MMIC Amplifier LEE-29+

Typical Performance Data

NOTE: Use PDF Bookmarks to view DATA at required conditions or to view GRAPHS.

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Icc = 40mA, Vd = 3.59V @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	16.09	19.83	35.72	27.62	1.09	0.65	50	27.59	12.97	3.31
100	16.08	19.81	34.61	27.47	1.09	0.65	100	27.57	12.73	3.36
200	16.02	19.82	35.61	27.09	1.09	0.65	200	27.94	13.04	3.34
400	15.95	19.82	36.05	26.05	1.10	0.64	400	27.43	12.97	3.38
600	15.85	19.74	37.85	24.90	1.10	0.64	600	26.91	12.80	3.35
800	15.74	19.71	41.63	23.66	1.10	0.63	800	27.14	12.30	3.38
1000	15.62	19.66	47.05	22.73	1.11	0.63	1000	26.96	12.42	3.40
1200	15.52	19.61	51.71	21.86	1.11	0.62	1200	26.88	12.58	3.46
1400	15.40	19.55	58.14	21.21	1.11	0.62	1400	26.80	12.55	3.47
1600	15.29	19.49	56.56	20.77	1.11	0.62	1600	27.60	12.57	3.45
1800	15.16	19.43	50.83	20.36	1.12	0.61	1800	27.81	12.53	3.49
2000	15.04	19.37	52.53	20.05	1.12	0.61	2000	27.16	12.15	3.46
2200	14.92	19.31	53.29	19.96	1.12	0.60	2200	27.23	11.75	3.47
2400	14.79	19.22	44.35	19.86	1.12	0.60	2400	27.24	11.82	3.49
2600	14.66	19.15	39.37	19.85	1.13	0.60	2600	27.28	12.31	3.47
2800	14.52	19.06	36.28	19.88	1.13	0.59	2800	27.50	12.37	3.48
3000	14.38	18.97	33.41	19.92	1.13	0.59	3000	27.79	12.48	3.49
3500	14.02	18.76	28.38	20.50	1.14	0.58	3200	27.61	12.40	3.46
4000	13.63	18.51	26.21	20.87	1.15	0.57	3400	27.39	12.38	3.40
4500	13.25	18.24	25.54	20.74	1.15	0.56	3600	27.15	12.49	3.44
5000	12.85	17.97	26.64	20.06	1.16	0.55	3800	26.96	12.50	3.45
5500	12.45	17.72	29.53	18.88	1.17	0.54	4000	27.12	12.86	3.50
6000	12.05	17.45	32.25	17.45	1.18	0.54	4200	27.05	12.97	3.50
6500	11.71	17.17	28.70	16.34	1.18	0.54	4400	26.95	13.00	3.46
7000	11.40	16.91	25.15	15.45	1.18	0.54	4600	26.62	13.24	3.53
7500	11.12	16.64	21.56	14.58	1.18	0.54	4800	26.33	13.24	3.62
8000	10.85	16.40	18.80	13.72	1.18	0.55	5000	26.18	13.01	3.61
8500	10.50	16.18	15.74	12.55	1.18	0.55	5200	26.26	12.63	3.58
9000	10.09	15.99	13.21	11.12	1.17	0.56	5400	26.31	12.81	3.54
10000	8.94	15.71	9.93	8.93	1.19	0.57	5600	25.89	13.05	3.59
11000	7.41	15.56	7.70	7.35	1.22	0.56	5800	25.36	13.10	3.58
12000	5.60	15.58	5.72	5.90	1.25	0.56	6000	25.22	12.96	3.55
13000	3.89	15.79	4.42	4.80	1.24	0.57	6200	25.27	12.80	3.67
14000	2.23	16.19	3.72	4.03	1.23	0.56	6400	25.19	12.79	3.74
15000	1.01	16.53	3.44	3.88	1.22	0.52	6600	25.11	12.82	3.74
16000	0.88	16.34	3.90	4.48	1.23	0.42	6800	24.79	12.75	3.77
17000	1.31	15.16	5.26	6.08	1.31	0.28	7000	24.24	12.70	3.80
18000	1.86	13.84	6.67	8.23	1.35	0.21	7200	23.91	12.43	3.85
19000	2.23	13.48	6.64	8.68	1.30	0.26	7600	23.49	12.37	3.97
20000	1.82	15.77	5.37	7.31	1.50	0.28	8000	22.65	11.46	3.99

Typical Performance Data

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Icc = 32mA, Vd = 3.53V @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	15.72	19.53	26.79	40.05	1.10	0.64	50	23.35	9.75	3.28
100	15.71	19.50	26.37	39.67	1.09	0.65	100	23.34	9.38	3.33
200	15.66	19.51	26.91	37.48	1.10	0.64	200	23.62	9.90	3.34
400	15.58	19.49	27.11	33.92	1.10	0.64	400	23.24	9.77	3.37
600	15.49	19.46	27.70	30.95	1.10	0.63	600	22.77	9.55	3.33
800	15.38	19.42	28.61	28.33	1.11	0.63	800	22.97	8.92	3.40
1000	15.29	19.36	29.74	26.87	1.11	0.62	1000	22.79	9.23	3.38
1200	15.19	19.32	30.54	25.57	1.11	0.62	1200	22.73	9.51	3.41
1400	15.08	19.26	31.59	24.36	1.11	0.62	1400	22.68	9.49	3.44
1600	14.97	19.21	31.79	23.68	1.12	0.61	1600	23.32	9.51	3.44
1800	14.87	19.15	32.24	22.91	1.12	0.61	1800	23.62	9.44	3.47
2000	14.74	19.09	32.01	22.42	1.12	0.60	2000	22.72	8.92	3.39
2200	14.62	19.02	30.91	22.10	1.12	0.60	2200	22.80	8.52	3.42
2400	14.51	18.96	29.88	21.85	1.13	0.60	2400	23.00	8.60	3.41
2600	14.39	18.89	28.74	21.79	1.13	0.59	2600	23.27	9.24	3.45
2800	14.26	18.81	27.66	21.59	1.13	0.59	2800	23.64	9.46	3.46
3000	14.12	18.72	26.53	21.51	1.13	0.59	3000	23.84	9.48	3.45
3500	13.78	18.52	23.88	21.93	1.14	0.57	3200	23.62	9.42	3.45
4000	13.41	18.29	22.55	22.27	1.15	0.56	3400	23.53	9.43	3.40
4500	13.05	18.03	22.22	22.07	1.15	0.56	3600	23.73	9.53	3.39
5000	12.68	17.77	23.06	21.30	1.16	0.55	3800	23.90	9.60	3.40
5500	12.29	17.53	24.90	19.94	1.17	0.54	4000	24.33	10.15	3.44
6000	11.89	17.28	26.76	18.34	1.18	0.53	4200	24.30	10.33	3.48
6500	11.56	17.02	25.50	17.06	1.18	0.53	4400	24.36	10.29	3.42
7000	11.25	16.77	23.42	16.09	1.18	0.53	4600	24.35	10.72	3.46
7500	10.97	16.53	20.50	15.18	1.18	0.54	4800	24.47	10.69	3.51
8000	10.70	16.32	18.10	14.27	1.18	0.54	5000	24.47	10.44	3.56
8500	10.35	16.12	15.23	13.03	1.18	0.55	5200	24.31	9.97	3.52
9000	9.93	15.97	12.83	11.55	1.18	0.55	5400	24.05	10.26	3.49
10000	8.77	15.75	9.69	9.33	1.21	0.55	5600	23.97	11.12	3.52
11000	7.23	15.62	7.56	7.73	1.25	0.54	5800	23.94	11.46	3.51
12000	5.43	15.67	5.64	6.26	1.27	0.54	6000	24.28	11.11	3.52
13000	3.72	15.87	4.37	5.12	1.26	0.54	6200	24.79	10.91	3.61
14000	2.06	16.28	3.70	4.33	1.26	0.54	6400	24.69	11.17	3.63
15000	0.83	16.59	3.43	4.16	1.24	0.49	6600	24.43	11.50	3.72
16000	0.59	16.45	3.87	4.73	1.27	0.39	6800	24.08	11.48	3.74
17000	0.93	15.36	5.12	6.19	1.36	0.25	7000	23.75	11.57	3.73
18000	1.50	14.08	6.44	8.17	1.39	0.18	7200	23.57	11.50	3.77
19000	1.87	13.69	6.44	8.67	1.34	0.23	7600	23.35	11.41	3.85
20000	1.46	15.93	5.25	7.47	1.56	0.26	8000	22.37	10.48	3.90

Typical Performance Data

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Icc = 48mA, Vd = 3.64V @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	16.28	19.95	49.23	24.45	1.09	0.66	50	30.75	14.56	3.35
100	16.27	20.00	49.00	24.39	1.09	0.65	100	30.82	14.60	3.40
200	16.22	19.98	58.61	24.17	1.09	0.65	200	31.22	14.70	3.37
400	16.13	19.95	62.27	23.41	1.09	0.64	400	30.46	14.72	3.43
600	16.03	19.91	50.49	22.62	1.10	0.64	600	29.80	14.68	3.39
800	15.92	19.87	43.37	21.68	1.10	0.63	800	29.99	14.42	3.45
1000	15.80	19.82	39.10	20.98	1.10	0.63	1000	29.74	14.33	3.44
1200	15.69	19.77	37.63	20.34	1.11	0.63	1200	29.63	14.36	3.49
1400	15.57	19.72	35.66	19.82	1.11	0.62	1400	29.53	14.34	3.51
1600	15.45	19.66	35.39	19.47	1.11	0.62	1600	30.33	14.30	3.48
1800	15.33	19.59	34.96	19.17	1.11	0.61	1800	29.93	14.33	3.52
2000	15.20	19.52	35.61	18.94	1.12	0.61	2000	29.66	14.20	3.50
2200	15.07	19.47	37.14	18.87	1.12	0.60	2200	29.58	13.96	3.51
2400	14.94	19.38	39.32	18.84	1.12	0.60	2400	29.30	13.89	3.51
2600	14.80	19.30	45.23	18.91	1.13	0.60	2600	28.89	14.09	3.51
2800	14.66	19.22	50.05	18.98	1.13	0.59	2800	28.79	14.13	3.50
3000	14.52	19.12	43.11	19.07	1.13	0.59	3000	28.82	14.20	3.53
3500	14.15	18.89	32.70	19.67	1.14	0.58	3200	28.58	14.20	3.50
4000	13.75	18.65	29.33	20.06	1.15	0.57	3400	28.32	14.12	3.46
4500	13.36	18.36	28.32	19.98	1.16	0.56	3600	27.79	14.21	3.49
5000	12.95	18.09	29.67	19.43	1.17	0.55	3800	27.41	14.22	3.51
5500	12.54	17.82	34.59	18.33	1.17	0.54	4000	27.40	14.40	3.53
6000	12.13	17.56	37.40	16.99	1.18	0.54	4200	27.23	14.40	3.58
6500	11.80	17.25	29.93	15.94	1.18	0.54	4400	27.16	14.42	3.51
7000	11.48	16.98	25.67	15.10	1.18	0.54	4600	26.69	14.56	3.58
7500	11.20	16.70	21.96	14.27	1.18	0.54	4800	26.38	14.41	3.66
8000	10.94	16.45	19.12	13.42	1.17	0.55	5000	26.17	14.28	3.68
8500	10.59	16.20	16.01	12.28	1.17	0.56	5200	26.21	14.14	3.62
9000	10.19	16.01	13.44	10.88	1.17	0.57	5400	26.20	14.14	3.61
10000	9.06	15.69	10.09	8.69	1.18	0.58	5600	25.86	13.95	3.62
11000	7.53	15.51	7.80	7.11	1.21	0.57	5800	25.30	13.88	3.61
12000	5.71	15.53	5.78	5.67	1.23	0.57	6000	24.93	13.80	3.62
13000	3.99	15.73	4.45	4.58	1.22	0.58	6200	24.82	13.67	3.74
14000	2.33	16.14	3.74	3.83	1.22	0.58	6400	24.68	13.49	3.81
15000	1.14	16.47	3.46	3.67	1.19	0.54	6600	24.73	13.48	3.83
16000	1.06	16.26	3.93	4.27	1.20	0.44	6800	24.55	13.40	3.84
17000	1.56	15.04	5.36	5.92	1.28	0.30	7000	23.98	13.28	3.90
18000	2.13	13.68	6.85	8.16	1.31	0.23	7200	23.60	12.93	3.91
19000	2.46	13.34	6.81	8.55	1.28	0.28	7600	23.29	12.85	4.02
20000	2.07	15.62	5.46	7.08	1.45	0.30	8000	22.49	12.04	4.08

Typical Performance Data

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Icc = 40mA, Vd = 3.76V @Temperature = -45degC

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	16.23	19.92	37.24	26.58	1.09	0.65	50	28.16	12.88	2.77
100	16.22	19.87	35.11	26.69	1.09	0.66	100	28.15	12.53	2.79
200	16.19	19.91	35.54	26.86	1.09	0.65	200	28.46	12.82	2.83
400	16.11	19.85	37.79	25.28	1.09	0.65	400	28.01	12.78	2.84
600	16.01	19.80	39.88	24.25	1.09	0.65	600	27.51	12.63	2.82
800	15.92	19.76	46.47	23.02	1.10	0.64	800	27.78	12.13	2.87
1000	15.80	19.70	65.18	22.09	1.10	0.64	1000	27.61	12.28	2.87
1200	15.70	19.65	49.48	21.28	1.10	0.64	1200	27.57	12.51	2.89
1400	15.60	19.59	41.23	20.54	1.10	0.63	1400	27.51	12.41	2.89
1600	15.48	19.53	39.91	20.00	1.10	0.63	1600	28.31	12.45	2.88
1800	15.37	19.47	38.21	19.67	1.11	0.63	1800	28.53	12.42	2.93
2000	15.26	19.39	38.87	19.50	1.11	0.62	2000	27.90	11.99	2.89
2200	15.13	19.32	40.93	19.41	1.11	0.62	2200	28.01	11.64	2.89
2400	15.01	19.24	43.69	19.29	1.11	0.62	2400	28.05	11.63	2.89
2600	14.88	19.17	50.72	19.47	1.11	0.61	2600	28.14	12.16	2.91
2800	14.75	19.08	43.47	19.49	1.12	0.61	2800	28.44	12.31	2.89
3000	14.63	18.97	37.09	19.75	1.12	0.61	3000	28.75	12.36	2.87
3500	14.28	18.74	30.83	20.14	1.12	0.60	3200	28.54	12.34	2.88
4000	13.90	18.51	28.60	20.54	1.13	0.58	3400	28.36	12.30	2.84
4500	13.53	18.21	28.97	19.98	1.14	0.58	3600	28.23	12.44	2.87
5000	13.19	17.94	30.02	19.56	1.14	0.58	3800	28.13	12.41	2.88
5500	12.76	17.64	33.97	18.34	1.15	0.57	4000	28.42	12.83	2.90
6000	12.38	17.38	34.42	17.39	1.15	0.56	4200	28.29	12.97	2.91
6500	12.10	17.14	33.08	16.91	1.16	0.56	4400	28.24	13.00	2.85
7000	11.77	16.81	29.85	15.80	1.15	0.56	4600	27.85	13.36	2.92
7500	11.52	16.54	24.14	14.66	1.15	0.57	4800	27.63	13.35	2.99
8000	11.26	16.29	19.36	13.37	1.14	0.58	5000	27.56	13.22	3.04
8500	10.92	16.09	15.55	12.01	1.14	0.59	5200	27.68	12.73	3.00
9000	10.58	15.87	13.16	10.78	1.13	0.60	5400	27.66	12.85	2.95
10000	9.60	15.43	10.65	9.22	1.14	0.61	5600	27.31	13.46	2.97
11000	8.24	15.14	8.41	7.51	1.16	0.61	5800	26.84	13.65	2.95
12000	6.31	15.20	5.67	5.54	1.17	0.62	6000	26.61	13.51	2.94
13000	4.44	15.65	4.03	4.34	1.15	0.63	6200	26.75	13.35	3.08
14000	2.98	16.17	3.49	3.65	1.14	0.62	6400	26.78	13.41	3.13
15000	1.92	16.02	3.25	3.47	1.06	0.58	6600	26.79	13.45	3.22
16000	1.67	16.26	3.39	3.79	1.03	0.51	6800	26.42	13.44	3.21
17000	2.08	15.10	4.41	5.48	1.08	0.35	7000	25.76	13.45	3.28
18000	2.86	13.45	6.39	7.99	1.13	0.24	7200	25.44	13.22	3.24
19000	3.50	12.69	7.20	8.34	1.11	0.32	7600	25.03	13.22	3.39
20000	2.76	15.26	4.43	6.46	1.15	0.36	8000	24.21	12.40	3.44

Typical Performance Data

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Icc = 32mA, Vd = 3.71V @Temperature = -45degC

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	15.91	19.63	27.94	35.09	1.09	0.65	50	23.57	9.51	2.75
100	15.90	19.63	27.33	35.74	1.09	0.65	100	23.55	9.18	2.80
200	15.85	19.60	27.13	35.03	1.09	0.65	200	23.79	9.58	2.82
400	15.78	19.58	28.08	31.67	1.09	0.64	400	23.49	9.48	2.82
600	15.69	19.55	28.87	29.61	1.10	0.64	600	23.05	9.30	2.79
800	15.60	19.49	30.05	27.11	1.10	0.64	800	23.29	8.76	2.86
1000	15.50	19.43	31.96	25.73	1.10	0.64	1000	23.08	8.95	2.86
1200	15.40	19.38	33.06	24.47	1.10	0.63	1200	23.05	9.27	2.88
1400	15.30	19.32	35.12	23.29	1.10	0.63	1400	23.04	9.23	2.88
1600	15.19	19.28	36.52	22.59	1.11	0.62	1600	23.64	9.24	2.86
1800	15.09	19.20	37.58	21.93	1.11	0.62	1800	23.92	9.21	2.92
2000	14.98	19.13	36.55	21.58	1.11	0.62	2000	23.05	8.72	2.89
2200	14.87	19.06	34.90	21.41	1.11	0.62	2200	23.17	8.32	2.88
2400	14.76	19.00	33.78	21.14	1.11	0.61	2400	23.36	8.36	2.89
2600	14.63	18.93	31.84	21.31	1.12	0.61	2600	23.63	9.01	2.89
2800	14.51	18.83	30.31	21.14	1.12	0.61	2800	24.04	9.21	2.87
3000	14.39	18.73	28.28	21.31	1.12	0.60	3000	24.26	9.24	2.86
3500	14.07	18.52	25.57	21.51	1.12	0.59	3200	24.03	9.23	2.86
4000	13.71	18.31	24.44	21.89	1.13	0.58	3400	23.93	9.21	2.83
4500	13.36	18.00	24.80	21.18	1.13	0.58	3600	24.20	9.34	2.84
5000	13.02	17.77	25.37	20.66	1.14	0.57	3800	24.43	9.30	2.88
5500	12.62	17.47	27.50	19.28	1.15	0.57	4000	24.89	9.85	2.89
6000	12.24	17.24	28.28	18.22	1.15	0.56	4200	24.89	10.08	2.91
6500	11.97	17.00	27.71	17.63	1.15	0.56	4400	24.97	10.04	2.84
7000	11.65	16.70	27.79	16.40	1.15	0.56	4600	24.98	10.55	2.91
7500	11.41	16.45	23.60	15.17	1.15	0.57	4800	25.15	10.60	2.96
8000	11.15	16.22	19.11	13.81	1.15	0.58	5000	25.19	10.37	2.97
8500	10.81	16.04	15.24	12.39	1.15	0.58	5200	25.03	9.77	2.97
9000	10.45	15.85	12.84	11.14	1.14	0.60	5400	24.74	9.99	2.88
10000	9.45	15.45	10.37	9.57	1.15	0.59	5600	24.69	11.09	2.89
11000	8.09	15.20	8.26	7.83	1.17	0.59	5800	24.73	11.67	2.89
12000	6.16	15.28	5.60	5.84	1.18	0.60	6000	25.20	11.28	2.88
13000	4.31	15.75	3.97	4.63	1.16	0.61	6200	25.78	11.02	3.04
14000	2.85	16.25	3.47	3.92	1.16	0.59	6400	25.83	11.39	3.03
15000	1.77	16.07	3.23	3.73	1.07	0.56	6600	25.54	11.92	3.17
16000	1.43	16.35	3.36	4.05	1.05	0.48	6800	25.22	11.87	3.19
17000	1.73	15.27	4.30	5.68	1.10	0.32	7000	24.85	12.01	3.18
18000	2.51	13.68	6.14	7.99	1.16	0.20	7200	24.78	11.96	3.20
19000	3.21	12.89	6.94	8.41	1.12	0.29	7600	24.59	12.07	3.24
20000	2.44	15.42	4.31	6.72	1.18	0.34	8000	23.63	11.15	3.40

Typical Performance Data

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Icc = 48mA, Vd = 3.82V @Temperature = -45degC

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	16.41	20.01	52.88	23.90	1.08	0.66	50	31.44	14.80	2.82
100	16.40	20.05	50.18	24.08	1.09	0.66	100	31.47	14.81	2.85
200	16.36	20.03	51.41	24.20	1.09	0.66	200	31.83	14.95	2.85
400	16.28	19.99	56.88	23.06	1.09	0.65	400	31.19	14.95	2.88
600	16.19	19.95	47.37	22.29	1.09	0.65	600	30.63	14.80	2.84
800	16.08	19.91	40.31	21.30	1.09	0.64	800	30.89	14.48	2.88
1000	15.97	19.85	36.72	20.57	1.10	0.64	1000	30.64	14.51	2.91
1200	15.86	19.79	35.37	19.96	1.10	0.64	1200	30.60	14.56	2.95
1400	15.75	19.73	32.97	19.33	1.10	0.63	1400	30.54	14.55	2.92
1600	15.63	19.67	32.33	18.89	1.10	0.63	1600	31.44	14.50	2.91
1800	15.51	19.61	31.70	18.63	1.11	0.63	1800	31.24	14.55	2.93
2000	15.39	19.54	32.02	18.52	1.11	0.62	2000	30.89	14.33	2.92
2200	15.27	19.46	32.96	18.42	1.11	0.62	2200	30.86	14.02	2.92
2400	15.15	19.39	34.38	18.40	1.11	0.62	2400	30.60	13.96	2.93
2600	15.01	19.30	37.90	18.59	1.11	0.61	2600	30.31	14.30	2.93
2800	14.87	19.20	40.42	18.65	1.12	0.61	2800	30.26	14.37	2.90
3000	14.75	19.10	46.81	18.93	1.12	0.61	3000	30.37	14.43	2.93
3500	14.40	18.87	36.37	19.39	1.12	0.60	3200	30.26	14.43	2.91
4000	14.01	18.64	32.28	19.81	1.13	0.58	3400	29.98	14.38	2.87
4500	13.63	18.32	32.77	19.35	1.14	0.58	3600	29.50	14.46	2.88
5000	13.27	18.05	34.38	18.98	1.14	0.57	3800	29.17	14.46	2.92
5500	12.84	17.74	43.57	17.87	1.15	0.57	4000	29.17	14.70	2.94
6000	12.46	17.47	38.02	16.98	1.15	0.56	4200	29.04	14.79	2.97
6500	12.17	17.22	36.05	16.51	1.16	0.56	4400	28.91	14.84	2.87
7000	11.84	16.88	29.37	15.48	1.15	0.57	4600	28.54	15.00	2.94
7500	11.59	16.61	23.97	14.38	1.15	0.57	4800	28.07	14.97	3.05
8000	11.34	16.34	19.32	13.10	1.14	0.59	5000	27.91	14.81	3.07
8500	11.00	16.12	15.68	11.79	1.14	0.60	5200	27.99	14.58	3.04
9000	10.67	15.88	13.36	10.57	1.13	0.61	5400	28.23	14.63	2.99
10000	9.70	15.40	10.85	9.01	1.13	0.62	5600	27.77	14.69	2.98
11000	8.35	15.09	8.53	7.30	1.15	0.62	5800	27.17	14.66	3.00
12000	6.41	15.15	5.74	5.35	1.15	0.63	6000	26.72	14.63	3.05
13000	4.53	15.59	4.07	4.15	1.14	0.64	6200	26.67	14.52	3.15
14000	3.06	16.11	3.52	3.44	1.13	0.63	6400	26.53	14.37	3.23
15000	2.01	15.98	3.26	3.27	1.05	0.60	6600	26.75	14.35	3.24
16000	1.83	16.20	3.41	3.56	1.02	0.53	6800	26.46	14.32	3.26
17000	2.31	14.98	4.50	5.27	1.06	0.38	7000	25.80	14.21	3.29
18000	3.11	13.30	6.59	7.89	1.11	0.27	7200	25.37	13.85	3.29
19000	3.74	12.54	7.43	8.18	1.09	0.35	7600	25.02	13.84	3.42
20000	2.99	15.13	4.53	6.21	1.13	0.39	8000	24.37	13.05	3.53

Typical Performance Data

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Icc = 40mA, Vd = 3.44V @Temperature = +85degC

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	15.95	19.71	32.87	29.17	1.09	0.65	50	27.37	12.95	3.77
100	15.93	19.68	33.01	28.63	1.09	0.65	100	27.43	12.85	3.79
200	15.88	19.72	35.16	27.74	1.10	0.64	200	27.81	13.11	3.81
400	15.78	19.71	34.12	26.82	1.10	0.64	400	27.21	13.02	3.83
600	15.68	19.66	34.67	25.94	1.10	0.63	600	26.65	12.87	3.80
800	15.57	19.63	36.13	24.49	1.11	0.63	800	26.86	12.43	3.86
1000	15.45	19.57	37.77	23.71	1.11	0.62	1000	26.65	12.50	3.85
1200	15.34	19.52	38.02	22.96	1.11	0.62	1200	26.57	12.63	3.94
1400	15.23	19.48	39.19	22.35	1.12	0.61	1400	26.48	12.59	3.93
1600	15.11	19.42	38.06	22.03	1.12	0.61	1600	27.32	12.58	3.95
1800	14.99	19.37	38.97	21.42	1.12	0.60	1800	27.35	12.54	3.98
2000	14.85	19.29	37.13	21.13	1.13	0.60	2000	26.79	12.23	3.96
2200	14.72	19.22	35.73	20.88	1.13	0.59	2200	26.85	11.91	3.94
2400	14.60	19.14	34.08	20.69	1.13	0.59	2400	26.79	11.90	3.93
2600	14.45	19.09	32.00	20.75	1.14	0.58	2600	26.70	12.33	3.96
2800	14.31	19.01	30.85	20.52	1.14	0.58	2800	26.78	12.43	3.94
3000	14.17	18.91	29.16	20.46	1.14	0.58	3000	26.97	12.49	3.99
3500	13.80	18.68	25.60	21.16	1.15	0.56	3200	26.83	12.46	3.98
4000	13.39	18.46	23.50	21.85	1.16	0.55	3400	26.49	12.40	3.92
4500	12.98	18.19	23.06	21.79	1.17	0.54	3600	26.16	12.50	3.92
5000	12.58	17.93	23.77	20.96	1.18	0.53	3800	25.87	12.52	3.97
5500	12.13	17.70	27.25	18.96	1.20	0.52	4000	25.94	12.81	4.01
6000	11.72	17.44	28.56	17.10	1.20	0.52	4200	25.74	12.86	4.01
6500	11.37	17.19	24.32	15.72	1.21	0.52	4400	25.69	12.88	3.99
7000	11.00	16.93	20.95	14.75	1.21	0.51	4600	25.20	12.99	4.08
7500	10.69	16.68	18.69	14.36	1.21	0.51	4800	24.88	12.88	4.11
8000	10.41	16.47	17.37	13.96	1.21	0.52	5000	24.70	12.71	4.16
8500	10.01	16.24	15.00	12.79	1.22	0.52	5200	24.75	12.43	4.08
9000	9.52	16.12	12.75	11.35	1.23	0.52	5400	24.72	12.51	4.07
10000	8.14	15.98	9.12	8.65	1.26	0.53	5600	24.26	12.48	4.08
11000	6.45	15.95	6.99	7.19	1.31	0.52	5800	23.75	12.49	4.14
12000	4.76	15.76	5.73	6.31	1.34	0.51	6000	23.39	12.27	4.06
13000	3.30	15.79	4.76	5.48	1.34	0.50	6200	23.35	12.17	4.19
14000	1.64	16.08	3.99	4.60	1.33	0.50	6400	23.24	12.04	4.25
15000	0.25	16.48	3.69	4.44	1.38	0.46	6600	23.18	12.08	4.33
16000	-0.03	16.27	4.44	5.07	1.49	0.36	6800	22.85	12.05	4.34
17000	0.40	15.20	6.12	6.60	1.61	0.22	7000	22.31	11.95	4.32
18000	0.95	13.97	6.79	9.02	1.57	0.19	7200	21.92	11.65	4.38
19000	0.97	14.04	6.03	8.76	1.52	0.24	7600	21.59	11.55	4.38
20000	0.41	16.79	5.67	7.23	1.96	0.23	8000	20.76	10.57	4.50

Typical Performance Data

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Icc = 32mA, Vd = 3.39V @Temperature = +85degC

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	15.55	19.41	25.49	66.31	1.10	0.64	50	23.33	10.01	3.73
100	15.53	19.38	25.48	50.37	1.10	0.64	100	23.34	9.69	3.77
200	15.48	19.39	26.44	41.76	1.10	0.64	200	23.67	10.23	3.79
400	15.40	19.38	26.10	35.67	1.10	0.63	400	23.23	10.07	3.82
600	15.30	19.34	26.23	32.95	1.11	0.63	600	22.74	9.84	3.79
800	15.19	19.31	27.04	29.93	1.11	0.62	800	22.94	9.25	3.85
1000	15.08	19.26	27.31	28.47	1.11	0.62	1000	22.75	9.52	3.86
1200	14.99	19.22	27.38	27.04	1.12	0.61	1200	22.68	9.78	3.89
1400	14.88	19.17	27.98	25.86	1.12	0.61	1400	22.60	9.74	3.91
1600	14.77	19.11	27.53	25.35	1.12	0.60	1600	23.25	9.79	3.92
1800	14.66	19.06	27.96	24.39	1.12	0.60	1800	23.55	9.68	3.97
2000	14.54	19.00	27.51	23.62	1.13	0.60	2000	22.70	9.19	3.93
2200	14.41	18.93	27.19	23.16	1.13	0.59	2200	22.82	8.77	3.92
2400	14.28	18.87	26.34	22.76	1.13	0.59	2400	23.00	8.97	3.91
2600	14.16	18.79	25.41	22.66	1.13	0.58	2600	23.23	9.58	3.95
2800	14.02	18.73	25.07	22.25	1.14	0.58	2800	23.60	9.77	3.91
3000	13.89	18.63	24.18	21.97	1.14	0.57	3000	23.81	9.78	3.97
3500	13.54	18.43	21.96	22.56	1.15	0.56	3200	23.61	9.74	3.96
4000	13.16	18.21	20.61	23.32	1.16	0.55	3400	23.50	9.75	3.90
4500	12.76	17.97	20.35	23.45	1.17	0.54	3600	23.65	9.84	3.91
5000	12.38	17.72	21.00	22.50	1.18	0.53	3800	23.77	9.89	3.92
5500	11.95	17.50	23.33	20.16	1.19	0.52	4000	24.10	10.45	3.97
6000	11.56	17.26	24.64	18.00	1.20	0.52	4200	24.06	10.63	3.99
6500	11.21	17.03	22.48	16.46	1.21	0.51	4400	24.08	10.63	3.94
7000	10.84	16.80	19.87	15.41	1.21	0.51	4600	23.94	10.93	4.02
7500	10.52	16.58	17.78	15.02	1.21	0.51	4800	23.91	10.81	4.08
8000	10.24	16.40	16.57	14.60	1.22	0.51	5000	23.89	10.58	4.06
8500	9.83	16.19	14.48	13.37	1.23	0.51	5200	23.85	10.20	4.01
9000	9.34	16.11	12.40	11.85	1.24	0.51	5400	23.68	10.49	4.01
10000	7.95	16.01	8.95	9.08	1.28	0.51	5600	23.46	11.02	4.07
11000	6.26	16.02	6.90	7.61	1.34	0.50	5800	23.20	11.22	4.05
12000	4.58	15.84	5.68	6.70	1.37	0.48	6000	23.19	10.85	4.03
13000	3.12	15.88	4.73	5.85	1.38	0.48	6200	23.48	10.75	4.11
14000	1.48	16.16	3.96	4.90	1.37	0.48	6400	23.41	10.84	4.24
15000	0.03	16.56	3.69	4.70	1.42	0.44	6600	23.21	11.04	4.23
16000	-0.33	16.38	4.39	5.26	1.54	0.33	6800	22.81	11.03	4.24
17000	0.03	15.40	5.98	6.61	1.67	0.20	7000	22.25	11.09	4.22
18000	0.59	14.21	6.60	8.93	1.63	0.17	7200	22.06	10.89	4.29
19000	0.63	14.23	5.89	8.76	1.57	0.21	7600	21.56	10.77	4.20
20000	0.07	16.95	5.58	7.29	2.04	0.22	8000	20.77	9.73	4.47

Typical Performance Data

Definitions:
Input Return Loss = -S11 (dB)
Gain(Power Gain) = S21 (dB)
Reverse Isolation = -S12 (dB)
Output Return Loss = -S22 (dB)

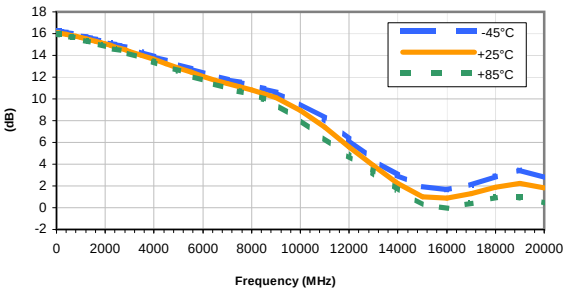
TEST CONDITIONS: Icc = 48mA, Vd = 3.50V @Temperature = +85degC

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	16.16	19.87	44.60	25.33	1.09	0.65	50	30.42	14.20	3.78
100	16.14	19.88	44.76	25.00	1.09	0.65	100	30.58	14.30	3.80
200	16.09	19.90	55.57	24.32	1.10	0.64	200	30.99	14.32	3.82
400	16.00	19.88	51.15	23.88	1.10	0.64	400	30.12	14.38	3.84
600	15.89	19.84	53.81	23.30	1.10	0.63	600	29.40	14.46	3.83
800	15.77	19.81	54.89	22.26	1.11	0.63	800	29.51	14.27	3.90
1000	15.65	19.76	49.30	21.71	1.11	0.62	1000	29.19	14.12	3.87
1200	15.54	19.70	48.24	21.09	1.11	0.62	1200	29.03	14.10	3.97
1400	15.41	19.64	44.88	20.66	1.11	0.62	1400	28.91	14.13	3.97
1600	15.29	19.59	48.97	20.46	1.12	0.61	1600	29.62	14.03	3.96
1800	15.16	19.53	46.57	19.98	1.12	0.61	1800	28.97	14.11	4.00
2000	15.03	19.47	52.45	19.84	1.12	0.60	2000	28.71	14.00	4.02
2200	14.89	19.39	61.92	19.70	1.13	0.60	2200	28.50	13.86	4.00
2400	14.76	19.32	47.51	19.59	1.13	0.59	2400	28.11	13.71	3.98
2600	14.61	19.25	40.28	19.70	1.14	0.59	2600	27.65	13.80	3.99
2800	14.46	19.16	37.92	19.56	1.14	0.58	2800	27.41	13.82	4.03
3000	14.32	19.06	34.31	19.60	1.14	0.58	3000	27.36	13.90	4.01
3500	13.94	18.83	28.49	20.36	1.15	0.57	3200	27.11	13.93	4.02
4000	13.52	18.61	25.65	21.03	1.16	0.55	3400	26.72	13.79	3.95
4500	13.10	18.32	25.01	20.96	1.17	0.54	3600	26.28	13.83	3.97
5000	12.68	18.05	25.88	20.22	1.18	0.53	3800	25.88	13.83	4.03
5500	12.23	17.81	30.55	18.41	1.20	0.52	4000	25.76	13.95	4.05
6000	11.81	17.54	30.99	16.68	1.21	0.52	4200	25.51	13.92	4.08
6500	11.46	17.28	25.16	15.40	1.21	0.52	4400	25.42	13.90	4.03
7000	11.08	17.01	21.45	14.44	1.21	0.52	4600	24.99	13.95	4.14
7500	10.77	16.74	19.14	14.06	1.21	0.52	4800	24.66	13.73	4.15
8000	10.50	16.52	17.79	13.68	1.21	0.52	5000	24.36	13.60	4.19
8500	10.10	16.27	15.30	12.54	1.21	0.53	5200	24.30	13.52	4.18
9000	9.61	16.15	12.96	11.13	1.22	0.53	5400	24.35	13.47	4.13
10000	8.24	15.96	9.22	8.45	1.24	0.53	5600	23.92	13.10	4.19
11000	6.55	15.91	7.04	6.99	1.29	0.53	5800	23.44	13.02	4.15
12000	4.85	15.70	5.77	6.10	1.32	0.52	6000	22.98	12.89	4.11
13000	3.39	15.72	4.79	5.28	1.32	0.52	6200	22.77	12.78	4.27
14000	1.74	16.03	4.00	4.42	1.31	0.52	6400	22.66	12.55	4.37
15000	0.36	16.45	3.71	4.26	1.36	0.48	6600	22.67	12.58	4.41
16000	0.13	16.21	4.46	4.92	1.45	0.37	6800	22.45	12.50	4.44
17000	0.60	15.09	6.22	6.51	1.57	0.23	7000	21.89	12.34	4.41
18000	1.14	13.84	6.91	8.97	1.54	0.21	7200	21.53	12.00	4.47
19000	1.14	13.92	6.13	8.63	1.49	0.25	7600	21.20	11.93	4.63
20000	0.60	16.68	5.71	7.10	1.90	0.25	8000	20.52	10.95	4.65

Typical Performance Curves

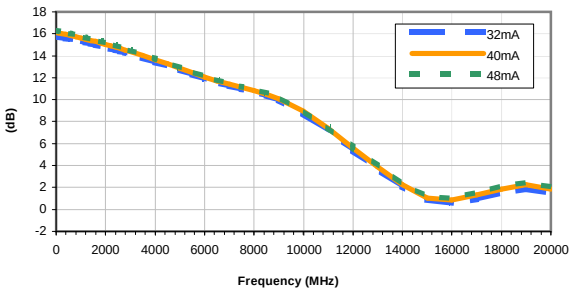
GAIN vs. TEMPERATURE

INPUT POWER = -20dBm, CURRENT = 40mA



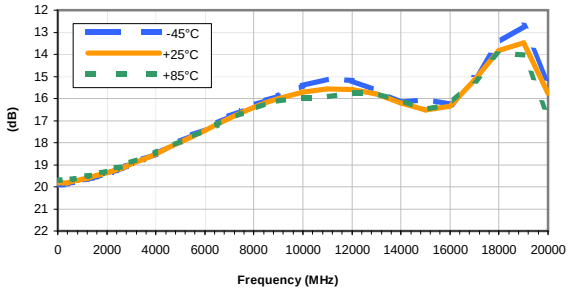
GAIN vs. CURRENT

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



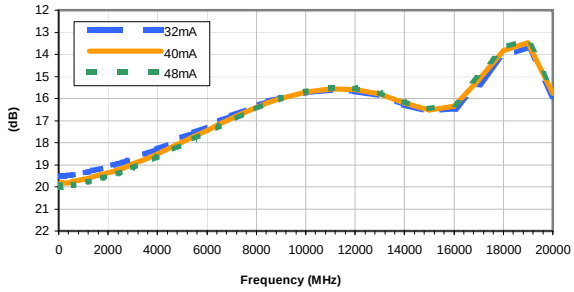
ISOLATION vs. TEMPERATURE

INPUT POWER = -20dBm, CURRENT = 40mA



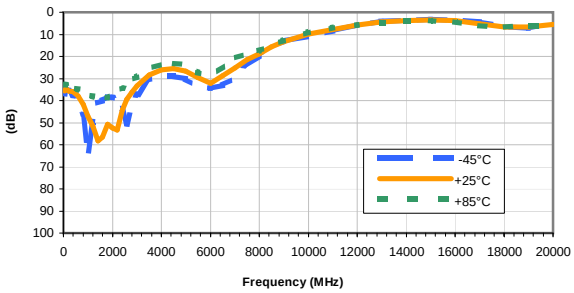
ISOLATION vs. CURRENT

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



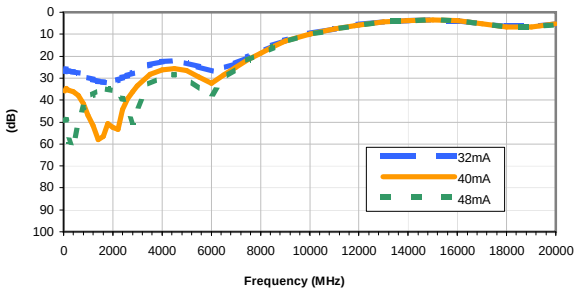
INPUT RETURN LOSS vs. TEMPERATURE

INPUT POWER = -20dBm, CURRENT = 40mA



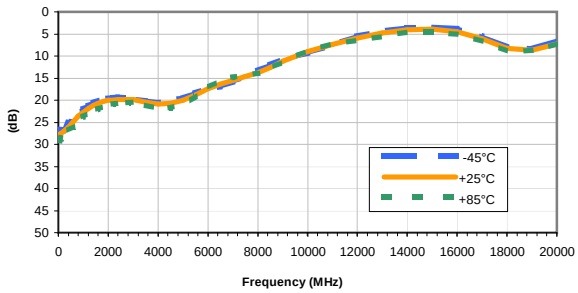
INPUT RETURN LOSS vs. CURRENT

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



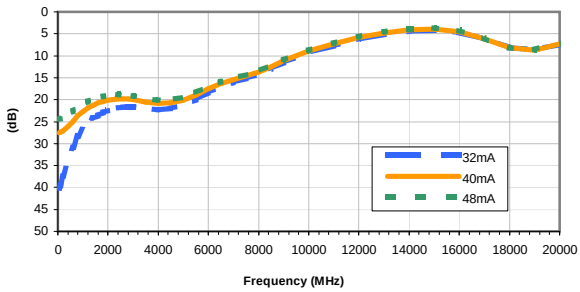
OUTPUT RETURN LOSS vs. TEMPERATURE

INPUT POWER = -20dBm, CURRENT = 40mA



OUTPUT RETURN LOSS vs. CURRENT

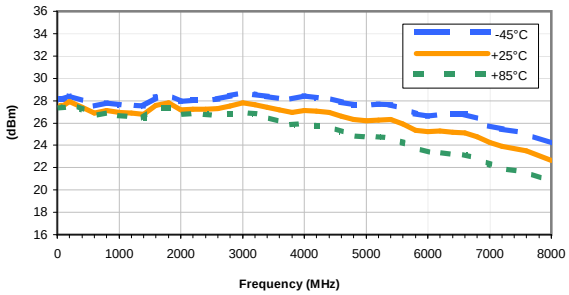
INPUT POWER = -20dBm, Temperature = +25°C



Typical Performance Curves

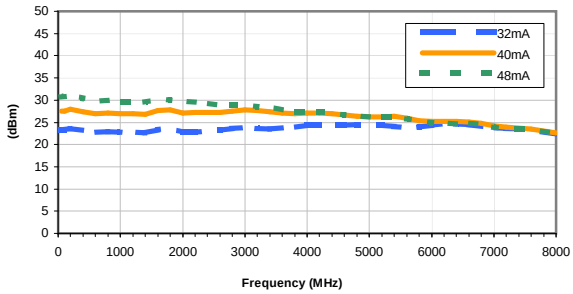
OUTPUT IP3 vs. TEMPERATURE

INPUT POWER = -20dBm, CURRENT = 40mA



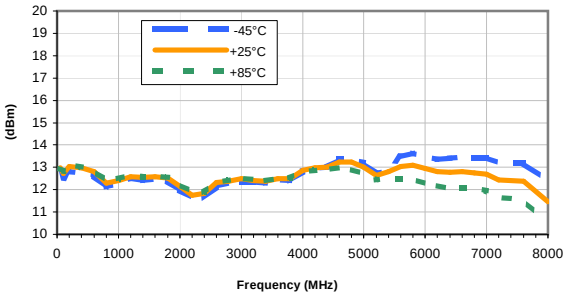
OUTPUT IP-3 vs. CURRENT

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



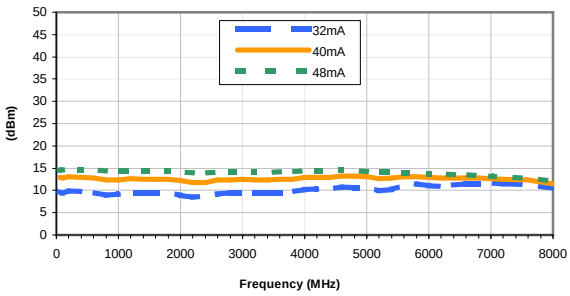
OUTPUT POWER at 1dB Compression vs. TEMPERATURE

CURRENT = 40mA



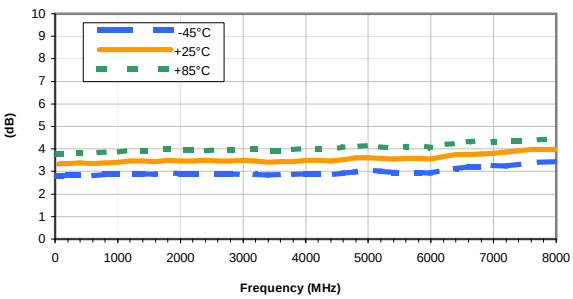
OUTPUT POWER at 1dB Compression vs. CURRENT

Temperature = +25°C



Noise Figure vs. TEMPERATURE

CURRENT = 40mA



Noise Figure vs. CURRENT

Temperature = +25°C