MMIC Amplifier LEE-49+

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 = 65mA, Vd = 4.96V @Temperature = +25degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(MHz)	(dBm)	(dBm)	(dB)
50	14.01	18.42	11.07	14.85	1.09	0.65	50	33.51	16.96	4.73
100	13.98	18.43	11.02	14.87	1.09	0.65	100	33.47	17.24	4.92
200	13.96	18.45	11.06	14.87	1.10	0.65	200	33.52	16.92	4.48
400	13.95	18.49	11.15	14.88	1.10	0.64	300	33.59	16.90	4.89
600	13.94	18.49	11.22	14.81	1.10	0.64	400	33.06	17.20	4.67
800	13.97	18.50	11.35	14.75	1.10	0.64	500	32.93	17.09	4.97
1000	14.00	18.50	11.50	14.69	1.10	0.64	600	32.83	17.00	4.58
1200	14.04	18.50	11.71	14.58	1.10	0.65	700	33.00	17.15	4.95
1400	14.09	18.50	11.93	14.42	1.10	0.65	800	33.19	17.24	4.69
1600	14.15	18.49	12.20	14.24	1.10	0.65	900	33.12	17.16	4.87
1800	14.20	18.50	12.49	14.06	1.10	0.66	1000	32.84	17.28	4.72
2000	14.26	18.48	12.88	13.90	1.09	0.66	1100	32.59	16.94	4.81
2200	14.31	18.47	13.42	13.76	1.09	0.66	1200	32.41	16.67	4.80
2400	14.35	18.46	14.02	13.63	1.09	0.66	1300	32.13	16.75	4.79
2600	14.37	18.43	14.75	13.51	1.09	0.66	1400	31.72	16.72	4.89
2800	14.39	18.40	15.65	13.39	1.08	0.66	1500	31.49	16.73	4.99
3000	14.39	18.37	16.62	13.23	1.08	0.66	1600	31.82	16.68	4.96
3200	14.35	18.34	17.65	13.15	1.08	0.65	1700	32.22	16.76	4.73
3400	14.30	18.30	18.67	13.02	1.08	0.65	1800	31.79	16.58	4.85
3600	14.21	18.25	19.37	12.91	1.07	0.64	1900	31.23	16.64	4.67
3800	14.09	18.20	19.83	12.86	1.07	0.63	2000	30.88	16.70	4.93
4000	13.92	18.16	19.76	12.77	1.07	0.62	2100	30.44	16.61	4.76
4200	13.72	18.12	19.26	12.70	1.08	0.60	2200	30.07	16.55	4.93
4400	13.52	18.06	18.33	12.56	1.08	0.59	2300	29.75	16.57	4.77
4600	13.25	18.00	17.52	12.43	1.08	0.57	2400	29.31	16.32	5.07
4800	12.97	17.95	16.75	12.32	1.09	0.55	2500	28.83	16.18	4.80
5000	12.69	17.90	15.79	12.10	1.09	0.54	2600	28.58	15.99	5.10
5200	12.39	17.84	15.02	11.92	1.10	0.52	2700	28.33	15.81	4.90
5400	12.06	17.81	14.30	11.74	1.12	0.51	2800	28.13	15.55	5.09
5600	11.74	17.77	13.53	11.55	1.13	0.49	3000	27.54	15.09	5.08
6000	11.02	17.70	12.19	11.11	1.16	0.46	3200	26.73	14.60	5.09
6500	10.11	17.64	10.60	10.34	1.19	0.43	3400	26.12	14.17	5.13
7000	9.14	17.64	9.38	9.70	1.24	0.39	3600	25.36	13.67	5.14
7500	8.12	17.67	8.38	9.19	1.30	0.36	3800	24.75	13.13	5.24
8000	7.07	17.73	7.59	8.84	1.38	0.34	4000	24.18	12.60	5.28
9000	4.95	17.82	6.54	8.36	1.59	0.30	4200	23.53	12.16	5.34
10000	2.88	17.92	5.80	7.42	1.83	0.30	4400	22.99	11.69	5.31
11000	0.52	18.20	4.91	5.92	2.04	0.34	4600	22.49	11.43	5.55
12000	-2.17	18.95	3.88	4.48	2.24	0.40	4800	22.11	10.96	5.63
13000	-4.70	19.71	3.15	3.52	2.33	0.46	5000	21.76	10.49	5.77

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 = 52mA, Vd = 4.87V @Temperature = +25degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(MHz)	(dBm)	(dBm)	(dB)
50	13.82	1.10	0.65	15.76	1.10	0.65	50	29.56	14.22	4.63
100	13.78	1.10	0.64	15.72	1.10	0.64	100	29.48	14.39	4.84
200	13.78	1.10	0.64	15.77	1.10	0.64	200	29.50	14.07	4.43
400	13.77	1.10	0.64	15.78	1.10	0.64	300	29.59	13.93	4.83
600	13.76	1.10	0.64	15.66	1.10	0.64	400	29.19	14.33	4.62
800	13.79	1.11	0.64	15.59	1.11	0.64	500	29.20	14.27	4.88
1000	13.81	1.10	0.64	15.45	1.10	0.64	600	29.12	14.20	4.48
1200	13.87	1.10	0.64	15.33	1.10	0.64	700	29.37	14.35	4.83
1400	13.92	1.10	0.64	15.13	1.10	0.64	800	29.59	14.28	4.59
1600	13.99	1.10	0.65	14.95	1.10	0.65	900	29.54	14.29	4.74
1800	14.04	1.10	0.65	14.70	1.10	0.65	1000	29.36	14.36	4.61
2000	14.11	1.09	0.66	14.50	1.09	0.66	1100	29.18	14.25	4.69
2200	14.17	1.09	0.66	14.34	1.09	0.66	1200	29.09	13.95	4.69
2400	14.20	1.09	0.66	14.15	1.09	0.66	1300	28.97	14.09	4.67
2600	14.23	1.09	0.66	14.01	1.09	0.66	1400	28.65	14.14	4.79
2800	14.25	1.08	0.66	13.87	1.08	0.66	1500	28.56	14.13	4.87
3000	14.25	1.08	0.66	13.68	1.08	0.66	1600	28.85	14.05	4.84
3200	14.22	1.08	0.65	13.61	1.08	0.65	1700	29.28	14.15	4.62
3400	14.16	1.07	0.65	13.46	1.07	0.65	1800	29.10	13.96	4.76
3600	14.07	1.07	0.64	13.33	1.07	0.64	1900	28.78	14.13	4.59
3800	13.95	1.07	0.63	13.32	1.07	0.63	2000	28.61	14.19	4.83
4000	13.78	1.07	0.61	13.24	1.07	0.61	2100	28.39	14.35	4.70
4200	13.58	1.07	0.60	13.20	1.07	0.60	2200	28.19	14.43	4.82
4400	13.36	1.08	0.58	13.09	1.08	0.58	2300	28.03	14.70	4.67
4600	13.09	1.08	0.57	12.95	1.08	0.57	2400	27.78	14.60	4.95
4800	12.80	1.09	0.55	12.87	1.09	0.55	2500	27.46	14.56	4.67
5000	12.53	1.10	0.53	12.66	1.10	0.53	2600	27.27	14.38	4.98
5200	12.22	1.11	0.52	12.50	1.11	0.52	2700	27.11	14.33	4.79
5400	11.89	1.12	0.50	12.35	1.12	0.50	2800	26.93	14.20	4.94
5600	11.56	1.14	0.48	12.16	1.14	0.48	3000	26.45	14.00	4.95
6000	10.83	1.17	0.45	11.69	1.17	0.45	3200	25.70	13.58	4.97
6500	9.93	1.21	0.41	10.96	1.21	0.41	3400	25.10	13.38	4.96
7000	8.96	1.26	0.38	10.29	1.26	0.38	3600	24.36	12.89	4.99
7500	7.95	1.33	0.35	9.73	1.33	0.35	3800	23.76	12.35	5.09
8000	6.90	1.41	0.32	9.38	1.41	0.32	4000	23.24	11.87	5.18
9000	4.82	1.62	0.29	8.79	1.62	0.29	4200	22.60	11.38	5.19
10000	2.76	1.86	0.29	7.74	1.86	0.29	4400	22.06	11.05	5.17
11000	0.43	2.09	0.32	6.13	2.09	0.32	4600	21.59	10.61	5.41
12000	-2.25	2.27	0.39	4.60	2.27	0.39	4800	21.24	10.09	5.47
13000	-4.81	2.37	0.45	3.57	2.37	0.45	5000	20.91	9.74	5.63

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 = 78mA, Vd = 5.04V @Temperature = +25degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(MHz)	(dBm)	(dBm)	(dB)
50	14.11	18.55	10.80	14.42	1.09	0.66	50	36.27	18.95	4.78
100	14.08	18.53	10.77	14.41	1.09	0.65	100	36.27	19.12	5.03
200	14.06	18.55	10.82	14.43	1.09	0.65	200	36.33	18.94	4.57
400	14.05	18.59	10.90	14.45	1.10	0.65	300	36.46	18.90	4.99
600	14.04	18.61	10.96	14.39	1.10	0.65	400	35.71	19.07	4.74
800	14.06	18.60	11.09	14.34	1.10	0.65	500	35.48	19.00	5.05
1000	14.09	18.61	11.23	14.27	1.10	0.65	600	35.30	18.91	4.66
1200	14.14	18.61	11.43	14.18	1.10	0.65	700	35.42	19.04	5.04
1400	14.18	18.60	11.63	14.05	1.10	0.65	800	35.55	19.01	4.78
1600	14.23	18.60	11.90	13.89	1.10	0.66	900	35.40	19.01	4.95
1800	14.28	18.60	12.18	13.74	1.09	0.66	1000	35.03	19.04	4.79
2000	14.34	18.57	12.56	13.59	1.09	0.66	1100	34.66	18.87	4.88
2200	14.39	18.57	13.07	13.47	1.09	0.66	1200	34.40	18.53	4.86
2400	14.42	18.55	13.62	13.36	1.09	0.67	1300	34.00	18.58	4.88
2600	14.46	18.53	14.33	13.25	1.09	0.67	1400	33.45	18.59	4.99
2800	14.47	18.50	15.18	13.14	1.08	0.66	1500	33.13	18.54	5.05
3000	14.46	18.47	16.11	12.99	1.08	0.66	1600	33.46	18.47	5.06
3200	14.43	18.44	17.15	12.92	1.08	0.66	1700	33.80	18.45	4.78
3400	14.37	18.39	18.17	12.79	1.08	0.65	1800	33.20	18.20	4.95
3600	14.28	18.34	18.99	12.67	1.07	0.64	1900	32.51	18.17	4.78
3800	14.17	18.30	19.63	12.61	1.07	0.63	2000	32.05	18.06	5.04
4000	14.01	18.25	19.76	12.52	1.07	0.62	2100	31.55	17.79	4.86
4200	13.81	18.21	19.42	12.43	1.08	0.60	2200	31.08	17.60	5.04
4400	13.60	18.15	18.61	12.31	1.08	0.59	2300	30.70	17.48	4.85
4600	13.35	18.08	17.84	12.15	1.08	0.57	2400	30.20	17.16	5.17
4800	13.06	18.03	17.06	12.02	1.09	0.56	2500	29.67	16.96	4.88
5000	12.79	17.96	16.09	11.80	1.09	0.54	2600	29.40	16.82	5.20
5200	12.49	17.91	15.28	11.61	1.10	0.53	2700	29.15	16.54	5.00
5400	12.16	17.87	14.54	11.44	1.11	0.51	2800	28.91	16.31	5.17
5600	11.85	17.83	13.75	11.22	1.12	0.49	3000	28.30	15.79	5.20
6000	11.13	17.75	12.36	10.76	1.15	0.47	3200	27.48	15.19	5.20
6500	10.22	17.68	10.71	10.02	1.18	0.43	3400	26.87	14.76	5.22
7000	9.25	17.66	9.47	9.40	1.23	0.40	3600	26.13	14.24	5.26
7500	8.23	17.69	8.44	8.90	1.29	0.37	3800	25.51	13.71	5.37
8000	7.16	17.73	7.63	8.57	1.36	0.35	4000	24.92	13.20	5.40
9000	5.04	17.81	6.57	8.12	1.57	0.31	4200	24.26	12.70	5.45
10000	2.95	17.91	5.81	7.23	1.80	0.31	4400	23.72	12.27	5.44
11000	0.58	18.20	4.92	5.80	2.02	0.34	4600	23.21	11.89	5.66
12000	-2.12	18.93	3.87	4.42	2.21	0.40	4800	22.82	11.43	5.76
13000	-4.64	19.69	3.15	3.49	2.31	0.46	5000	22.45	10.99	5.93

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 = 65mA, Vd = 5.28V @Temperature = -45degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability	
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta
50	14.10	18.52	10.65	14.19	1.09	0.66
100	14.09	18.54	10.80	14.44	1.09	0.65
200	14.09	18.54	10.99	14.69	1.09	0.65
400	14.03	18.60	10.57	13.93	1.10	0.65
600	14.04	18.59	10.64	13.95	1.10	0.65
800	14.06	18.59	10.77	13.93	1.10	0.65
1000	14.10	18.59	10.96	13.99	1.10	0.65
1200	14.13	18.59	11.05	13.85	1.09	0.66
1400	14.17	18.58	11.17	13.70	1.09	0.66
1600	14.22	18.57	11.37	13.52	1.09	0.66
1800	14.28	18.57	11.66	13.46	1.09	0.67
2000	14.34	18.54	11.98	13.33	1.09	0.67
2200	14.38	18.53	12.14	13.00	1.08	0.67
2400	14.42	18.52	12.58	12.95	1.08	0.68
2600	14.46	18.50	13.08	12.80	1.08	0.68
2800	14.50	18.47	13.78	12.80	1.08	0.68
3000	14.53	18.42	14.58	12.80	1.07	0.68
3200	14.54	18.38	15.45	12.81	1.07	0.68
3400	14.52	18.34	16.25	12.64	1.07	0.67
3600	14.49	18.31	17.00	12.39	1.06	0.67
3800	14.42	18.26	17.77	12.33	1.06	0.66
4000	14.34	18.22	18.26	12.26	1.06	0.66
4200	14.20	18.17	18.08	12.08	1.06	0.65
4400	14.06	18.12	17.64	11.83	1.06	0.64
4600	13.87	18.07	17.31	11.66	1.06	0.62
4800	13.66	18.02	16.90	11.57	1.06	0.61
5000	13.46	17.96	16.23	11.35	1.06	0.60
5200	13.21	17.91	15.75	11.09	1.06	0.58
5400	12.96	17.85	15.32	10.98	1.07	0.57
5600	12.73	17.79	14.73	10.86	1.07	0.56
6000	12.15	17.66	13.07	10.39	1.08	0.53
6500	11.38	17.56	11.00	9.65	1.09	0.51
7000	10.49	17.56	9.25	8.88	1.11	0.48
7500	9.47	17.63	8.03	8.09	1.14	0.45
8000	8.41	17.73	7.24	7.67	1.19	0.41
9000	6.44	17.65	6.51	7.72	1.34	0.36
10000	4.38	17.64	5.52	7.10	1.50	0.36
11000	1.79	18.09	4.56	5.17	1.65	0.40
12000	-0.97	18.85	3.65	4.04	1.78	0.44
13000	-2.92	18.94	3.10	3.82	1.82	0.45

FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dBm)	(dBm)	(dB)
50	33.97	16.67	4.01
100	33.88	16.91	4.24
200	33.93	16.59	3.81
300	34.13	16.59	4.19
400	33.61	16.94	3.95
500	33.54	16.82	4.26
600	33.48	16.75	3.86
700	33.72	16.91	4.22
800	33.95	16.98	3.98
900	33.91	16.86	4.14
1000	33.66	16.97	3.99
1100	33.47	16.74	4.05
1200	33.33	16.40	4.05
1300	33.19	16.57	4.05
1400	32.80	16.56	4.17
1500	32.64	16.59	4.23
1600	32.88	16.54	4.21
1700	33.45	16.58	3.95
1800	33.22	16.43	4.11
1900	32.71	16.56	3.91
2000	32.48	16.69	4.20
2100	32.12	16.71	3.97
2200	31.81	16.83	4.20
2300	31.57	16.95	4.00
2400	31.18	16.84	4.33
2500	30.66	16.76	4.01
2600	30.43	16.69	4.35
2700	30.18	16.50	4.12
2800	30.00	16.36	4.33
3000	29.53	15.97	4.32
3200	28.75	15.62	4.34
3400	28.16	15.25	4.34
3600	27.39	14.78	4.33
3800	26.72	14.27	4.41
4000	26.15	13.80	4.49
4200	25.52	13.31	4.53
4400	24.98	12.93	4.49
4600	24.40	12.59	4.68
4800	23.90	12.17	4.77
5000	23.46	11.72	4.92

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 = 52mA, Vd = 5.18V @Temperature = -45degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability	
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta
50	13.94	18.34	11.07	14.92	1.09	0.65
100	13.92	18.34	11.25	15.18	1.09	0.65
200	13.93	18.37	11.42	15.47	1.10	0.65
400	13.87	18.43	10.97	14.62	1.10	0.64
600	13.88	18.43	11.06	14.60	1.10	0.64
800	13.90	18.42	11.20	14.56	1.10	0.65
1000	13.94	18.42	11.40	14.64	1.10	0.65
1200	13.99	18.42	11.47	14.49	1.10	0.65
1400	14.03	18.41	11.64	14.28	1.09	0.65
1600	14.08	18.40	11.82	14.06	1.09	0.66
1800	14.13	18.40	12.17	13.98	1.09	0.66
2000	14.21	18.38	12.48	13.85	1.09	0.67
2200	14.25	18.38	12.64	13.46	1.09	0.67
2400	14.30	18.36	13.15	13.38	1.08	0.67
2600	14.35	18.34	13.66	13.22	1.08	0.67
2800	14.39	18.30	14.39	13.21	1.08	0.68
3000	14.42	18.26	15.27	13.19	1.07	0.68
3200	14.43	18.23	16.12	13.20	1.07	0.67
3400	14.41	18.19	16.97	13.00	1.07	0.67
3600	14.38	18.14	17.69	12.76	1.06	0.67
3800	14.32	18.10	18.32	12.71	1.06	0.66
4000	14.22	18.07	18.66	12.63	1.06	0.65
4200	14.08	18.03	18.25	12.49	1.06	0.64
4400	13.94	17.97	17.64	12.23	1.05	0.63
4600	13.74	17.93	17.16	12.07	1.05	0.62
4800	13.53	17.88	16.65	12.00	1.06	0.61
5000	13.32	17.82	15.91	11.79	1.06	0.59
5200	13.08	17.79	15.43	11.55	1.06	0.58
5400	12.82	17.73	14.99	11.44	1.07	0.56
5600	12.58	17.67	14.39	11.33	1.07	0.55
6000	11.99	17.57	12.80	10.91	1.09	0.53
6500	11.21	17.49	10.81	10.16	1.10	0.50
7000	10.32	17.50	9.13	9.39	1.12	0.47
7500	9.31	17.58	7.95	8.58	1.15	0.44
8000	8.24	17.69	7.19	8.10	1.21	0.40
9000	6.29	17.64	6.47	8.15	1.36	0.34
10000	4.25	17.64	5.50	7.45	1.53	0.34
11000	1.70	18.09	4.56	5.38	1.68	0.38
12000	-1.06	18.85	3.65	4.16	1.81	0.42
13000	-3.02	18.94	3.09	3.89	1.84	0.44

FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dBm)	(dBm)	(dB)
50	29.74	13.71	4.05
100	29.59	13.98	4.22
200	29.58	13.75	3.81
300	29.74	13.68	4.14
400	29.45	13.99	3.91
500	29.45	13.92	4.20
600	29.41	13.90	3.82
700	29.70	13.96	4.15
800	29.91	13.95	3.93
900	29.91	14.07	4.08
1000	29.68	14.10	3.93
1100	29.53	13.84	4.01
1200	29.46	13.54	4.00
1300	29.42	13.73	4.01
1400	29.16	13.77	4.11
1500	29.13	13.71	4.16
1600	29.34	13.75	4.15
1700	29.78	13.79	3.92
1800	29.72	13.64	4.03
1900	29.52	13.81	3.85
2000	29.43	14.00	4.14
2100	29.32	14.06	3.92
2200	29.24	14.39	4.11
2300	29.24	14.61	3.95
2400	29.09	14.65	4.25
2500	28.82	14.78	3.96
2600	28.74	14.69	4.28
2700	28.61	14.64	4.05
2800	28.52	14.58	4.25
3000	28.21	14.55	4.23
3200	27.56	14.41	4.25
3400	27.04	14.27	4.25
3600	26.28	13.82	4.25
3800	25.66	13.35	4.33
4000	25.12	13.01	4.42
4200	24.51	12.54	4.42
4400	23.93	12.24	4.40
4600	23.38	11.89	4.58
4800	22.92	11.45	4.67
5000	22.52	11.04	4.81

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 = 78mA, Vd = 5.36V @Temperature = -45degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability	
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta
50	14.19	18.64	10.43	13.82	1.09	0.66
100	14.18	18.62	10.57	14.06	1.09	0.66
200	14.18	18.62	10.77	14.31	1.09	0.66
400	14.12	18.69	10.36	13.59	1.09	0.65
600	14.13	18.70	10.43	13.61	1.09	0.65
800	14.15	18.69	10.55	13.58	1.09	0.66
1000	14.18	18.68	10.73	13.64	1.09	0.66
1200	14.21	18.68	10.80	13.52	1.09	0.66
1400	14.25	18.67	10.94	13.39	1.09	0.66
1600	14.30	18.67	11.13	13.22	1.09	0.67
1800	14.36	18.66	11.42	13.18	1.09	0.67
2000	14.41	18.63	11.71	13.09	1.09	0.67
2200	14.45	18.64	11.86	12.77	1.08	0.68
2400	14.49	18.61	12.30	12.72	1.08	0.68
2600	14.53	18.59	12.75	12.60	1.08	0.68
2800	14.56	18.56	13.43	12.60	1.08	0.68
3000	14.60	18.51	14.22	12.60	1.07	0.68
3200	14.60	18.47	15.05	12.62	1.07	0.68
3400	14.59	18.43	15.86	12.44	1.07	0.67
3600	14.55	18.38	16.61	12.20	1.06	0.67
3800	14.49	18.35	17.38	12.14	1.06	0.66
4000	14.41	18.30	17.99	12.07	1.06	0.66
4200	14.27	18.26	17.90	11.89	1.06	0.65
4400	14.13	18.21	17.60	11.63	1.06	0.64
4600	13.95	18.15	17.36	11.44	1.06	0.63
4800	13.73	18.09	17.03	11.35	1.06	0.61
5000	13.54	18.03	16.39	11.12	1.06	0.60
5200	13.30	17.99	15.95	10.85	1.06	0.59
5400	13.05	17.92	15.53	10.73	1.06	0.57
5600	12.83	17.85	14.93	10.60	1.07	0.56
6000	12.26	17.71	13.23	10.12	1.07	0.54
6500	11.49	17.61	11.11	9.38	1.08	0.51
7000	10.60	17.58	9.33	8.62	1.10	0.49
7500	9.59	17.65	8.09	7.83	1.12	0.46
8000	8.52	17.74	7.29	7.42	1.17	0.42
9000	6.53	17.65	6.54	7.49	1.32	0.37
10000	4.46	17.64	5.52	6.89	1.48	0.37
11000	1.86	18.08	4.55	5.04	1.62	0.41
12000	-0.90	18.84	3.65	3.97	1.76	0.44
13000	-2.84	18.91	3.10	3.77	1.80	0.45

FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dBm)	(dBm)	(dB)
50	37.01	18.87	4.07
100	36.97	19.05	4.29
200	37.00	18.74	3.88
300	37.18	18.71	4.25
400	36.50	19.01	4.01
500	36.33	19.00	4.31
600	36.22	18.85	3.93
700	36.44	19.01	4.27
800	36.62	19.03	4.03
900	36.59	18.97	4.20
1000	36.26	19.05	4.03
1100	35.97	18.80	4.15
1200	35.76	18.44	4.13
1300	35.47	18.56	4.13
1400	34.89	18.55	4.23
1500	34.63	18.54	4.28
1600	34.93	18.51	4.29
1700	35.51	18.52	4.03
1800	35.08	18.33	4.20
1900	34.39	18.36	3.98
2000	34.01	18.43	4.28
2100	33.53	18.34	4.02
2200	33.11	18.26	4.28
2300	32.74	18.21	4.07
2400	32.25	17.98	4.40
2500	31.65	17.82	4.10
2600	31.38	17.67	4.43
2700	31.11	17.43	4.17
2800	30.88	17.22	4.41
3000	30.37	16.74	4.42
3200	29.55	16.26	4.41
3400	28.97	15.87	4.42
3600	28.21	15.40	4.41
3800	27.54	14.92	4.49
4000	26.94	14.38	4.59
4200	26.29	13.97	4.62
4400	25.76	13.58	4.59
4600	25.19	13.18	4.78
4800	24.69	12.77	4.89
5000	24.24	12.28	5.05

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 = 65mA, Vd = 4.70V @Temperature = +85degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability	
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta
50	13.92	18.34	11.42	15.48	1.09	0.65
100	13.88	18.37	11.26	15.21	1.09	0.65
200	13.85	18.41	11.05	14.88	1.10	0.65
400	13.85	18.41	11.42	15.35	1.10	0.64
600	13.86	18.41	11.68	15.50	1.10	0.64
800	13.89	18.42	11.91	15.59	1.10	0.64
1000	13.94	18.41	12.26	15.67	1.10	0.64
1200	13.99	18.41	12.55	15.60	1.10	0.65
1400	14.04	18.41	12.84	15.41	1.10	0.65
1600	14.09	18.41	13.12	15.11	1.10	0.65
1800	14.14	18.41	13.44	14.77	1.10	0.66
2000	14.20	18.41	13.82	14.42	1.09	0.66
2200	14.23	18.40	14.43	14.19	1.09	0.66
2400	14.25	18.38	15.18	13.97	1.09	0.66
2600	14.26	18.37	16.08	13.79	1.09	0.66
2800	14.23	18.35	17.19	13.66	1.08	0.66
3000	14.19	18.31	18.46	13.50	1.08	0.66
3200	14.11	18.29	19.80	13.49	1.08	0.65
3400	14.01	18.24	20.99	13.46	1.08	0.65
3600	13.86	18.18	21.38	13.44	1.07	0.64
3800	13.68	18.14	21.16	13.46	1.07	0.63
4000	13.46	18.10	20.42	13.45	1.07	0.62
4200	13.20	18.04	19.47	13.43	1.08	0.60
4400	12.92	17.99	18.32	13.30	1.08	0.59
4600	12.60	17.93	17.32	13.11	1.08	0.57
4800	12.27	17.88	16.42	12.99	1.09	0.55
5000	11.93	17.83	15.32	12.71	1.09	0.54
5200	11.57	17.79	14.40	12.46	1.10	0.52
5400	11.18	17.78	13.58	12.24	1.12	0.51
5600	10.79	17.77	12.77	12.00	1.13	0.49
6000	10.00	17.72	11.56	11.46	1.16	0.46
6500	9.01	17.70	10.34	10.75	1.19	0.43
7000	8.03	17.69	9.57	10.22	1.24	0.39
7500	7.01	17.68	8.76	9.90	1.30	0.36
8000	5.99	17.70	7.95	9.86	1.38	0.34
9000	3.87	17.85	6.76	8.97	1.59	0.30
10000	1.58	18.27	5.86	7.11	1.83	0.30
11000	-0.63	18.42	5.04	6.15	2.04	0.34
12000	-2.82	18.80	4.16	5.07	2.24	0.40
13000	-5.61	19.81	3.33	3.58	2.33	0.46

FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dBm)	(dBm)	(dB)
50	33.26	17.18	5.18
100	33.22	17.41	5.45
200	33.34	17.22	5.03
300	33.42	17.12	5.47
400	32.77	17.32	5.22
500	32.58	17.29	5.54
600	32.44	17.16	5.14
700	32.61	17.30	5.52
800	32.71	17.33	5.25
900	32.60	17.26	5.43
1000	32.25	17.29	5.27
1100	31.97	17.07	5.37
1200	31.72	16.73	5.37
1300	31.38	16.78	5.38
1400	30.92	16.84	5.48
1500	30.71	16.77	5.56
1600	31.06	16.64	5.52
1700	31.33	16.73	5.30
1800	30.75	16.52	5.44
1900	30.14	16.46	5.28
2000	29.73	16.47	5.53
2100	29.25	16.28	5.35
2200	28.81	16.11	5.53
2300	28.43	16.01	5.36
2400	27.98	15.72	5.67
2500	27.55	15.47	5.39
2600	27.28	15.34	5.71
2700	27.01	15.06	5.50
2800	26.74	14.77	5.69
3000	26.11	14.23	5.67
3200	25.29	13.67	5.70
3400	24.65	13.20	5.76
3600	23.93	12.68	5.77
3800	23.33	12.10	5.88
4000	22.76	11.70	5.91
4200	22.17	11.07	5.99
4400	21.66	10.82	5.98
4600	21.25	10.43	6.22
4800	20.94	9.97	6.32
5000	20.61	9.55	6.47

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 = 52mA, Vd = 4.61V @Temperature = +85degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability	
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta
50	13.71	18.12	11.97	16.48	13.71	13.71
100	13.68	18.16	11.77	16.20	13.68	13.68
200	13.65	18.21	11.58	15.80	13.65	13.65
400	13.65	18.22	11.98	16.33	13.65	13.65
600	13.67	18.23	12.26	16.47	13.67	13.67
800	13.70	18.22	12.50	16.58	13.70	13.70
1000	13.75	18.22	12.84	16.62	13.75	13.75
1200	13.79	18.21	13.17	16.52	13.79	13.79
1400	13.86	18.22	13.52	16.26	13.86	13.86
1600	13.92	18.23	13.84	15.91	13.92	13.92
1800	13.98	18.24	14.20	15.48	13.98	13.98
2000	14.03	18.21	14.60	15.08	14.03	14.03
2200	14.07	18.21	15.30	14.82	14.07	14.07
2400	14.09	18.21	16.12	14.54	14.09	14.09
2600	14.10	18.18	17.07	14.33	14.10	14.10
2800	14.08	18.16	18.29	14.19	14.08	14.08
3000	14.05	18.13	19.58	14.01	14.05	14.05
3200	13.96	18.10	20.77	14.00	13.96	13.96
3400	13.86	18.06	21.54	13.97	13.86	13.86
3600	13.70	18.01	21.32	13.95	13.70	13.70
3800	13.51	17.96	20.62	14.00	13.51	13.51
4000	13.30	17.93	19.59	13.99	13.30	13.30
4200	13.02	17.89	18.63	14.00	13.02	13.02
4400	12.75	17.84	17.51	13.90	12.75	12.75
4600	12.42	17.78	16.66	13.73	12.42	12.42
4800	12.07	17.74	15.84	13.62	12.07	12.07
5000	11.75	17.70	14.82	13.34	11.75	11.75
5200	11.37	17.66	14.00	13.10	11.37	11.37
5400	10.99	17.66	13.21	12.89	10.99	10.99
5600	10.60	17.66	12.47	12.67	10.60	10.60
6000	9.80	17.63	11.35	12.09	9.80	9.80
6500	8.83	17.64	10.18	11.35	8.83	8.83
7000	7.84	17.63	9.45	10.78	7.84	7.84
7500	6.84	17.64	8.68	10.42	6.84	6.84
8000	5.83	17.68	7.89	10.38	5.83	5.83
9000	3.74	17.84	6.73	9.40	3.74	3.74
10000	1.48	18.28	5.86	7.37	1.48	1.48
11000	-0.72	18.45	5.03	6.32	-0.72	-0.72
12000	-2.90	18.82	4.15	5.16	-2.90	-2.90
13000	-5.72	19.84	3.33	3.62	-5.72	-5.72

FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dBm)	(dBm)	(dB)
50	29.52	14.51	5.09
100	29.48	14.69	5.36
200	29.60	14.50	4.98
300	29.67	14.27	5.37
400	29.15	14.65	5.17
500	29.11	14.57	5.45
600	28.97	14.56	5.09
700	29.23	14.68	5.41
800	29.39	14.66	5.19
900	29.33	14.51	5.36
1000	29.11	14.63	5.21
1100	28.92	14.41	5.29
1200	28.79	14.12	5.29
1300	28.59	14.27	5.31
1400	28.31	14.35	5.41
1500	28.18	14.33	5.51
1600	28.50	14.26	5.44
1700	28.86	14.33	5.26
1800	28.60	14.16	5.34
1900	28.17	14.28	5.20
2000	27.91	14.32	5.43
2100	27.63	14.46	5.29
2200	27.32	14.44	5.42
2300	27.09	14.58	5.33
2400	26.72	14.35	5.58
2500	26.38	14.12	5.32
2600	26.14	13.95	5.59
2700	25.92	13.82	5.44
2800	25.69	13.61	5.58
3000	25.09	13.26	5.57
3200	24.29	12.77	5.60
3400	23.68	12.44	5.64
3600	22.96	11.95	5.68
3800	22.40	11.37	5.76
4000	21.84	10.81	5.80
4200	21.27	10.40	5.88
4400	20.79	10.13	5.87
4600	20.38	9.60	6.10
4800	20.12	9.07	6.16
5000	19.85	8.70	6.31

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 = 78mA, Vd = 4.78V @Temperature = +85degC

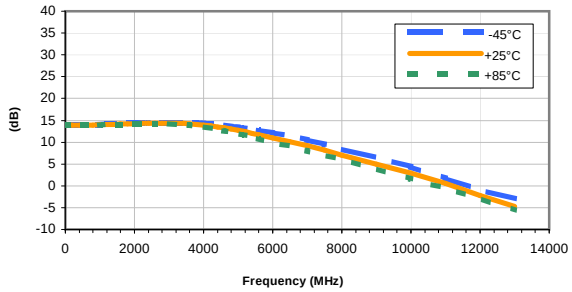
FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability	
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta
50	14.03	18.45	11.14	14.94	1.09	0.65
100	13.99	18.48	10.95	14.73	1.09	0.65
200	13.96	18.51	10.78	14.39	1.10	0.65
400	13.96	18.52	11.14	14.84	1.10	0.64
600	13.97	18.52	11.37	15.02	1.10	0.64
800	14.00	18.53	11.60	15.08	1.10	0.64
1000	14.04	18.52	11.93	15.19	1.10	0.64
1200	14.09	18.52	12.23	15.12	1.10	0.64
1400	14.14	18.51	12.48	14.98	1.10	0.65
1600	14.19	18.52	12.76	14.69	1.10	0.65
1800	14.23	18.52	13.04	14.40	1.10	0.65
2000	14.29	18.51	13.44	14.08	1.09	0.66
2200	14.32	18.51	14.01	13.87	1.09	0.66
2400	14.33	18.49	14.69	13.68	1.09	0.66
2600	14.34	18.48	15.58	13.51	1.09	0.65
2800	14.32	18.45	16.65	13.39	1.09	0.65
3000	14.28	18.41	17.85	13.25	1.09	0.64
3200	14.20	18.38	19.23	13.23	1.09	0.63
3400	14.10	18.33	20.55	13.22	1.09	0.62
3600	13.95	18.29	21.27	13.19	1.09	0.61
3800	13.77	18.24	21.36	13.19	1.09	0.60
4000	13.56	18.19	20.84	13.17	1.09	0.58
4200	13.29	18.14	19.92	13.14	1.10	0.56
4400	13.02	18.08	18.77	13.00	1.11	0.55
4600	12.71	18.01	17.74	12.81	1.12	0.53
4800	12.37	17.96	16.76	12.65	1.13	0.51
5000	12.04	17.90	15.63	12.39	1.14	0.50
5200	11.67	17.86	14.64	12.10	1.15	0.48
5400	11.29	17.83	13.79	11.90	1.17	0.46
5600	10.90	17.82	12.96	11.65	1.19	0.44
6000	10.11	17.77	11.70	11.13	1.24	0.41
6500	9.11	17.74	10.44	10.42	1.29	0.37
7000	8.13	17.71	9.64	9.92	1.36	0.34
7500	7.11	17.69	8.82	9.61	1.45	0.31
8000	6.08	17.71	7.99	9.58	1.55	0.29
9000	3.94	17.85	6.78	8.74	1.82	0.28
10000	1.64	18.27	5.87	6.97	2.12	0.29
11000	-0.57	18.40	5.04	6.07	2.38	0.31
12000	-2.77	18.78	4.16	5.01	2.57	0.36
13000	-5.56	19.78	3.34	3.56	2.74	0.45

FREQ	IP3 Output	1dB Comp. Output	Noise Figure
(MHz)	(dBm)	(dBm)	(dB)
50	35.90	18.93	5.25
100	35.89	19.13	5.53
200	36.03	18.98	5.12
300	36.10	18.88	5.55
400	35.29	19.05	5.31
500	34.99	18.98	5.60
600	34.74	18.86	5.21
700	34.80	18.91	5.59
800	34.83	18.95	5.34
900	34.60	18.90	5.53
1000	34.17	18.89	5.37
1100	33.76	18.72	5.47
1200	33.44	18.48	5.45
1300	32.97	18.42	5.45
1400	32.43	18.41	5.57
1500	32.16	18.33	5.65
1600	32.48	18.21	5.62
1700	32.65	18.14	5.39
1800	31.92	17.88	5.54
1900	31.23	17.70	5.37
2000	30.73	17.54	5.63
2100	30.19	17.24	5.43
2200	29.71	16.98	5.63
2300	29.29	16.78	5.48
2400	28.78	16.47	5.78
2500	28.33	16.24	5.47
2600	28.05	16.03	5.82
2700	27.77	15.76	5.60
2800	27.49	15.48	5.78
3000	26.84	14.91	5.77
3200	26.00	14.27	5.80
3400	25.39	13.81	5.86
3600	24.65	13.32	5.89
3800	24.05	12.74	6.01
4000	23.46	12.26	6.05
4200	22.85	11.73	6.11
4400	22.36	11.30	6.11
4600	21.93	10.97	6.35
4800	21.59	10.53	6.45
5000	21.25	10.07	6.59

Typical Performance Curves

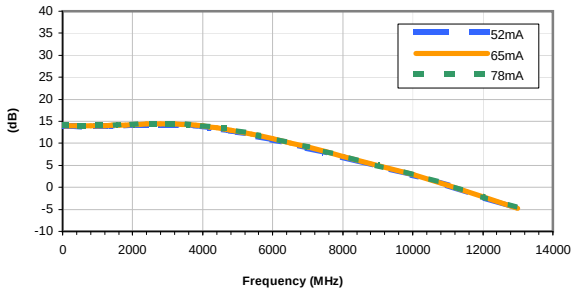
GAIN vs. TEMPERATURE

INPUT POWER = -15dBm, CURRENT = 65mA



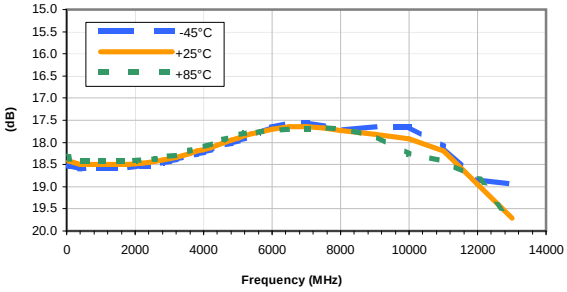
GAIN vs. CURRENT

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



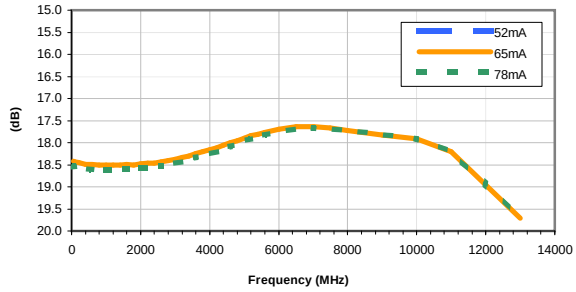
ISOLATION vs. TEMPERATURE

INPUT POWER = -15dBm, CURRENT = 65mA



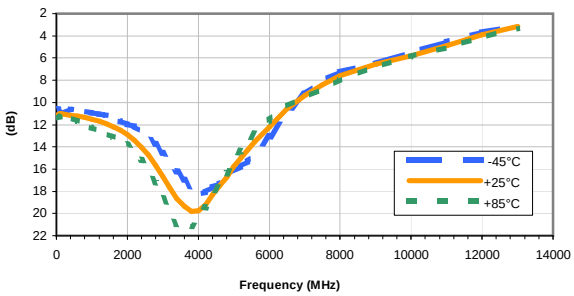
ISOLATION vs. CURRENT

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



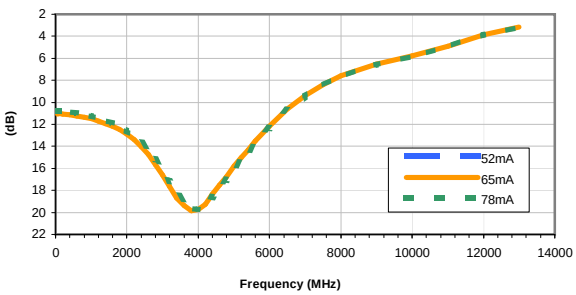
INPUT RETURN LOSS vs. TEMPERATURE

INPUT POWER = -15dBm, CURRENT = 65mA



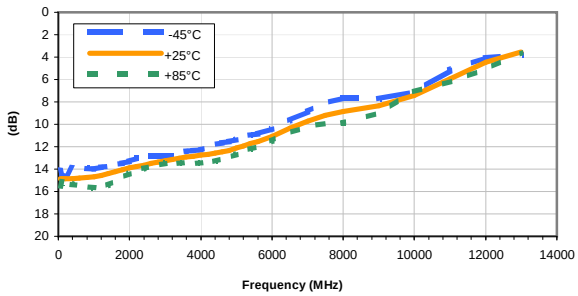
INPUT RETURN LOSS vs. CURRENT

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



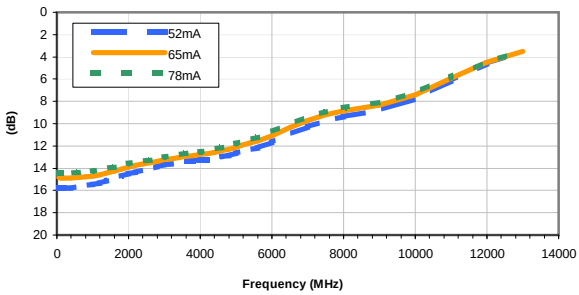
OUTPUT RETURN LOSS vs. TEMPERATURE

INPUT POWER = -15dBm, CURRENT = 65mA



OUTPUT RETURN LOSS vs. CURRENT

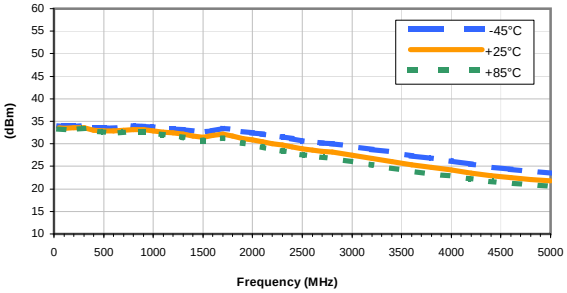
INPUT POWER = -15dBm, Temperature = +25°C



Typical Performance Curves

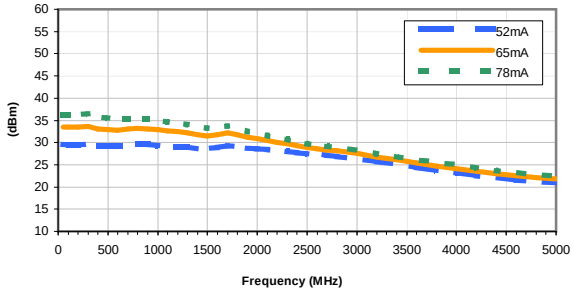
OUTPUT IP3 vs. TEMPERATURE

INPUT POWER = -15dBm, CURRENT = 65mA



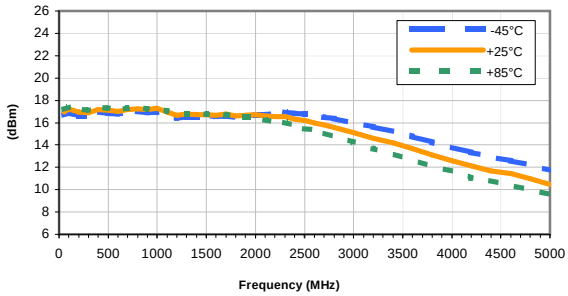
OUTPUT IP-3 vs. CURRENT

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



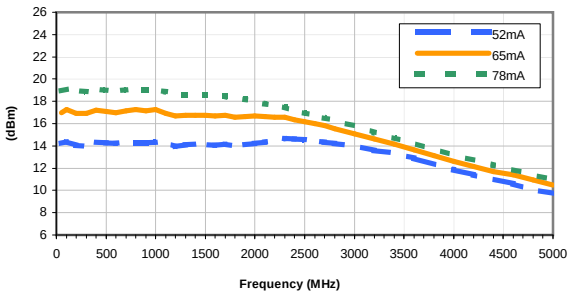
OUTPUT POWER at 1dB Compression vs. TEMPERATURE

CURRENT = 65mA



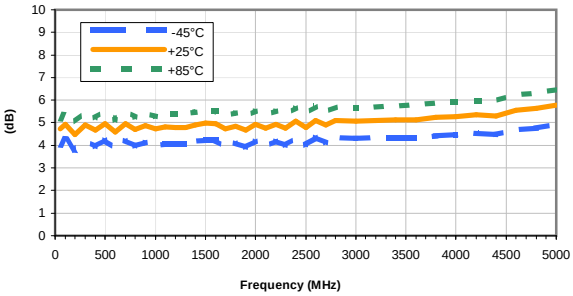
OUTPUT POWER at 1dB Compression vs. CURRENT

Temperature = +25°C



Noise Figure vs. TEMPERATURE

CURRENT = 65mA



Noise Figure vs. CURRENT

Temperature = +25°C