

MMIC Amplifier

MAR-2SM+

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 = 25mA, Vd = 4.82V @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	12.83	18.22	24.31	20.87	1.19	0.54	22.47	8.53	3.63
100	12.80	18.18	24.30	21.34	1.19	0.54	22.56	8.31	3.66
150	12.80	18.23	24.67	21.18	1.20	0.54	23.18	8.48	3.71
200	12.78	18.23	24.33	21.33	1.20	0.54	23.09	8.31	3.71
250	12.76	18.23	24.57	21.37	1.20	0.54	21.97	8.25	3.67
300	12.75	18.20	24.47	21.38	1.20	0.54	23.02	8.37	3.77
350	12.71	18.21	24.53	21.61	1.20	0.54	22.58	8.28	3.77
400	12.71	18.20	24.51	21.50	1.20	0.54	22.76	8.47	3.74
450	12.69	18.21	24.52	21.72	1.20	0.53	22.10	8.15	3.74
500	12.67	18.19	24.71	21.74	1.20	0.53	22.65	8.28	3.73
550	12.63	18.19	24.74	21.97	1.21	0.53	22.05	8.04	3.75
600	12.61	18.19	24.83	22.05	1.21	0.53	22.35	8.28	3.77
650	12.61	18.19	24.89	22.07	1.21	0.53	22.17	8.26	3.77
700	12.55	18.16	24.97	22.44	1.21	0.53	22.31	8.15	3.78
750	12.53	18.15	25.01	22.48	1.21	0.53	22.55	8.30	3.75
800	12.50	18.15	25.41	22.65	1.21	0.52	22.71	8.04	3.79
850	12.47	18.14	25.40	22.72	1.22	0.52	22.60	8.34	3.73
900	12.43	18.13	25.68	23.06	1.22	0.52	22.31	7.91	3.70
940	12.41	18.12	25.83	22.97	1.22	0.52	22.59	8.07	3.70
1000	12.36	18.11	25.81	23.09	1.22	0.52	22.15	8.09	3.69
1050	12.33	18.10	26.50	23.11	1.22	0.52	22.58	8.06	3.67
1100	12.29	18.07	26.24	23.13	1.22	0.51	22.01	8.10	3.73
1150	12.24	18.06	26.27	23.16	1.23	0.51	22.26	7.93	3.80
1200	12.19	18.07	26.86	23.05	1.23	0.51	21.88	8.07	3.77
1250	12.15	18.04	26.85	23.05	1.23	0.51	22.33	7.85	3.76
1300	12.12	18.02	27.03	22.80	1.23	0.51	22.13	7.90	3.81
1350	12.06	18.01	27.38	22.72	1.24	0.50	22.43	7.84	3.79
1400	12.00	17.99	27.26	22.44	1.24	0.50	22.00	7.85	3.81
1450	11.97	17.98	27.65	22.23	1.24	0.50	22.04	7.94	3.85
1500	11.92	17.97	27.55	21.94	1.24	0.50	22.10	7.99	3.91
1550	11.87	17.96	27.70	21.70	1.25	0.49	22.34	7.91	3.82
1600	11.82	17.94	27.61	21.48	1.25	0.49	22.34	7.84	3.86
1650	11.74	17.90	27.71	21.13	1.25	0.49	22.40	7.67	3.81
1700	11.68	17.90	27.54	20.88	1.25	0.49	22.59	7.82	3.87
1750	11.65	17.89	27.50	20.52	1.25	0.48	22.53	7.68	3.77
1800	11.59	17.88	27.46	20.34	1.26	0.48	22.32	7.88	3.80
1850	11.51	17.84	27.39	19.94	1.26	0.48	21.71	7.69	3.84
1900	11.46	17.83	27.23	19.67	1.26	0.48	21.58	7.82	3.77
1950	11.41	17.82	27.11	19.41	1.27	0.47	21.70	7.70	3.73
2000	11.36	17.81	26.77	19.14	1.27	0.47	21.52	7.50	3.74

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Typical Performance Data

Definitions:

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Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Icc = 20mA, Vd = 4.75V @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	12.35	17.92	20.98	18.24	1.20	0.54	18.16	5.05	3.66
100	12.36	17.91	21.12	18.48	1.20	0.54	18.11	4.91	3.69
150	12.31	17.91	21.28	18.40	1.21	0.53	18.60	4.90	3.71
200	12.32	17.95	21.27	18.35	1.21	0.53	18.43	5.00	3.75
250	12.28	17.94	21.30	18.64	1.21	0.53	17.59	5.03	3.71
300	12.29	17.95	21.10	18.58	1.21	0.53	18.41	5.06	3.79
350	12.27	17.96	21.36	18.68	1.21	0.53	18.03	4.87	3.78
400	12.22	17.93	21.22	18.72	1.21	0.53	18.26	4.93	3.75
450	12.24	17.96	21.41	18.76	1.21	0.53	17.66	4.72	3.79
500	12.21	17.93	21.37	19.08	1.21	0.53	18.20	5.15	3.73
550	12.19	17.93	21.47	18.99	1.22	0.53	17.64	4.86	3.78
600	12.17	17.92	21.64	19.22	1.22	0.52	17.94	4.82	3.75
650	12.15	17.90	21.49	19.32	1.22	0.52	17.78	4.91	3.78
700	12.14	17.91	21.72	19.59	1.22	0.52	17.94	4.86	3.76
750	12.10	17.89	21.77	19.53	1.22	0.52	18.10	5.06	3.78
800	12.06	17.88	21.95	19.97	1.22	0.52	18.24	4.91	3.78
850	12.03	17.87	21.78	20.00	1.22	0.52	18.18	5.10	3.73
900	12.03	17.87	22.18	20.29	1.22	0.52	17.95	4.89	3.73
940	11.97	17.84	22.36	20.40	1.23	0.51	18.26	4.95	3.74
1000	11.95	17.83	22.32	20.46	1.23	0.51	17.86	4.86	3.69
1050	11.89	17.80	22.49	20.79	1.23	0.51	18.36	4.78	3.72
1100	11.87	17.81	22.35	20.86	1.23	0.51	17.84	4.78	3.77
1150	11.86	17.80	22.64	20.98	1.23	0.51	18.20	4.60	3.83
1200	11.78	17.79	23.06	21.17	1.24	0.50	17.81	4.72	3.83
1250	11.74	17.76	22.77	21.46	1.24	0.50	18.29	4.51	3.81
1300	11.73	17.73	22.85	21.32	1.24	0.50	18.17	4.65	3.84
1350	11.68	17.73	23.40	21.33	1.24	0.50	18.47	4.47	3.81
1400	11.63	17.72	23.31	21.44	1.24	0.50	18.15	4.57	3.85
1450	11.56	17.70	23.35	21.51	1.25	0.49	18.18	4.72	3.81
1500	11.53	17.68	23.27	21.40	1.25	0.49	18.31	4.69	3.91
1550	11.49	17.65	23.44	21.34	1.25	0.49	18.53	4.49	3.84
1600	11.43	17.65	23.44	21.25	1.25	0.49	18.52	4.61	3.85
1650	11.38	17.63	23.69	21.03	1.26	0.48	18.65	4.78	3.86
1700	11.34	17.62	23.61	21.02	1.26	0.48	18.85	5.05	3.85
1750	11.28	17.60	23.53	20.74	1.26	0.48	19.03	4.70	3.77
1800	11.20	17.56	23.48	20.67	1.26	0.48	18.88	5.07	3.79
1850	11.17	17.55	23.61	20.44	1.26	0.47	18.64	4.78	3.81
1900	11.14	17.57	23.65	20.19	1.27	0.47	18.43	4.82	3.77
1950	11.05	17.54	23.51	19.99	1.27	0.47	18.80	4.76	3.71
2000	10.98	17.51	23.28	19.77	1.27	0.47	18.55	4.78	3.74

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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 = 30mA, Vd = 4.88V @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	13.06	18.38	26.83	23.21	1.19	0.55	25.76	10.51	3.67
100	13.06	18.35	26.90	23.38	1.19	0.55	26.13	10.44	3.68
150	13.03	18.38	27.22	23.43	1.19	0.54	26.93	10.53	3.71
200	13.04	18.36	26.96	23.39	1.19	0.54	27.15	10.42	3.73
250	13.00	18.37	27.19	23.58	1.19	0.54	25.51	10.48	3.67
300	13.00	18.38	27.00	23.52	1.19	0.54	26.90	10.47	3.74
350	12.97	18.37	27.13	23.61	1.20	0.54	26.42	10.35	3.76
400	12.95	18.36	27.00	23.69	1.20	0.54	26.62	10.53	3.74
450	12.95	18.36	27.12	23.72	1.20	0.54	25.76	10.29	3.76
500	12.91	18.36	27.35	23.91	1.20	0.54	26.30	10.40	3.75
550	12.88	18.36	27.40	24.01	1.20	0.53	25.67	10.30	3.79
600	12.86	18.35	27.46	24.08	1.20	0.53	25.92	10.33	3.77
650	12.84	18.34	27.60	24.17	1.20	0.53	25.63	10.31	3.80
700	12.80	18.34	27.79	24.36	1.21	0.53	25.81	10.24	3.75
750	12.77	18.31	27.73	24.28	1.21	0.53	26.14	10.34	3.77
800	12.73	18.31	28.28	24.54	1.21	0.53	26.29	10.17	3.77
850	12.70	18.29	28.30	24.46	1.21	0.53	26.10	10.36	3.74
900	12.67	18.29	28.66	24.59	1.21	0.52	25.73	10.12	3.73
940	12.63	18.28	28.87	24.48	1.22	0.52	25.91	10.03	3.74
1000	12.60	18.27	28.90	24.37	1.22	0.52	25.41	10.10	3.72
1050	12.54	18.24	29.70	24.30	1.22	0.52	25.66	10.08	3.71
1100	12.51	18.24	29.48	24.10	1.22	0.52	25.10	10.03	3.81
1150	12.47	18.24	29.52	23.99	1.22	0.51	25.17	9.89	3.82
1200	12.41	18.23	30.34	23.65	1.23	0.51	24.84	9.93	3.76
1250	12.36	18.21	30.29	23.55	1.23	0.51	25.25	9.79	3.78
1300	12.33	18.18	30.62	23.10	1.23	0.51	24.90	9.74	3.81
1350	12.28	18.18	31.14	22.87	1.23	0.51	25.06	9.65	3.85
1400	12.22	18.15	30.87	22.45	1.23	0.50	24.58	9.80	3.85
1450	12.17	18.14	31.35	22.15	1.24	0.50	24.65	9.67	3.87
1500	12.13	18.14	31.23	21.73	1.24	0.50	24.62	9.78	3.93
1550	12.07	18.12	31.37	21.44	1.24	0.50	24.90	9.64	3.85
1600	12.01	18.12	31.10	21.13	1.25	0.49	24.82	9.50	3.87
1650	11.95	18.10	31.13	20.76	1.25	0.49	24.84	9.49	3.87
1700	11.90	18.07	30.87	20.45	1.25	0.49	24.94	9.47	3.86
1750	11.84	18.05	30.63	20.02	1.25	0.49	24.61	9.32	3.77
1800	11.77	18.02	30.41	19.82	1.26	0.48	24.24	9.36	3.82
1850	11.71	18.01	30.34	19.43	1.26	0.48	23.48	9.27	3.81
1900	11.65	17.99	29.87	19.14	1.26	0.48	23.40	9.16	3.81
1950	11.60	17.97	29.53	18.84	1.26	0.48	23.31	9.17	3.75
2000	11.53	17.96	29.05	18.59	1.27	0.47	23.19	8.98	3.75

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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 = 25mA, Vd = 5.09V @Temperature = -45degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP3 Output	1dB Comp. Output	Noise Figure
					K	Delta			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(dBm)	(dBm)	(dB)
50	12.99	18.22	24.80	21.39	1.18	0.55	22.40	8.27	2.97
100	12.98	18.26	23.78	21.16	1.19	0.55	22.32	8.13	2.99
150	12.97	18.27	23.32	20.54	1.19	0.55	22.81	8.25	3.00
200	12.95	18.30	23.28	20.62	1.19	0.55	22.62	8.08	3.05
250	12.93	18.30	23.68	21.00	1.19	0.54	21.69	8.08	3.01
300	12.96	18.28	24.44	21.67	1.19	0.55	22.57	8.16	3.16
350	12.92	18.27	25.19	22.36	1.19	0.54	22.19	8.02	3.07
400	12.91	18.27	25.66	22.63	1.19	0.54	22.41	8.37	3.06
450	12.90	18.26	26.15	22.93	1.19	0.54	21.81	8.01	3.05
500	12.88	18.26	25.88	22.84	1.19	0.54	22.34	8.13	3.03
550	12.85	18.25	25.95	22.91	1.20	0.54	21.81	7.92	3.07
600	12.83	18.24	25.87	22.90	1.20	0.54	22.10	8.09	3.05
650	12.83	18.24	26.16	23.12	1.20	0.54	21.90	8.06	3.05
700	12.78	18.22	26.36	23.48	1.20	0.54	22.08	7.95	3.08
750	12.75	18.21	26.49	23.38	1.20	0.54	22.27	8.12	3.03
800	12.73	18.20	26.45	23.34	1.20	0.53	22.42	7.85	3.05
850	12.71	18.20	26.40	23.24	1.20	0.53	22.33	8.16	3.04
900	12.68	18.17	26.47	23.32	1.20	0.53	22.10	7.90	3.02
940	12.64	18.17	26.63	23.27	1.20	0.53	22.40	7.97	3.04
1000	12.61	18.14	27.14	23.54	1.21	0.53	21.99	8.00	2.98
1050	12.57	18.14	27.40	23.59	1.21	0.53	22.45	7.89	3.00
1100	12.55	18.12	27.56	23.65	1.21	0.53	21.95	7.98	3.05
1150	12.50	18.09	27.86	23.66	1.21	0.53	22.29	7.83	3.11
1200	12.45	18.10	28.22	23.39	1.21	0.52	21.89	7.93	3.10
1250	12.43	18.08	28.10	23.39	1.21	0.52	22.38	7.75	3.05
1300	12.40	18.05	28.90	23.14	1.21	0.52	22.20	7.83	3.08
1350	12.34	18.01	29.68	23.04	1.21	0.52	22.54	7.73	3.10
1400	12.28	18.02	29.15	22.74	1.22	0.52	22.14	7.79	3.11
1450	12.24	18.00	29.29	22.50	1.22	0.51	22.18	7.89	3.14
1500	12.22	17.97	29.45	22.13	1.22	0.51	22.26	7.94	3.18
1550	12.15	18.01	29.89	21.96	1.23	0.51	22.47	7.88	3.12
1600	12.10	17.96	29.53	21.58	1.23	0.51	22.52	7.83	3.12
1650	12.05	17.92	29.79	21.17	1.23	0.51	22.60	7.75	3.11
1700	11.99	17.93	29.29	20.92	1.23	0.50	22.83	7.95	3.10
1750	11.94	17.90	29.08	20.52	1.23	0.50	22.91	7.62	3.07
1800	11.89	17.89	29.20	20.36	1.23	0.50	22.77	8.03	3.06
1850	11.83	17.86	29.29	19.96	1.24	0.50	22.35	7.62	3.06
1900	11.78	17.84	28.96	19.64	1.24	0.49	22.21	7.88	3.02
1950	11.72	17.81	28.67	19.30	1.24	0.49	22.43	7.86	3.03
2000	11.68	17.80	28.30	18.97	1.24	0.49	22.19	7.74	3.02

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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 = 20mA, Vd =5.01V @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	12.57	18.13	21.74	18.91	1.20	0.54	17.59	4.83	2.96
100	12.60	18.06	21.14	18.62	1.19	0.54	17.48	4.61	2.97
150	12.55	18.07	20.68	18.23	1.20	0.54	17.91	4.81	3.03
200	12.56	18.05	20.70	18.37	1.20	0.54	17.73	4.77	3.08
250	12.53	18.07	20.97	18.53	1.20	0.54	17.00	4.63	3.01
300	12.54	18.04	21.60	19.08	1.20	0.54	17.72	4.83	3.16
350	12.55	18.05	22.12	19.52	1.20	0.54	17.36	4.64	3.07
400	12.51	18.02	22.28	19.90	1.20	0.54	17.63	4.85	3.05
450	12.52	18.02	22.78	20.13	1.20	0.54	17.07	4.54	3.05
500	12.49	18.03	22.58	19.94	1.20	0.54	17.64	4.77	3.04
550	12.47	18.01	22.64	20.21	1.20	0.54	17.09	4.55	3.08
600	12.45	18.02	22.54	20.14	1.21	0.53	17.38	4.63	3.07
650	12.42	17.98	22.74	20.40	1.20	0.53	17.22	4.60	3.06
700	12.42	17.99	23.04	20.58	1.21	0.53	17.39	4.58	3.09
750	12.39	17.97	22.99	20.82	1.21	0.53	17.49	4.72	3.07
800	12.35	17.96	22.99	20.72	1.21	0.53	17.68	4.53	3.08
850	12.32	17.93	22.98	20.78	1.21	0.53	17.62	4.90	3.04
900	12.33	17.94	23.05	20.82	1.21	0.53	17.39	4.57	3.00
940	12.27	17.93	23.10	20.91	1.21	0.53	17.72	4.64	3.05
1000	12.24	17.91	23.41	21.34	1.21	0.52	17.33	4.62	2.98
1050	12.20	17.88	23.51	21.49	1.21	0.52	17.86	4.59	2.98
1100	12.18	17.86	23.76	21.70	1.21	0.52	17.35	4.68	3.05
1150	12.16	17.86	24.01	21.91	1.21	0.52	17.79	4.36	3.10
1200	12.11	17.87	24.13	21.83	1.22	0.52	17.36	4.46	3.08
1250	12.07	17.82	24.06	21.91	1.22	0.52	17.85	4.29	3.08
1300	12.04	17.79	24.60	21.99	1.22	0.52	17.74	4.33	3.10
1350	11.99	17.79	25.08	22.17	1.22	0.51	18.03	4.40	3.09
1400	11.96	17.77	24.79	22.10	1.22	0.51	17.75	4.48	3.07
1450	11.90	17.75	24.99	22.02	1.22	0.51	17.77	4.51	3.14
1500	11.86	17.72	25.18	21.90	1.22	0.51	17.93	4.45	3.20
1550	11.83	17.75	25.38	21.90	1.23	0.50	18.12	4.50	3.13
1600	11.76	17.69	25.23	21.66	1.23	0.50	18.14	4.59	3.12
1650	11.74	17.67	25.44	21.38	1.23	0.50	18.27	4.49	3.08
1700	11.70	17.67	25.30	21.33	1.23	0.50	18.46	4.78	3.11
1750	11.64	17.65	25.20	20.98	1.23	0.50	18.71	4.41	3.06
1800	11.56	17.63	25.20	20.88	1.24	0.49	18.60	4.86	3.05
1850	11.53	17.61	25.43	20.60	1.24	0.49	18.49	4.42	3.04
1900	11.51	17.60	25.54	20.36	1.24	0.49	18.26	4.88	3.02
1950	11.43	17.58	25.31	20.04	1.24	0.49	18.74	4.68	2.99
2000	11.36	17.55	25.06	19.71	1.24	0.48	18.44	4.71	3.00

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MMIC Amplifier

MAR-2SM+

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 = 30mA, Vd = 5.15V @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	13.19	18.34	26.88	23.29	1.18	0.56	25.92	10.59	2.98
100	13.20	18.38	25.71	22.94	1.18	0.55	25.90	10.46	3.03
150	13.18	18.37	25.38	22.27	1.18	0.55	26.52	10.53	3.04
200	13.17	18.43	24.97	22.24	1.18	0.55	26.30	10.45	3.05
250	13.15	18.43	25.64	22.85	1.19	0.55	25.10	10.49	3.02
300	13.14	18.42	26.53	23.53	1.19	0.55	26.12	10.49	3.15
350	13.14	18.42	27.50	24.36	1.19	0.55	25.73	10.37	3.06
400	13.12	18.40	28.30	24.80	1.19	0.55	25.94	10.57	3.07
450	13.11	18.39	28.61	24.94	1.19	0.55	25.26	10.36	3.09
500	13.09	18.39	28.55	24.94	1.19	0.54	25.80	10.43	3.09
550	13.05	18.38	28.50	24.77	1.19	0.54	25.25	10.29	3.06
600	13.05	18.37	28.51	24.87	1.19	0.54	25.48	10.37	3.10
650	13.02	18.36	28.88	25.02	1.19	0.54	25.26	10.39	3.11
700	12.99	18.35	28.93	25.23	1.19	0.54	25.44	10.30	3.09
750	12.96	18.34	29.02	24.98	1.20	0.54	25.69	10.39	3.06
800	12.93	18.34	29.28	24.97	1.20	0.54	25.86	10.16	3.09
850	12.89	18.33	29.12	24.63	1.20	0.54	25.76	10.40	3.01
900	12.89	18.31	29.19	24.65	1.20	0.54	25.43	10.16	3.04
940	12.85	18.29	29.60	24.57	1.20	0.53	25.70	10.26	3.05
1000	12.80	18.28	29.91	24.62	1.20	0.53	25.31	10.19	2.99
1050	12.76	18.27	30.73	24.59	1.20	0.53	25.64	10.15	3.00
1100	12.72	18.24	30.76	24.39	1.20	0.53	25.12	10.19	3.07
1150	12.70	18.24	30.97	24.26	1.21	0.53	25.32	9.98	3.12
1200	12.64	18.24	31.82	23.83	1.21	0.52	24.94	10.09	3.10
1250	12.60	18.21	31.85	23.73	1.21	0.52	25.43	9.90	3.06
1300	12.56	18.19	32.86	23.27	1.21	0.52	25.17	9.93	3.12
1350	12.51	18.18	33.49	23.09	1.21	0.52	25.44	9.89	3.12
1400	12.47	18.16	32.91	22.62	1.22	0.52	24.99	10.00	3.15
1450	12.42	18.13	33.11	22.26	1.22	0.52	25.02	9.97	3.16
1500	12.37	18.12	33.00	21.81	1.22	0.51	25.08	9.97	3.20
1550	12.32	18.15	34.01	21.58	1.23	0.51	25.24	9.95	3.15
1600	12.27	18.10	32.89	21.19	1.22	0.51	25.28	9.86	3.14
1650	12.21	18.08	32.84	20.74	1.23	0.51	25.36	9.77	3.15
1700	12.18	18.06	32.18	20.47	1.23	0.51	25.58	9.86	3.15
1750	12.12	18.03	31.82	20.00	1.23	0.50	25.41	9.66	3.06
1800	12.06	18.02	31.68	19.80	1.23	0.50	25.17	9.85	3.09
1850	12.01	18.00	31.61	19.44	1.23	0.50	24.52	9.63	3.09
1900	11.95	17.99	30.87	19.12	1.24	0.50	24.44	9.72	3.08
1950	11.89	17.95	30.48	18.72	1.24	0.50	24.40	9.64	3.06
2000	11.83	17.95	29.74	18.42	1.24	0.49	24.22	9.60	3.07

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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 = 25mA, Vd = 4.57V @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	12.61	18.05	24.02	20.27	1.20	0.54	22.06	8.56	4.17
100	12.60	18.08	24.33	20.98	1.20	0.54	22.18	8.38	4.21
150	12.60	18.03	25.46	21.51	1.20	0.54	22.84	8.53	4.26
200	12.57	18.04	25.66	21.54	1.20	0.54	22.73	8.40	4.27
250	12.55	18.06	25.70	21.76	1.20	0.53	21.52	8.38	4.27
300	12.54	18.06	25.31	21.37	1.20	0.53	22.58	8.44	4.30
350	12.49	18.08	24.47	21.14	1.21	0.53	22.17	8.30	4.32
400	12.50	18.06	24.09	20.77	1.21	0.53	22.32	8.64	4.34
450	12.46	18.08	23.92	20.65	1.21	0.53	21.65	8.16	4.32
500	12.44	18.07	23.81	20.79	1.21	0.53	22.15	8.35	4.32
550	12.40	18.07	23.86	20.83	1.21	0.53	21.60	8.18	4.32
600	12.39	18.06	23.72	20.98	1.21	0.53	21.84	8.30	4.33
650	12.38	18.07	24.02	21.11	1.22	0.52	21.62	8.37	4.35
700	12.30	18.05	23.92	21.28	1.22	0.52	21.78	8.15	4.35
750	12.28	18.04	23.81	21.19	1.22	0.52	21.99	8.35	4.32
800	12.26	18.02	23.94	21.48	1.22	0.52	22.15	8.11	4.37
850	12.21	18.02	23.92	21.43	1.22	0.52	22.03	8.25	4.31
900	12.18	18.02	23.79	21.66	1.23	0.51	21.70	7.97	4.29
940	12.16	18.00	23.85	21.75	1.23	0.51	21.97	8.17	4.33
1000	12.10	18.01	23.96	21.83	1.23	0.51	21.51	8.10	4.27
1050	12.08	17.96	24.33	22.13	1.23	0.51	21.86	8.10	4.31
1100	12.02	17.96	24.44	22.17	1.24	0.51	21.33	8.04	4.36
1150	11.98	17.97	24.46	22.32	1.24	0.50	21.48	7.92	4.42
1200	11.93	17.95	24.70	22.37	1.24	0.50	21.14	8.01	4.43
1250	11.89	17.93	24.93	22.69	1.24	0.50	21.56	7.82	4.39
1300	11.84	17.93	25.41	22.48	1.25	0.50	21.30	7.91	4.45
1350	11.79	17.90	25.67	22.49	1.25	0.49	21.55	7.76	4.41
1400	11.73	17.88	25.48	22.40	1.25	0.49	21.14	7.92	4.47
1450	11.69	17.86	26.04	22.26	1.25	0.49	21.14	7.88	4.47
1500	11.64	17.84	26.40	21.96	1.26	0.49	21.17	7.84	4.54
1550	11.58	17.85	26.38	21.94	1.26	0.48	21.39	7.76	4.48
1600	11.52	17.82	26.62	21.54	1.26	0.48	21.35	7.76	4.48
1650	11.45	17.80	26.57	21.16	1.27	0.48	21.42	7.59	4.49
1700	11.38	17.79	26.41	21.01	1.27	0.47	21.54	7.69	4.47
1750	11.34	17.78	26.51	20.52	1.27	0.47	21.40	7.51	4.39
1800	11.28	17.77	26.62	20.36	1.28	0.47	21.16	7.72	4.41
1850	11.19	17.73	26.54	20.00	1.28	0.47	20.59	7.54	4.46
1900	11.13	17.73	26.18	19.69	1.28	0.46	20.47	7.38	4.45
1950	11.08	17.69	25.93	19.38	1.28	0.46	20.50	7.46	4.39
2000	11.03	17.69	25.58	19.14	1.29	0.46	20.31	7.34	4.44

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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 = 20mA, Vd = 4.50V @Temperature = +85degC

FREQ	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP3 Output	1dB Comp. Output	Noise Figure
					K	Delta			
(MHz)	(dB)	(dB)	(dB)	(dB)	K	Delta	(dBm)	(dBm)	(dB)
50	12.13	17.82	20.64	17.50	1.21	0.53	17.91	5.43	4.21
100	12.10	17.77	20.85	18.02	1.21	0.53	17.90	5.01	4.24
150	12.09	17.74	21.80	18.48	1.21	0.53	18.42	5.28	4.26
200	12.07	17.75	21.80	18.44	1.21	0.53	18.23	5.25	4.32
250	12.05	17.78	21.89	18.64	1.22	0.53	17.31	5.03	4.27
300	12.07	17.79	21.49	18.38	1.21	0.53	18.15	5.35	4.28
350	11.99	17.79	21.01	18.26	1.22	0.52	17.78	5.07	4.34
400	11.99	17.79	20.88	18.08	1.22	0.52	18.00	5.22	4.33
450	11.97	17.81	20.67	17.86	1.22	0.52	17.40	5.05	4.33
500	11.95	17.78	20.66	18.05	1.22	0.52	17.92	5.18	4.34
550	11.92	17.78	20.62	18.10	1.22	0.52	17.38	4.96	4.34
600	11.87	17.77	20.67	18.26	1.23	0.52	17.66	5.22	4.37
650	11.89	17.77	20.83	18.34	1.22	0.52	17.48	5.00	4.38
700	11.83	17.76	20.64	18.46	1.23	0.51	17.64	5.01	4.36
750	11.81	17.78	20.65	18.49	1.23	0.51	17.79	5.28	4.36
800	11.77	17.75	20.78	18.80	1.23	0.51	17.94	5.00	4.36
850	11.76	17.73	20.63	18.78	1.23	0.51	17.89	5.36	4.37
900	11.70	17.72	20.59	19.02	1.24	0.51	17.62	5.03	4.33
940	11.67	17.72	20.81	19.15	1.24	0.51	17.95	5.15	4.37
1000	11.64	17.72	20.75	19.22	1.24	0.50	17.53	5.05	4.30
1050	11.61	17.66	21.10	19.70	1.24	0.50	18.01	4.95	4.35
1100	11.60	17.67	21.00	19.74	1.24	0.50	17.50	5.09	4.39
1150	11.53	17.67	21.11	19.88	1.25	0.50	17.82	4.80	4.40
1200	11.46	17.65	21.40	20.18	1.25	0.49	17.44	4.76	4.40
1250	11.45	17.62	21.49	20.64	1.25	0.50	17.89	4.42	4.41
1300	11.44	17.62	21.72	20.57	1.25	0.49	17.73	4.68	4.44
1350	11.35	17.59	21.92	20.70	1.26	0.49	18.00	4.58	4.47
1400	11.28	17.57	21.82	20.98	1.26	0.49	17.68	4.82	4.44
1450	11.27	17.55	22.23	21.12	1.26	0.49	17.69	4.92	4.47
1500	11.25	17.55	22.36	21.01	1.26	0.48	17.81	5.00	4.54
1550	11.16	17.53	22.49	21.24	1.27	0.48	18.03	4.99	4.51
1600	11.13	17.52	22.67	21.06	1.27	0.48	18.03	4.90	4.48
1650	11.05	17.49	22.64	20.88	1.27	0.47	18.19	4.83	4.50
1700	10.98	17.48	22.48	21.00	1.28	0.47	18.33	4.95	4.49
1750	10.95	17.46	22.72	20.66	1.28	0.47	18.45	4.81	4.43
1800	10.89	17.45	22.92	20.61	1.28	0.47	18.30	5.11	4.46
1850	10.81	17.43	22.79	20.41	1.28	0.46	18.01	4.88	4.45
1900	10.76	17.41	22.53	20.15	1.29	0.46	17.83	4.98	4.43
1950	10.70	17.37	22.58	19.96	1.29	0.46	18.08	4.99	4.36
2000	10.64	17.36	22.47	19.75	1.29	0.45	17.85	4.76	4.42

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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 = 30mA, Vd = 4.64V @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	12.89	18.25	26.62	22.39	1.19	0.54	25.23	10.46	4.21
100	12.89	18.22	27.27	23.26	1.19	0.54	25.57	10.41	4.24
150	12.87	18.22	28.84	24.02	1.19	0.54	26.39	10.38	4.29
200	12.85	18.23	29.12	24.23	1.20	0.54	26.54	10.34	4.30
250	12.82	18.25	29.14	24.34	1.20	0.54	24.85	10.39	4.25
300	12.82	18.25	28.41	23.71	1.20	0.54	26.22	10.33	4.33
350	12.78	18.25	27.45	23.34	1.20	0.53	25.72	10.26	4.35
400	12.76	18.24	26.78	22.97	1.20	0.54	25.89	10.37	4.32
450	12.74	18.24	26.57	22.78	1.20	0.53	25.00	10.21	4.34
500	12.70	18.24	26.43	22.81	1.21	0.53	25.49	10.27	4.33
550	12.69	18.24	26.56	22.92	1.21	0.53	24.91	10.15	4.32
600	12.65	18.23	26.36	23.02	1.21	0.53	25.10	10.16	4.36
650	12.63	18.22	26.63	23.15	1.21	0.53	24.77	10.24	4.37
700	12.59	18.22	26.61	23.16	1.21	0.53	24.97	10.20	4.39
750	12.55	18.21	26.44	23.15	1.22	0.52	25.22	10.13	4.33
800	12.51	18.21	26.53	23.32	1.22	0.52	25.39	10.05	4.40
850	12.48	18.20	26.51	23.22	1.22	0.52	25.17	10.17	4.37
900	12.45	18.18	26.43	23.39	1.22	0.52	24.76	10.01	4.35
940	12.41	18.19	26.45	23.40	1.22	0.52	24.89	9.98	4.36
1000	12.35	18.18	26.58	23.45	1.23	0.51	24.40	9.94	4.31
1050	12.32	18.14	27.07	23.57	1.23	0.51	24.59	9.88	4.34
1100	12.28	18.15	27.20	23.51	1.23	0.51	24.03	9.84	4.39
1150	12.23	18.14	27.26	23.54	1.23	0.51	24.01	9.65	4.45
1200	12.17	18.12	27.65	23.40	1.24	0.50	23.70	9.71	4.43
1250	12.13	18.10	27.85	23.53	1.24	0.50	23.98	9.53	4.41
1300	12.09	18.09	28.48	23.16	1.24	0.50	23.64	9.47	4.47
1350	12.02	18.07	28.97	23.04	1.25	0.50	23.81	9.44	4.51
1400	11.96	18.06	28.76	22.67	1.25	0.49	23.33	9.46	4.45
1450	11.92	18.05	29.46	22.34	1.25	0.49	23.34	9.37	4.53
1500	11.88	18.03	29.89	21.89	1.25	0.49	23.30	9.41	4.53
1550	11.80	18.03	29.97	21.75	1.26	0.49	23.49	9.21	4.50
1600	11.74	18.01	30.07	21.27	1.26	0.48	23.44	9.14	4.49
1650	11.68	17.99	30.16	20.82	1.26	0.48	23.42	9.04	4.53
1700	11.62	17.98	29.90	20.59	1.27	0.48	23.46	9.06	4.51
1750	11.55	17.96	29.73	20.07	1.27	0.47	23.20	8.93	4.41
1800	11.49	17.95	29.75	19.84	1.27	0.47	22.83	8.85	4.46
1850	11.42	17.91	29.63	19.43	1.28	0.47	22.13	8.85	4.48
1900	11.36	17.90	28.92	19.15	1.28	0.47	22.06	8.67	4.44
1950	11.29	17.87	28.48	18.82	1.28	0.46	21.89	8.72	4.41
2000	11.23	17.86	27.87	18.54	1.28	0.46	21.75	8.48	4.44

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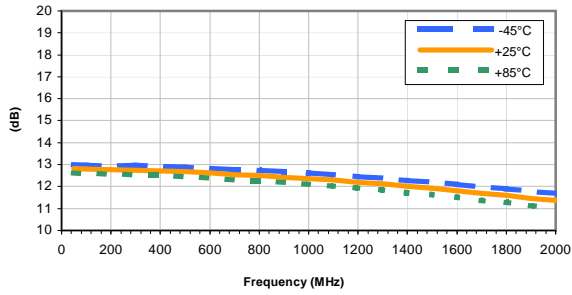
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Typical Performance Curves

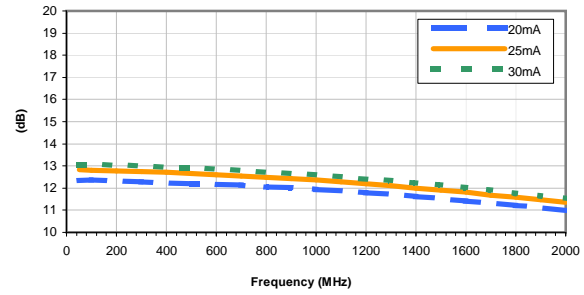
GAIN vs. TEMPERATURE

INPUT POWER = -20dBm, CURRENT = 25mA



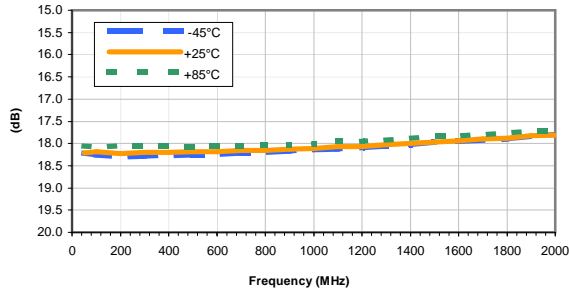
GAIN vs. CURRENT

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



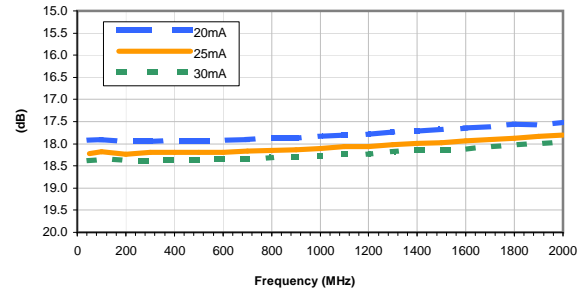
ISOLATION vs. TEMPERATURE

INPUT POWER = -20dBm, CURRENT = 25mA



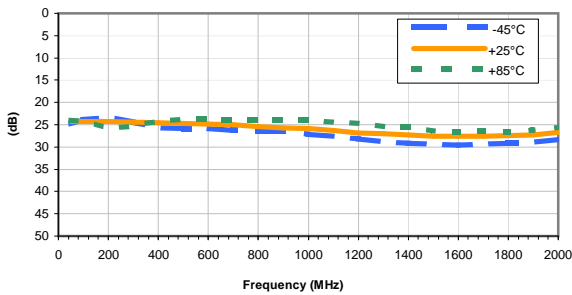
ISOLATION vs. CURRENT

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



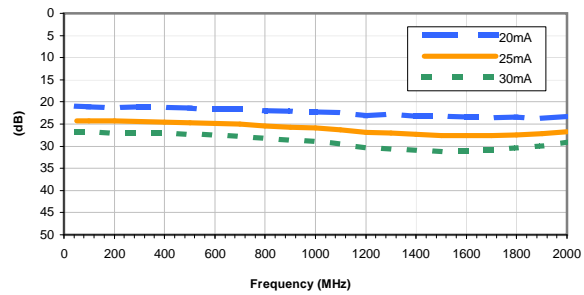
INPUT RETURN LOSS vs. TEMPERATURE

INPUT POWER = -20dBm, CURRENT = 25mA



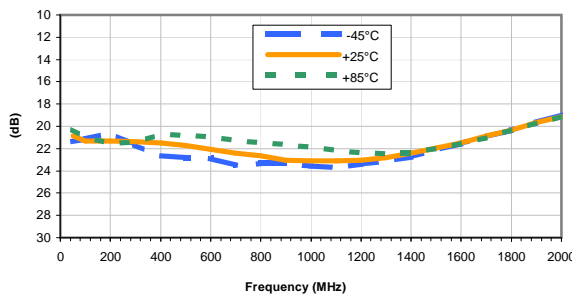
INPUT RETURN LOSS vs. CURRENT

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



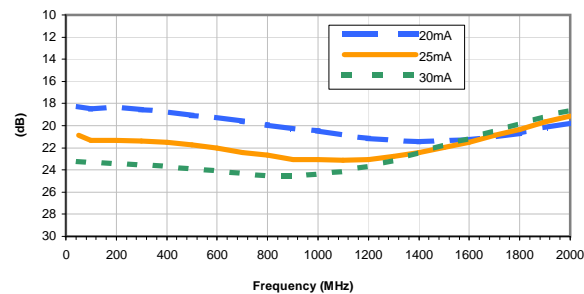
OUTPUT RETURN LOSS vs. TEMPERATURE

INPUT POWER = -20dBm, CURRENT = 25mA



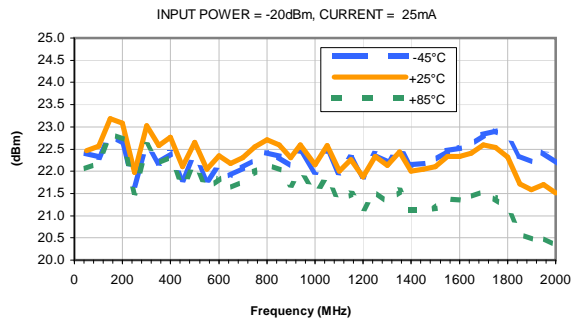
OUTPUT RETURN LOSS vs. CURRENT

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

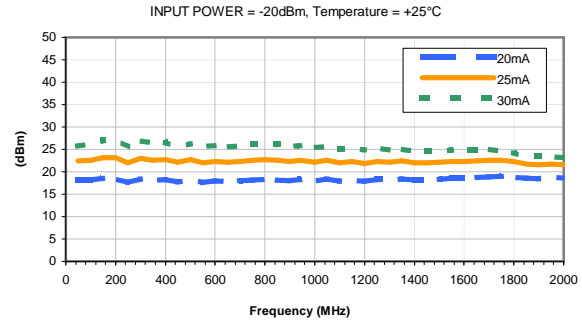


Typical Performance Curves

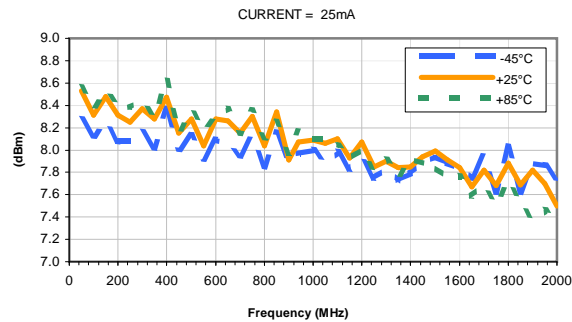
OUTPUT IP3 vs. TEMPERATURE



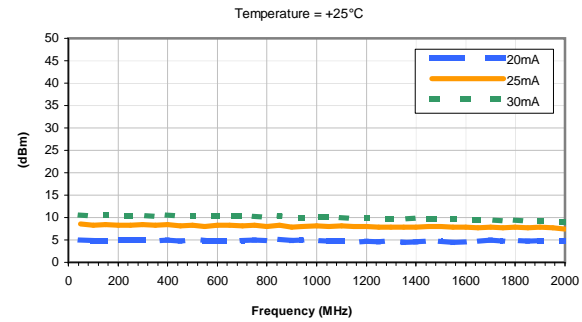
OUTPUT IP-3 vs. CURRENT



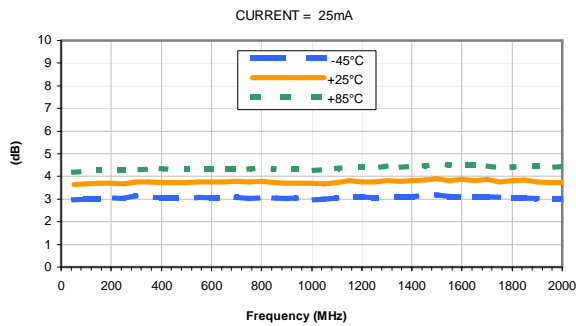
OUTPUT POWER at 1dB Compression vs. TEMPERATURE



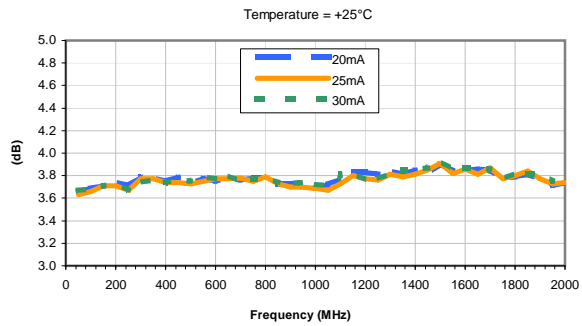
OUTPUT POWER at 1dB Compression vs. CURRENT



Noise Figure vs. TEMPERATURE



Noise Figure vs. CURRENT



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