

# MMIC Amplifier

# MAV-11BSM+

## 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<sub>cc</sub> = 60mA, V<sub>d</sub> = 5.56V @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	12.42	17.18	14.76	22.56	1.11	0.71	40.08	18.16	4.03
100	12.15	17.01	18.92	27.72	1.14	0.69	39.03	18.00	4.17
150	12.09	16.96	20.67	30.23	1.15	0.68	39.67	18.33	4.22
200	12.05	17.01	21.56	31.47	1.16	0.69	39.12	18.31	4.19
250	12.01	17.04	22.25	32.61	1.17	0.69	39.05	18.37	4.29
300	11.97	17.09	22.70	33.08	1.17	0.70	38.64	18.18	4.34
350	11.92	17.13	23.09	33.54	1.18	0.70	37.93	18.19	4.40
400	11.87	17.17	23.40	33.62	1.19	0.71	37.71	18.23	4.43
450	11.82	17.21	23.77	33.23	1.20	0.71	37.01	18.18	4.45
500	11.76	17.26	24.00	32.92	1.20	0.72	36.53	18.20	4.45
550	11.70	17.33	24.29	32.63	1.21	0.73	36.09	18.03	4.53
600	11.63	17.38	24.47	31.83	1.22	0.74	36.13	17.94	4.53
650	11.57	17.42	24.68	30.98	1.23	0.74	35.27	17.74	4.54
700	11.49	17.47	24.83	30.31	1.24	0.75	35.50	17.84	4.57
750	11.42	17.50	24.94	29.55	1.25	0.75	35.03	17.87	4.58
800	11.35	17.54	24.74	28.88	1.26	0.76	34.89	17.88	4.52
850	11.27	17.59	24.68	28.15	1.27	0.77	34.97	17.84	4.57
900	11.19	17.65	24.54	27.37	1.29	0.77	34.65	17.79	4.60
950	11.10	17.70	24.44	26.42	1.30	0.78	34.31	17.71	4.62
1000	11.01	17.74	24.15	25.83	1.31	0.79	34.18	17.58	4.64
1050	10.92	17.76	23.70	25.24	1.32	0.79	34.30	17.57	4.70
1100	10.83	17.82	23.36	24.56	1.34	0.80	33.99	17.74	4.72
1150	10.74	17.87	22.86	23.98	1.35	0.80	33.93	17.71	4.72
1200	10.65	17.92	22.51	23.35	1.36	0.81	33.95	17.77	4.71
1250	10.56	17.97	22.10	22.71	1.38	0.82	34.11	17.58	4.77
1300	10.46	18.01	21.70	22.17	1.39	0.82	33.86	17.67	4.78
1350	10.37	18.08	21.23	21.66	1.41	0.83	33.94	17.58	4.79
1400	10.26	18.12	20.89	21.13	1.42	0.83	33.99	17.42	4.81
1450	10.17	18.19	20.46	20.65	1.44	0.84	33.66	17.39	4.87
1500	10.08	18.24	19.98	20.23	1.45	0.85	33.66	17.47	4.89
1550	9.98	18.30	19.59	19.72	1.47	0.85	32.95	17.61	4.88
1600	9.88	18.36	19.17	19.25	1.49	0.86	33.28	17.40	5.05
1650	9.79	18.40	18.75	18.88	1.50	0.86	33.48	17.35	4.83
1700	9.69	18.45	18.30	18.54	1.52	0.86	33.60	17.57	4.92
1750	9.59	18.52	17.98	18.18	1.54	0.87	33.36	17.51	4.98
1800	9.49	18.57	17.62	17.80	1.55	0.87	33.33	17.32	5.04
1850	9.39	18.64	17.25	17.49	1.57	0.88	33.46	17.00	5.05
1900	9.30	18.69	16.89	17.16	1.59	0.88	33.15	17.07	5.09
1950	9.19	18.78	16.56	16.95	1.62	0.89	33.02	17.00	5.13
2000	9.09	18.83	16.19	16.64	1.63	0.89	32.56	16.99	4.89

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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 = 5.35V @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	12.38	17.14	14.58	22.38	1.11	0.71	42.52	16.13	3.90
100	12.11	16.99	18.52	28.79	1.14	0.69	41.17	15.92	4.02
150	12.04	16.95	20.07	32.74	1.15	0.69	42.02	16.21	4.08
200	12.00	16.96	20.83	35.41	1.16	0.69	41.26	16.23	4.02
250	11.96	17.01	21.46	37.56	1.17	0.70	41.56	16.28	4.19
300	11.92	17.03	21.84	37.80	1.17	0.70	40.63	16.11	4.25
350	11.87	17.10	22.20	37.40	1.18	0.71	40.14	16.10	4.24
400	11.82	17.15	22.51	36.57	1.19	0.71	39.32	16.15	4.32
450	11.77	17.20	22.85	35.26	1.20	0.72	38.88	16.09	4.28
500	11.71	17.24	23.09	33.96	1.21	0.72	38.16	16.13	4.34
550	11.64	17.29	23.37	33.19	1.22	0.73	37.71	15.96	4.44
600	11.58	17.34	23.57	31.97	1.23	0.74	37.48	15.85	4.38
650	11.51	17.41	23.82	30.87	1.24	0.74	36.56	15.71	4.39
700	11.44	17.43	23.98	29.93	1.24	0.75	36.53	15.78	4.38
750	11.37	17.47	24.14	29.10	1.25	0.76	36.13	15.83	4.38
800	11.29	17.52	24.09	28.44	1.26	0.76	35.92	15.84	4.41
850	11.21	17.57	24.08	27.73	1.28	0.77	36.00	15.79	4.47
900	11.13	17.62	24.10	26.97	1.29	0.77	35.72	15.78	4.47
950	11.04	17.67	24.05	26.08	1.30	0.78	35.26	15.70	4.48
1000	10.96	17.71	23.83	25.44	1.31	0.79	34.97	15.59	4.48
1050	10.87	17.76	23.49	24.89	1.33	0.79	35.31	15.56	4.53
1100	10.78	17.78	23.19	24.29	1.34	0.80	34.95	15.73	4.55
1150	10.69	17.85	22.79	23.72	1.35	0.81	34.82	15.75	4.58
1200	10.60	17.90	22.50	23.17	1.37	0.81	34.82	15.82	4.60
1250	10.51	17.97	22.11	22.54	1.38	0.82	35.06	15.65	4.58
1300	10.41	17.99	21.78	22.01	1.39	0.82	34.80	15.77	4.61
1350	10.32	18.04	21.31	21.56	1.41	0.83	34.83	15.70	4.65
1400	10.22	18.11	21.01	21.05	1.43	0.84	34.97	15.57	4.70
1450	10.12	18.16	20.57	20.59	1.44	0.84	34.55	15.57	4.66
1500	10.03	18.22	20.12	20.18	1.46	0.85	34.51	15.65	4.73
1550	9.93	18.27	19.75	19.70	1.47	0.85	33.71	15.80	4.72
1600	9.83	18.34	19.32	19.27	1.49	0.86	33.96	15.64	4.89
1650	9.74	18.39	18.90	18.90	1.51	0.86	34.20	15.63	4.69
1700	9.65	18.44	18.46	18.56	1.52	0.87	34.40	15.90	4.79
1750	9.55	18.51	18.13	18.25	1.54	0.87	34.01	15.86	4.86
1800	9.45	18.59	17.79	17.88	1.56	0.88	33.84	15.75	4.83
1850	9.35	18.62	17.40	17.57	1.58	0.88	34.02	15.47	4.97
1900	9.26	18.67	17.05	17.27	1.60	0.88	33.57	15.63	4.92
1950	9.15	18.73	16.72	17.06	1.62	0.89	33.38	15.63	4.92
2000	9.06	18.83	16.33	16.76	1.64	0.89	32.82	15.67	4.73

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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 = 5.76V @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	12.45	17.24	14.99	21.91	1.11	0.71	37.21	19.50	4.20
100	12.18	17.03	19.52	25.50	1.14	0.69	36.56	19.47	4.33
150	12.12	16.99	21.50	27.05	1.15	0.68	37.00	19.74	4.38
200	12.08	17.05	22.62	27.62	1.16	0.69	36.63	19.73	4.35
250	12.04	17.08	23.57	28.40	1.17	0.69	36.62	19.72	4.51
300	12.00	17.09	24.07	28.87	1.17	0.69	36.38	19.57	4.59
350	11.95	17.13	24.57	29.35	1.18	0.70	35.88	19.57	4.56
400	11.90	17.19	24.93	29.70	1.19	0.71	35.76	19.60	4.58
450	11.85	17.22	25.31	29.95	1.19	0.71	35.24	19.56	4.60
500	11.79	17.28	25.59	30.19	1.20	0.72	34.97	19.59	4.69
550	11.73	17.31	25.84	30.42	1.21	0.72	34.64	19.43	4.70
600	11.66	17.37	25.89	30.28	1.22	0.73	34.72	19.36	4.66
650	11.59	17.43	26.06	29.87	1.23	0.74	34.05	19.20	4.72
700	11.52	17.46	26.05	29.70	1.24	0.75	34.28	19.27	4.72
750	11.45	17.49	26.06	29.28	1.25	0.75	33.89	19.33	4.69
800	11.38	17.52	25.65	28.91	1.26	0.76	33.82	19.31	4.70
850	11.30	17.57	25.45	28.28	1.27	0.76	33.88	19.31	4.74
900	11.22	17.61	25.14	27.55	1.28	0.77	33.63	19.23	4.75
950	11.13	17.67	24.91	26.71	1.29	0.78	33.38	19.15	4.75
1000	11.04	17.70	24.46	26.09	1.31	0.78	33.32	19.00	4.75
1050	10.95	17.73	23.95	25.49	1.32	0.79	33.39	19.00	4.87
1100	10.87	17.79	23.49	24.82	1.33	0.80	33.15	19.14	4.84
1150	10.78	17.82	22.90	24.22	1.34	0.80	33.14	19.12	4.88
1200	10.68	17.88	22.53	23.51	1.35	0.81	33.18	19.15	4.87
1250	10.59	17.93	22.05	22.84	1.37	0.81	33.34	18.94	4.89
1300	10.50	17.98	21.63	22.28	1.38	0.82	33.11	18.98	4.93
1350	10.40	18.03	21.14	21.74	1.40	0.83	33.23	18.87	4.95
1400	10.30	18.09	20.77	21.19	1.41	0.83	33.28	18.70	5.02
1450	10.21	18.13	20.33	20.65	1.43	0.84	33.03	18.63	5.01
1500	10.11	18.18	19.88	20.19	1.44	0.84	33.05	18.63	5.02
1550	10.01	18.25	19.45	19.66	1.46	0.85	32.45	18.73	5.01
1600	9.92	18.30	19.04	19.20	1.48	0.85	32.78	18.48	5.21
1650	9.83	18.34	18.61	18.80	1.49	0.86	32.99	18.30	4.98
1700	9.73	18.41	18.17	18.41	1.51	0.86	33.14	18.45	5.11
1750	9.63	18.46	17.83	18.04	1.52	0.87	32.99	18.26	5.13
1800	9.53	18.54	17.50	17.64	1.54	0.87	32.97	17.97	5.13
1850	9.43	18.58	17.13	17.32	1.56	0.88	33.13	17.55	5.26
1900	9.34	18.63	16.79	16.99	1.57	0.88	32.88	17.55	5.23
1950	9.23	18.71	16.46	16.74	1.60	0.88	32.81	17.40	5.24
2000	9.13	18.76	16.08	16.42	1.62	0.89	32.42	17.30	5.08

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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 = 5.72V @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	12.32	17.21	13.78	25.43	1.12	0.72	32.39	18.83	3.75
100	12.14	17.00	16.99	32.87	1.14	0.69	32.69	18.37	3.86
150	12.10	16.99	18.39	41.70	1.15	0.69	32.65	18.49	3.88
200	12.07	16.97	18.84	41.33	1.15	0.69	32.77	18.52	3.81
250	12.04	16.99	19.17	36.35	1.16	0.69	32.61	18.43	4.00
300	12.01	17.02	19.90	35.17	1.16	0.69	32.89	18.50	3.97
350	11.96	17.07	20.32	33.80	1.17	0.70	32.91	18.50	4.02
400	11.92	17.13	20.56	32.67	1.18	0.70	33.12	18.70	4.08
450	11.87	17.22	20.78	31.34	1.19	0.71	33.26	18.44	4.07
500	11.82	17.24	20.93	30.30	1.20	0.72	33.43	18.61	4.07
550	11.76	17.29	21.17	29.81	1.20	0.72	33.55	18.33	4.09
600	11.70	17.35	21.43	29.07	1.21	0.73	33.50	18.18	4.15
650	11.63	17.44	21.52	28.39	1.23	0.74	34.22	17.97	4.14
700	11.56	17.50	21.51	27.52	1.24	0.75	34.06	18.07	4.14
750	11.49	17.56	21.70	26.66	1.25	0.75	34.42	18.11	4.10
800	11.42	17.62	21.62	25.66	1.26	0.76	34.49	17.99	4.09
850	11.35	17.67	21.68	24.84	1.27	0.77	34.31	18.07	4.18
900	11.27	17.75	21.67	24.03	1.28	0.77	34.22	17.99	4.21
950	11.18	17.83	21.88	23.39	1.30	0.78	34.69	17.83	4.22
1000	11.10	17.87	21.65	22.88	1.31	0.79	35.20	17.74	4.23
1050	11.01	17.93	21.43	22.38	1.32	0.79	34.38	17.71	4.24
1100	10.92	18.00	21.35	21.96	1.34	0.80	34.55	17.98	4.30
1150	10.83	18.05	21.20	21.66	1.35	0.81	34.33	17.87	4.26
1200	10.74	18.12	20.96	21.45	1.37	0.81	34.56	17.91	4.34
1250	10.64	18.20	20.63	21.06	1.39	0.82	33.95	17.58	4.31
1300	10.55	18.26	20.25	20.80	1.40	0.83	33.88	17.74	4.37
1350	10.45	18.33	19.91	20.53	1.42	0.83	34.27	17.63	4.41
1400	10.34	18.40	19.60	20.11	1.44	0.84	33.76	17.40	4.43
1450	10.24	18.46	19.19	19.75	1.46	0.85	33.86	17.39	4.44
1500	10.14	18.53	18.87	19.42	1.48	0.85	33.36	17.41	4.47
1550	10.04	18.58	18.45	19.22	1.49	0.86	32.99	17.52	4.43
1600	9.94	18.64	18.12	18.89	1.51	0.86	33.51	17.36	4.54
1650	9.84	18.71	17.73	18.67	1.53	0.87	33.13	17.31	4.43
1700	9.75	18.76	17.34	18.47	1.55	0.87	32.66	17.45	4.52
1750	9.65	18.81	17.05	18.22	1.57	0.88	32.29	17.26	4.62
1800	9.53	18.90	16.85	17.90	1.59	0.88	32.83	17.09	4.64
1850	9.44	18.96	16.47	17.47	1.61	0.89	32.45	16.68	4.68
1900	9.35	18.97	16.08	17.33	1.62	0.89	32.11	16.75	4.65
1950	9.23	19.06	15.74	17.23	1.65	0.90	31.97	16.54	4.71
2000	9.14	19.14	15.41	16.99	1.67	0.90	31.62	16.34	4.52

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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 = 5.55V @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	12.31	17.22	13.47	24.85	1.12	0.73	32.19	16.69	3.59
100	12.13	17.02	16.41	31.18	1.14	0.70	32.23	16.24	3.70
150	12.09	16.94	17.70	34.82	1.15	0.69	32.24	16.35	3.70
200	12.06	16.97	18.06	34.54	1.15	0.69	32.35	16.42	3.67
250	12.03	17.00	18.35	32.52	1.16	0.69	32.26	16.34	3.82
300	12.00	17.04	18.98	32.46	1.16	0.70	32.44	16.38	3.79
350	11.96	17.11	19.40	31.73	1.17	0.70	32.49	16.38	3.87
400	11.91	17.13	19.61	30.73	1.18	0.71	32.69	16.59	3.86
450	11.86	17.18	19.80	29.71	1.19	0.71	32.76	16.35	3.93
500	11.81	17.23	19.96	28.81	1.19	0.72	32.91	16.51	3.90
550	11.76	17.30	20.21	28.33	1.20	0.73	32.98	16.24	3.98
600	11.69	17.36	20.43	27.75	1.21	0.73	33.14	16.12	3.96
650	11.63	17.43	20.50	27.07	1.23	0.74	33.50	15.91	3.97
700	11.55	17.52	20.52	26.09	1.24	0.75	33.61	16.01	4.01
750	11.49	17.57	20.69	25.30	1.25	0.75	33.75	16.07	3.95
800	11.42	17.64	20.66	24.39	1.26	0.76	33.97	15.96	3.99
850	11.34	17.70	20.69	23.71	1.27	0.77	33.92	16.05	4.02
900	11.26	17.77	20.77	23.04	1.29	0.77	33.88	15.98	4.03
950	11.18	17.86	21.00	22.48	1.30	0.78	34.22	15.84	4.75
1000	11.09	17.89	20.85	22.06	1.31	0.79	34.60	15.76	4.04
1050	11.01	17.95	20.70	21.60	1.33	0.79	34.07	15.75	4.09
1100	10.92	18.03	20.68	21.23	1.34	0.80	34.21	16.05	4.11
1150	10.83	18.10	20.61	21.01	1.36	0.81	34.11	15.96	4.10
1200	10.74	18.17	20.44	20.86	1.37	0.81	34.32	16.02	4.22
1250	10.64	18.24	20.22	20.54	1.39	0.82	33.91	15.73	4.15
1300	10.55	18.31	19.90	20.29	1.41	0.83	33.75	15.90	4.20
1350	10.44	18.39	19.62	20.08	1.43	0.84	34.07	15.83	4.21
1400	10.34	18.44	19.34	19.70	1.45	0.84	33.63	15.65	4.24
1450	10.24	18.52	18.96	19.37	1.46	0.85	33.69	15.67	4.22
1500	10.14	18.58	18.67	19.08	1.48	0.85	33.35	15.74	4.32
1550	10.04	18.65	18.28	18.93	1.50	0.86	32.92	15.89	4.32
1600	9.94	18.72	17.98	18.65	1.52	0.87	33.40	15.78	4.41
1650	9.84	18.77	17.64	18.46	1.54	0.87	33.03	15.77	4.29
1700	9.75	18.81	17.26	18.30	1.55	0.88	32.61	16.01	4.39
1750	9.65	18.88	16.99	18.05	1.58	0.88	32.26	15.89	4.39
1800	9.53	18.98	16.78	17.79	1.60	0.89	32.73	15.77	4.45
1850	9.44	19.03	16.41	17.38	1.62	0.89	32.39	15.54	4.51
1900	9.35	19.05	16.04	17.30	1.63	0.89	32.09	15.69	4.47
1950	9.23	19.11	15.71	17.20	1.66	0.90	31.92	15.67	4.54
2000	9.14	19.20	15.39	17.03	1.68	0.91	31.60	15.67	4.34

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# MMIC Amplifier

# MAV-11BSM+

## 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 = 5.91 @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	12.33	17.20	14.04	25.78	1.12	0.72	33.32	20.18	3.93
100	12.15	17.01	17.53	33.21	1.14	0.69	33.92	19.83	4.04
150	12.11	16.97	19.15	42.32	1.15	0.69	33.82	19.86	4.05
200	12.08	16.93	19.55	42.56	1.15	0.68	33.97	19.87	3.99
250	12.05	17.00	19.99	37.56	1.16	0.69	33.76	19.72	4.14
300	12.02	17.04	20.75	34.96	1.16	0.69	34.09	19.82	4.25
350	11.97	17.08	21.25	34.04	1.17	0.70	34.06	19.81	4.18
400	11.93	17.13	21.49	32.80	1.18	0.70	34.38	20.00	4.22
450	11.88	17.16	21.71	31.90	1.19	0.71	34.46	19.76	4.24
500	11.83	17.23	21.92	30.85	1.19	0.71	34.76	19.95	4.21
550	11.78	17.30	22.17	30.32	1.20	0.72	34.94	19.68	4.34
600	11.71	17.37	22.43	29.67	1.22	0.73	34.62	19.58	4.27
650	11.64	17.42	22.47	28.97	1.23	0.74	35.80	19.39	4.33
700	11.57	17.48	22.46	28.29	1.24	0.74	35.30	19.45	4.33
750	11.51	17.54	22.67	27.62	1.25	0.75	35.85	19.50	4.27
800	11.44	17.58	22.56	26.55	1.26	0.76	35.81	19.38	4.26
850	11.36	17.65	22.53	25.64	1.27	0.76	35.51	19.46	4.39
900	11.28	17.71	22.52	24.69	1.28	0.77	35.11	19.37	4.34
950	11.20	17.80	22.69	23.96	1.30	0.78	35.61	19.19	4.40
1000	11.11	17.84	22.33	23.41	1.31	0.78	36.47	19.08	4.41
1050	11.03	17.90	22.05	22.89	1.32	0.79	35.11	19.06	4.43
1100	10.94	17.96	21.91	22.43	1.34	0.80	35.23	19.28	4.46
1150	10.85	18.02	21.67	22.10	1.35	0.80	34.87	19.14	4.44
1200	10.75	18.10	21.36	21.81	1.37	0.81	35.22	19.11	4.49
1250	10.65	18.17	20.94	21.33	1.39	0.82	34.48	18.67	4.51
1300	10.56	18.21	20.48	21.04	1.40	0.82	34.38	18.64	4.55
1350	10.46	18.28	20.09	20.75	1.42	0.83	34.89	18.09	4.54
1400	10.35	18.34	19.72	20.32	1.43	0.84	34.28	17.24	4.54
1450	10.25	18.41	19.30	19.95	1.45	0.84	34.36	17.03	4.59
1500	10.15	18.48	18.97	19.59	1.47	0.85	33.77	16.84	4.68
1550	10.05	18.54	18.53	19.31	1.49	0.86	33.28	16.86	4.66
1600	9.96	18.58	18.13	19.03	1.50	0.86	33.98	16.55	4.76
1650	9.85	18.66	17.78	18.71	1.52	0.87	33.59	16.45	4.58
1700	9.76	18.69	17.35	18.53	1.54	0.87	33.12	16.48	4.69
1750	9.66	18.77	17.06	18.22	1.56	0.88	32.72	16.30	4.74
1800	9.54	18.86	16.83	17.90	1.58	0.88	33.30	16.10	4.78
1850	9.46	18.91	16.46	17.46	1.60	0.89	32.91	15.77	4.85
1900	9.36	18.93	16.08	17.26	1.61	0.89	32.53	15.84	4.83
1950	9.24	19.00	15.72	17.13	1.64	0.90	32.38	15.77	4.86
2000	9.15	19.08	15.40	16.87	1.66	0.90	32.01	15.65	4.68

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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 = 5.35V @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	12.36	17.23	15.25	19.36	1.11	0.71	33.61	17.30	4.33
100	12.03	17.07	19.61	21.35	1.15	0.70	33.41	17.58	4.45
150	11.96	17.09	21.58	22.17	1.16	0.70	33.66	18.04	4.56
200	11.93	17.09	23.67	22.52	1.17	0.70	33.54	18.10	4.45
250	11.90	17.12	24.55	23.14	1.18	0.70	33.50	18.34	4.66
300	11.86	17.14	24.58	24.28	1.18	0.70	33.44	17.82	4.72
350	11.81	17.16	25.05	25.45	1.19	0.71	33.20	17.88	4.73
400	11.76	17.19	25.44	25.96	1.20	0.71	33.13	17.81	4.80
450	11.71	17.24	25.33	26.54	1.21	0.72	32.88	17.86	4.79
500	11.65	17.28	25.54	27.13	1.21	0.73	32.71	17.87	4.87
550	11.59	17.30	25.69	27.68	1.22	0.73	32.50	17.77	4.89
600	11.52	17.34	25.78	28.04	1.23	0.74	32.54	17.62	4.87
650	11.45	17.35	25.67	28.16	1.24	0.74	32.15	17.53	4.92
700	11.38	17.39	25.72	28.48	1.25	0.75	32.25	17.67	4.91
750	11.31	17.42	25.83	28.24	1.25	0.75	32.05	17.70	4.91
800	11.24	17.43	25.48	28.01	1.26	0.76	32.00	17.64	4.84
850	11.17	17.47	25.29	27.55	1.27	0.76	32.04	17.64	4.96
900	11.09	17.52	24.96	26.94	1.28	0.77	31.88	17.58	4.99
950	11.00	17.55	24.93	26.29	1.29	0.78	31.75	17.53	4.98
1000	10.92	17.57	24.57	25.89	1.30	0.78	31.67	17.46	4.98
1050	10.84	17.61	24.15	25.37	1.31	0.79	31.75	17.39	5.02
1100	10.76	17.65	23.60	24.71	1.33	0.79	31.63	17.59	5.06
1150	10.67	17.68	23.14	24.15	1.34	0.80	31.61	17.64	5.02
1200	10.59	17.74	22.72	23.50	1.35	0.81	31.63	17.72	5.11
1250	10.50	17.79	22.24	22.81	1.36	0.81	31.74	17.47	5.08
1300	10.41	17.81	21.76	22.24	1.37	0.82	31.64	17.55	5.12
1350	10.32	17.89	21.24	21.76	1.39	0.82	31.68	17.53	5.16
1400	10.23	17.93	20.80	21.29	1.40	0.83	31.72	17.34	5.16
1450	10.13	17.98	20.39	20.78	1.42	0.83	31.55	17.28	5.15
1500	10.04	18.05	20.01	20.29	1.43	0.84	31.56	17.34	5.21
1550	9.94	18.10	19.48	19.81	1.45	0.84	31.20	17.54	5.21
1600	9.85	18.18	19.10	19.31	1.47	0.85	31.41	17.32	5.39
1650	9.77	18.21	18.66	18.97	1.48	0.85	31.61	17.28	5.14
1700	9.68	18.25	18.22	18.62	1.49	0.86	31.68	17.55	5.28
1750	9.58	18.31	17.84	18.24	1.51	0.86	31.58	17.42	5.32
1800	9.48	18.40	17.50	17.85	1.53	0.87	31.54	17.20	5.35
1850	9.39	18.45	17.14	17.45	1.55	0.87	31.66	16.95	5.03
1900	9.30	18.48	16.71	17.21	1.56	0.88	31.45	17.01	5.41
1950	9.19	18.57	16.32	16.99	1.58	0.88	31.45	16.96	5.40
2000	9.08	18.66	16.03	16.59	1.61	0.89	31.15	16.90	5.28

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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 = 48mA, Vd = 5.14V @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	12.32	17.17	15.16	19.89	1.11	0.71	33.16	15.06	4.17
100	11.99	17.03	19.34	22.83	1.15	0.70	32.95	15.27	4.29
150	11.91	17.01	21.09	24.01	1.16	0.70	33.11	15.70	4.39
200	11.87	17.02	22.97	24.45	1.17	0.70	33.05	15.83	4.33
250	11.84	17.04	23.84	25.26	1.18	0.70	33.08	15.66	4.46
300	11.80	17.06	23.74	26.71	1.18	0.71	32.93	15.67	4.51
350	11.75	17.09	24.11	28.21	1.19	0.71	32.91	15.72	4.59
400	11.70	17.13	24.48	28.98	1.20	0.72	32.71	15.79	4.62
450	11.64	17.19	24.43	29.68	1.21	0.72	32.61	15.64	4.63
500	11.58	17.22	24.68	30.37	1.21	0.73	32.43	15.94	4.67
550	11.52	17.24	24.92	30.97	1.22	0.73	32.32	15.72	4.74
600	11.46	17.27	25.10	31.18	1.23	0.74	32.23	15.64	4.73
650	11.39	17.33	25.08	30.91	1.24	0.75	31.93	15.50	4.76
700	11.32	17.36	25.22	30.81	1.25	0.75	31.93	15.65	4.77
750	11.25	17.38	25.41	30.17	1.26	0.76	31.76	15.60	4.72
800	11.18	17.43	25.19	29.49	1.27	0.76	31.78	15.72	4.69
850	11.10	17.44	25.16	28.79	1.28	0.77	31.82	15.66	4.79
900	11.02	17.49	24.99	27.98	1.29	0.77	31.68	15.56	4.84
950	10.94	17.52	25.01	27.00	1.30	0.78	31.49	15.54	4.85
1000	10.85	17.55	24.74	26.46	1.31	0.78	31.36	15.36	4.85
1050	10.77	17.58	24.46	25.87	1.32	0.79	31.57	15.29	4.89
1100	10.69	17.62	24.00	25.16	1.33	0.80	31.43	15.50	4.87
1150	10.61	17.66	23.53	24.48	1.34	0.80	31.36	15.65	4.94
1200	10.52	17.72	23.15	23.86	1.36	0.81	31.42	15.63	4.95
1250	10.43	17.78	22.72	23.11	1.37	0.81	31.54	15.55	4.94
1300	10.34	17.80	22.22	22.55	1.38	0.82	31.48	15.46	4.98
1350	10.25	17.87	21.71	22.02	1.40	0.83	31.50	15.51	4.98
1400	10.16	17.92	21.27	21.56	1.41	0.83	31.60	15.54	5.01
1450	10.07	17.95	20.87	21.02	1.42	0.84	31.45	15.58	5.01
1500	9.97	18.04	20.45	20.53	1.44	0.84	31.47	15.41	5.10
1550	9.88	18.10	19.91	20.07	1.46	0.85	31.12	15.69	5.05
1600	9.78	18.14	19.51	19.58	1.47	0.85	31.28	15.64	5.24
1650	9.70	18.18	19.05	19.21	1.49	0.86	31.50	15.58	5.01
1700	9.61	18.24	18.57	18.85	1.50	0.86	31.63	15.76	5.13
1750	9.51	18.30	18.16	18.49	1.52	0.87	31.48	15.75	5.16
1800	9.41	18.40	17.84	18.09	1.54	0.87	31.37	15.60	5.20
1850	9.32	18.46	17.45	17.71	1.56	0.88	31.54	15.43	5.30
1900	9.24	18.47	17.01	17.47	1.57	0.88	31.34	15.55	5.24
1950	9.13	18.56	16.61	17.29	1.60	0.89	31.29	15.47	5.29
2000	9.02	18.66	16.30	16.88	1.62	0.89	30.97	15.56	5.06

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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 = 5.56V @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	12.37	17.33	15.32	18.78	1.11	0.72	33.32	18.66	4.48
100	12.05	17.14	19.66	20.08	1.15	0.70	33.18	19.01	4.59
150	11.98	17.12	21.78	20.76	1.16	0.69	33.43	19.49	4.69
200	11.95	17.13	24.01	21.04	1.17	0.69	33.29	19.50	4.61
250	11.93	17.16	24.93	21.62	1.18	0.70	33.23	19.73	4.75
300	11.89	17.16	24.89	22.55	1.18	0.70	33.20	19.23	4.91
350	11.84	17.19	25.54	23.56	1.19	0.71	32.92	19.28	4.89
400	11.80	17.22	25.81	23.93	1.20	0.71	32.91	19.17	4.92
450	11.74	17.26	25.68	24.47	1.20	0.72	32.66	19.25	4.95
500	11.68	17.30	25.85	24.97	1.21	0.72	32.48	19.29	4.99
550	11.62	17.32	25.98	25.52	1.22	0.73	32.28	19.17	5.03
600	11.56	17.36	25.93	25.75	1.23	0.73	32.34	19.05	5.06
650	11.49	17.39	25.75	26.05	1.24	0.74	31.97	18.99	5.05
700	11.42	17.40	25.71	26.35	1.24	0.75	32.11	19.09	5.05
750	11.35	17.43	25.71	26.31	1.25	0.75	31.91	19.14	5.04
800	11.28	17.47	25.25	26.24	1.26	0.76	31.86	19.07	5.01
850	11.21	17.48	24.98	26.05	1.27	0.76	31.89	19.08	5.08
900	11.13	17.54	24.61	25.71	1.28	0.77	31.74	19.04	5.11
950	11.04	17.57	24.50	25.25	1.29	0.77	31.65	18.99	5.12
1000	10.96	17.58	24.05	24.94	1.30	0.78	31.60	18.89	5.13
1050	10.89	17.61	23.64	24.57	1.31	0.79	31.64	18.83	5.19
1100	10.80	17.66	23.13	24.03	1.32	0.79	31.53	19.04	5.19
1150	10.72	17.70	22.67	23.54	1.33	0.80	31.55	19.08	5.21
1200	10.63	17.75	22.17	22.93	1.35	0.80	31.57	19.14	5.24
1250	10.54	17.79	21.73	22.34	1.36	0.81	31.65	18.88	5.20
1300	10.46	17.84	21.28	21.82	1.37	0.82	31.55	18.93	5.24
1350	10.36	17.89	20.75	21.35	1.38	0.82	31.60	18.89	5.29
1400	10.27	17.94	20.33	20.92	1.40	0.83	31.64	18.66	5.33
1450	10.18	17.98	19.97	20.41	1.41	0.83	31.49	18.54	5.30
1500	10.08	18.05	19.59	19.96	1.43	0.84	31.51	18.57	5.36
1550	9.99	18.10	19.11	19.48	1.44	0.84	31.19	18.66	5.32
1600	9.89	18.15	18.76	18.99	1.46	0.85	31.39	18.37	5.49
1650	9.81	18.18	18.35	18.68	1.47	0.85	31.60	18.25	5.28
1700	9.72	18.24	17.89	18.31	1.48	0.86	31.65	18.46	5.43
1750	9.63	18.31	17.54	17.94	1.50	0.86	31.58	18.22	5.48
1800	9.52	18.37	17.20	17.55	1.52	0.87	31.56	17.92	5.48
1850	9.43	18.44	16.87	17.15	1.54	0.87	31.65	17.56	5.57
1900	9.35	18.47	16.49	16.93	1.55	0.88	31.53	17.57	5.53
1950	9.24	18.53	16.09	16.70	1.57	0.88	31.51	17.45	5.55
2000	9.13	18.65	15.81	16.28	1.60	0.89	31.24	17.36	5.43

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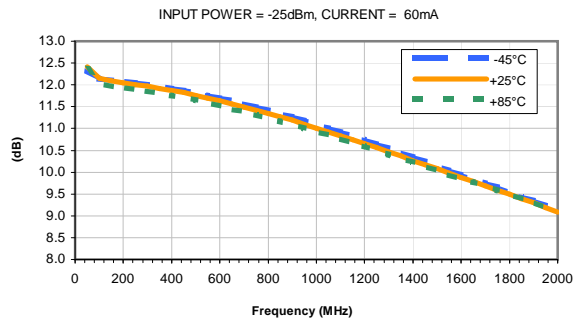


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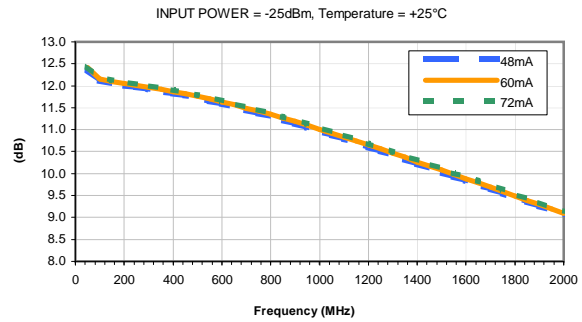


## Typical Performance Curves

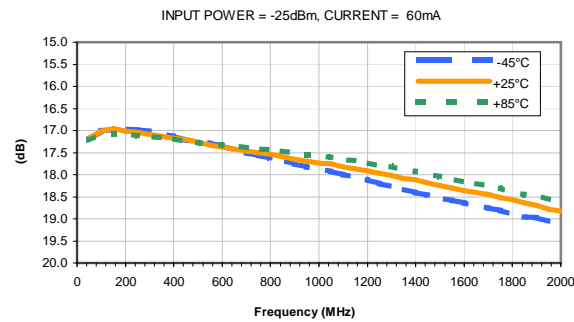
### GAIN vs. TEMPERATURE



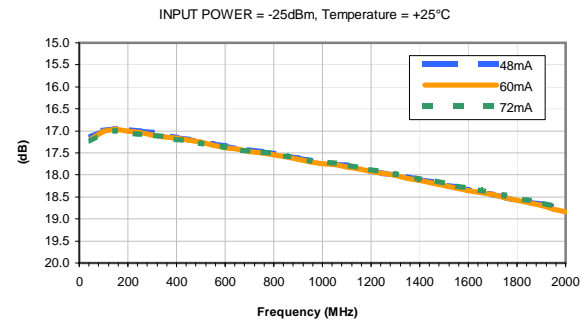
### GAIN vs. CURRENT



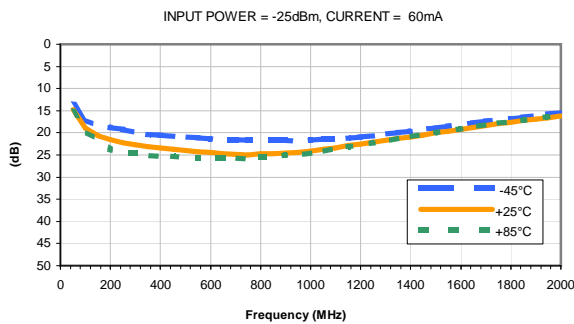
### ISOLATION vs. TEMPERATURE



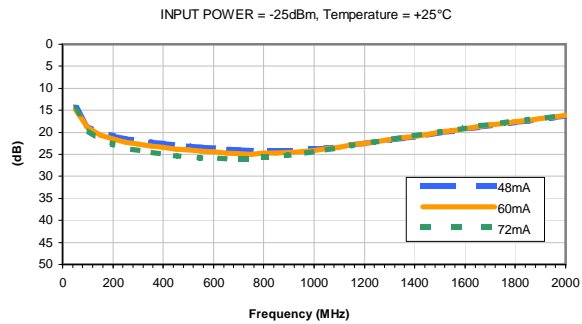
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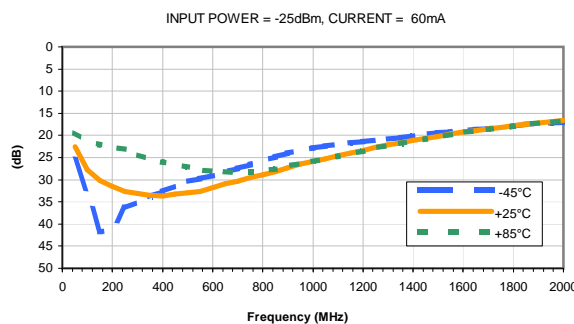
### INPUT RETURN LOSS vs. TEMPERATURE



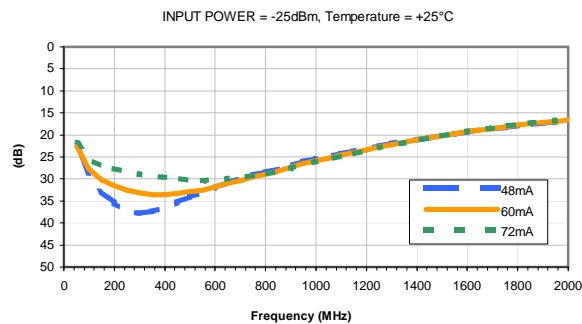
### INPUT RETURN LOSS vs. CURRENT



### OUTPUT RETURN LOSS vs. TEMPERATURE



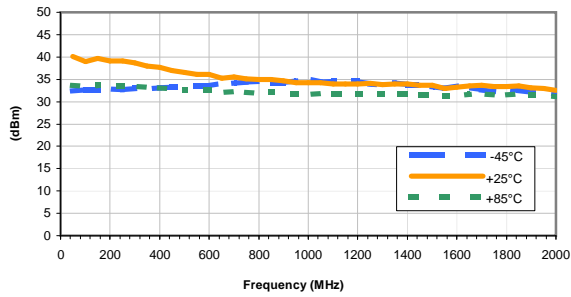
### OUTPUT RETURN LOSS vs. CURRENT



## Typical Performance Curves

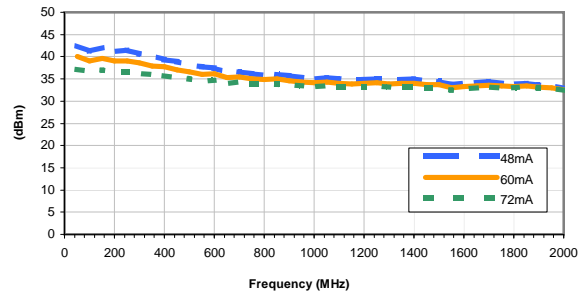
OUTPUT IP3 vs. TEMPERATURE

INPUT POWER = -25dBm, CURRENT = 60mA



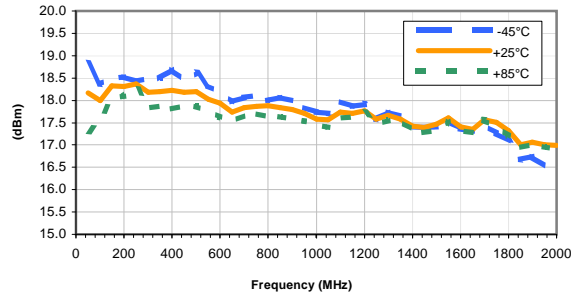
OUTPUT IP-3 vs. CURRENT

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



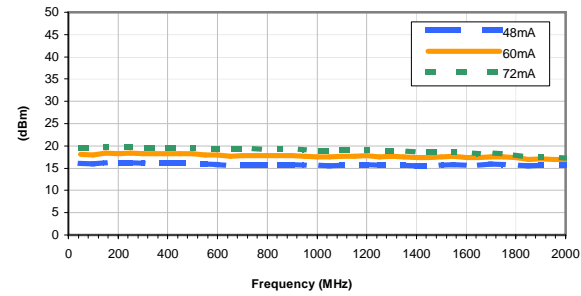
OUTPUT POWER at 1dB Compression vs. TEMPERATURE

CURRENT = 60mA



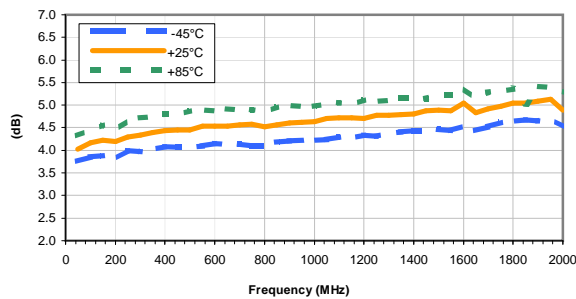
OUTPUT POWER at 1dB Compression vs. CURRENT

Temperature = +25°C



Noise Figure vs. TEMPERATURE

CURRENT = 60mA



Noise Figure vs. CURRENT

Temperature = +25°C

