28.90	22.85	1.07	0.69	34.10	19.15	3.86
600	20.92	24.28	28.44	22.60	1.07	0.68	33.89	19.10	3.90
650	20.82	24.25	27.96	22.41	1.07	0.68	33.62	18.99	3.84
700	20.73	24.24	27.59	22.13	1.08	0.67	33.68	18.93	3.87
750	20.63	24.20	27.29	21.93	1.08	0.66	33.46	18.74	3.88
800	20.52	24.17	26.88	21.79	1.08	0.66	33.41	18.79	3.84
850	20.42	24.15	26.61	21.57	1.09	0.65	33.14	18.59	3.91
900	20.31	24.14	26.30	21.43	1.09	0.64	33.06	18.56	3.89
940	20.22	24.11	26.14	21.21	1.10	0.64	32.84	18.57	3.84
1000	20.09	24.07	25.88	21.02	1.10	0.63	32.58	18.41	3.85
1050	19.98	24.04	25.66	20.80	1.10	0.63	32.31	18.40	3.84
1100	19.86	24.01	25.49	20.54	1.11	0.62	32.18	18.23	3.96
1150	19.74	23.97	25.33	20.38	1.11	0.62	31.78	18.32	3.91
1200	19.62	23.93	25.24	20.18	1.12	0.61	31.84	18.07	3.85
1250	19.51	23.90	25.09	19.99	1.12	0.60	31.74	18.15	3.90
1300	19.38	23.87	24.96	19.83	1.12	0.60	31.42	18.10	4.00
1350	19.27	23.81	24.90	19.61	1.13	0.59	31.10	18.00	3.96
1400	19.15	23.77	24.98	19.46	1.13	0.59	30.88	17.89	3.89
1450	19.03	23.74	24.99	19.24	1.14	0.58	31.06	17.78	3.87
1500	18.92	23.71	25.19	18.96	1.14	0.58	30.97	17.68	3.94
1550	18.78	23.66	24.89	18.98	1.15	0.57	31.14	17.59	3.97
1600	18.66	23.60	24.99	18.80	1.15	0.57	31.06	17.33	3.93
1650	18.54	23.56	24.87	18.66	1.16	0.56	31.03	17.34	3.90
1700	18.42	23.52	24.86	18.48	1.16	0.55	31.00	17.17	4.05
1750	18.30	23.45	24.86	18.36	1.16	0.55	30.46	17.17	3.92
1800	18.18	23.42	24.97	18.20	1.17	0.55	30.39	16.82	4.04
1850	18.06	23.36	24.93	18.11	1.17	0.54	29.61	16.98	3.94
1900	17.95	23.32	24.98	17.94	1.18	0.54	29.83	16.71	3.96
1950	17.84	23.25	25.41	17.73	1.18	0.53	29.41	16.42	3.85
2000	17.71	23.20	25.09	17.72	1.18	0.53	29.73	16.47	3.95

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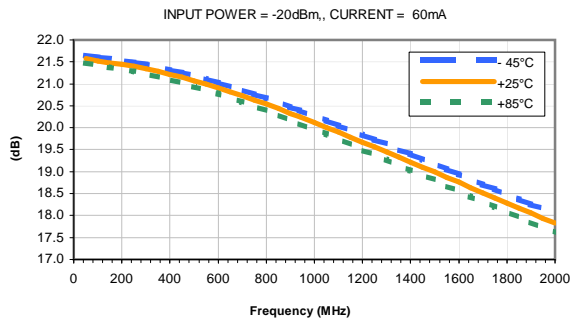


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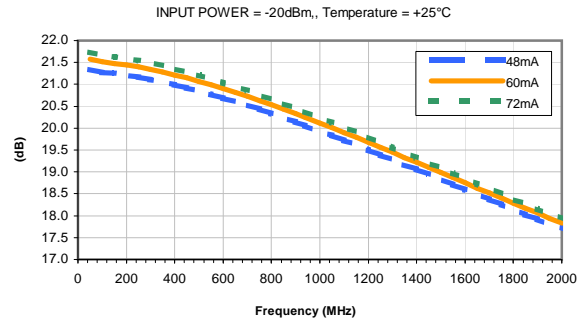


Typical Performance Curves

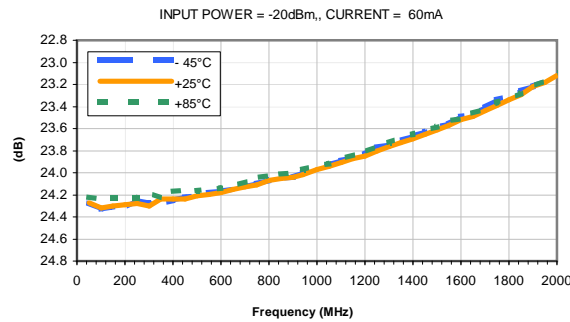
GAIN vs. TEMPERATURE



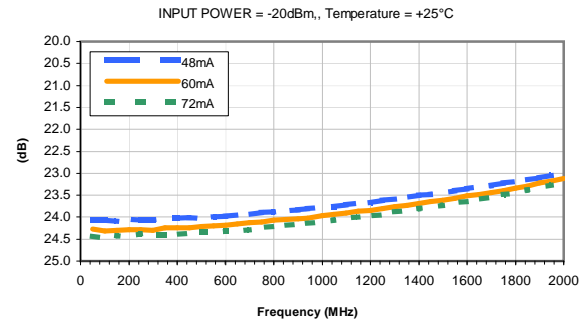
GAIN vs. CURRENT



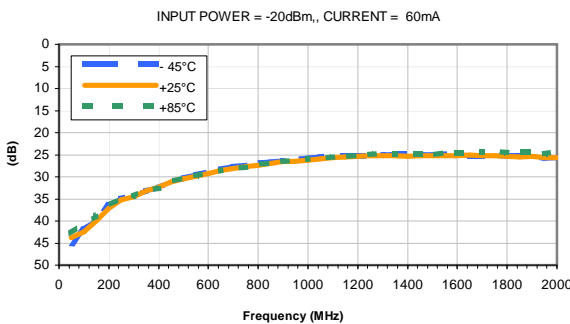
ISOLATION vs. TEMPERATURE



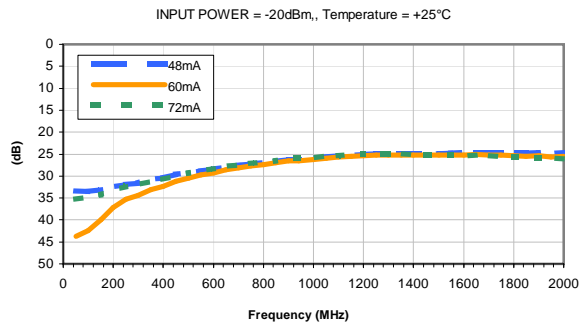
ISOLATION vs. CURRENT



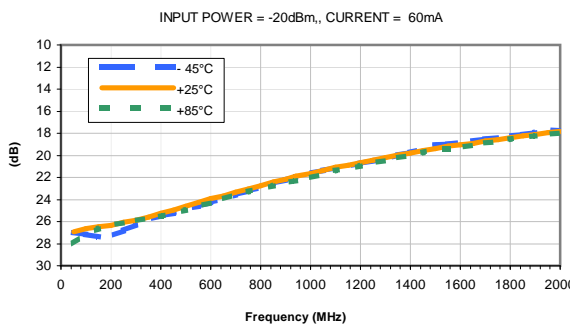
INPUT RETURN LOSS vs. TEMPERATURE



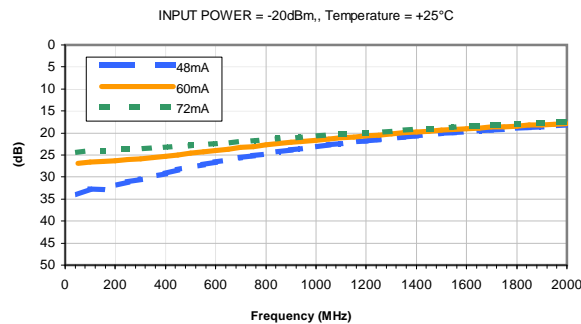
INPUT RETURN LOSS vs. CURRENT



OUTPUT RETURN LOSS vs. TEMPERATURE



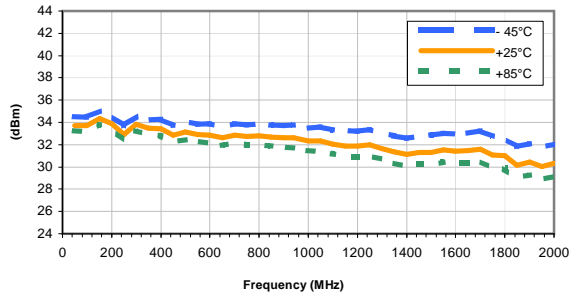
OUTPUT RETURN LOSS vs. CURRENT



Typical Performance Curves

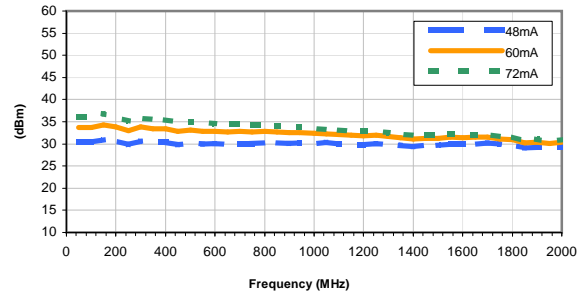
OUTPUT IP3 vs. TEMPERATURE

INPUT POWER = -20dBm, CURRENT = 60mA



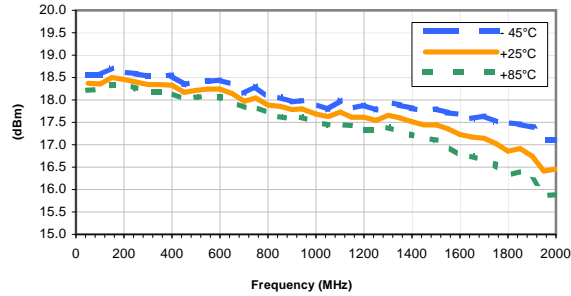
OUTPUT IP3 vs. CURRENT

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



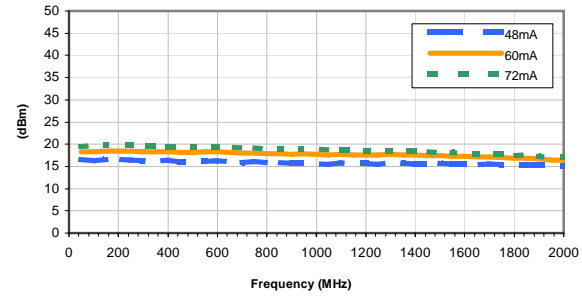
OUTPUT POWER at 1dB Compression vs. TEMPERATURE

CURRENT = 60mA



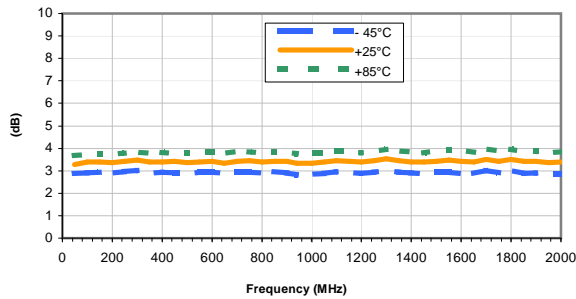
OUTPUT POWER at 1dB Compression vs. CURRENT

Temperature = +25°C



Noise Figure vs. TEMPERATURE

CURRENT = 60mA



Noise Figure vs. CURRENT

Temperature = +25°C

