

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: Vd = 5V, Id = 135mA @Temperature = +25°C

FREQ.	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
5.0	11.55	43.98	8.43	6.30	13.89	0.87	25.63	15.33	7.90
5.2	12.49	43.06	9.30	7.46	12.37	0.91	32.28	16.23	7.02
5.4	13.20	42.57	10.35	8.73	11.68	0.94	35.45	16.33	6.47
5.6	13.74	41.70	11.56	10.09	10.58	0.96	35.11	16.53	5.76
5.8	14.18	41.16	12.94	11.50	9.93	0.97	33.02	16.68	5.39
6.0	14.51	40.78	14.51	12.92	9.48	0.98	32.42	17.12	5.07
6.2	14.73	40.44	16.21	14.30	9.12	0.98	31.31	17.30	4.60
6.4	14.90	39.94	17.98	15.53	8.59	0.98	30.51	17.33	4.61
6.6	15.03	39.85	19.74	16.48	8.47	0.98	30.55	17.61	4.26
6.8	15.12	39.68	21.10	17.04	8.26	0.98	29.78	17.59	4.24
7.0	15.14	39.47	21.67	17.19	8.05	0.98	29.26	17.70	4.21
7.2	15.19	39.41	21.33	17.00	7.95	0.98	29.13	17.92	3.92
7.4	15.16	39.44	20.47	16.58	7.97	0.98	28.95	17.69	4.10
7.6	15.15	39.40	19.45	16.09	7.90	0.98	28.68	17.99	3.92
7.8	15.09	39.57	18.41	15.56	8.06	0.98	28.56	17.80	4.02
8.0	15.08	39.44	17.49	15.06	7.89	0.98	28.39	18.06	4.01
8.2	15.01	39.53	16.68	14.57	7.98	0.98	28.34	17.81	3.98
8.4	14.98	39.54	16.01	14.12	7.96	0.98	28.10	17.52	4.09
8.6	14.92	39.38	15.44	13.72	7.82	0.98	27.89	17.98	3.99
8.8	14.86	39.47	14.93	13.35	7.89	0.98	27.74	17.97	4.08
9.0	14.81	39.64	14.51	13.04	8.04	0.98	28.02	18.92	4.14
9.2	14.73	39.54	14.15	12.75	7.96	0.98	27.76	18.24	4.03
9.4	14.67	39.49	13.82	12.46	7.91	0.98	27.56	18.50	4.28
9.6	14.60	39.63	13.55	12.23	8.06	0.98	27.44	17.98	4.16
9.8	14.52	39.75	13.31	12.01	8.20	0.98	27.43	17.24	4.37
10.0	14.49	39.70	13.12	11.82	8.14	0.97	26.99	18.25	4.27
10.5	14.31	39.55	12.74	11.35	8.07	0.97	26.73	18.35	4.44
11.0	14.19	39.55	12.47	10.98	8.09	0.97	26.45	18.74	4.58
11.5	14.08	39.71	12.28	10.68	8.28	0.96	26.17	18.89	4.65
12.0	13.93	39.62	12.21	10.43	8.28	0.96	25.79	18.38	4.73
12.5	13.84	39.49	12.14	10.23	8.20	0.95	25.64	18.69	4.72
13.0	13.73	39.47	12.13	10.10	8.25	0.95	25.37	17.46	4.86
13.5	13.68	39.21	12.24	10.02	8.06	0.95	25.12	18.25	4.82
14.0	13.61	38.77	12.36	9.95	7.73	0.94	24.94	18.99	4.96
14.5	13.58	38.27	12.51	9.91	7.33	0.94	25.06	18.86	5.04
15.0	13.56	37.65	12.71	9.91	6.87	0.94	24.83	18.97	5.28
15.5	13.56	36.76	12.83	9.87	6.21	0.94	25.24	17.59	5.10
16.0	13.55	36.23	12.95	9.95	5.87	0.94	25.30	19.25	5.31
16.5	13.54	35.78	13.06	10.12	5.61	0.94	25.10	18.32	5.22
17.0	13.51	35.09	13.09	10.41	5.23	0.95	24.89	19.08	5.29
17.5	13.48	34.32	12.97	10.79	4.83	0.96	24.75	18.77	5.22
18.0	13.41	33.86	12.56	11.32	4.64	0.97	24.58	18.47	5.41
18.5	13.26	33.13	11.91	12.00	4.34	0.99	24.54	17.85	5.42
19.0	13.03	32.79	11.11	12.97	4.27	1.02	25.05	16.85	5.71
19.5	12.64	32.46	10.25	13.99	4.25	1.05	25.40	16.63	5.98
20.0	12.12	32.13	9.34	14.80	4.27	1.08	28.10	15.88	6.19



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: Vd = 4.75V, Id = 135mA @Temperature = +25°C

FREQ.	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
5.0	11.70	43.78	8.43	6.29	13.33	0.87	23.19	14.85	7.87
5.2	12.63	43.22	9.28	7.45	12.38	0.91	27.38	15.73	6.98
5.4	13.33	42.13	10.32	8.73	10.93	0.94	29.79	15.77	6.42
5.6	13.87	41.62	11.51	10.09	10.33	0.96	30.05	15.96	5.78
5.8	14.30	41.19	12.85	11.51	9.82	0.97	31.84	16.11	5.37
6.0	14.62	40.72	14.38	12.95	9.29	0.98	31.94	16.55	5.00
6.2	14.85	40.43	16.04	14.36	8.98	0.98	33.00	16.74	4.66
6.4	15.02	39.97	17.75	15.63	8.50	0.98	32.74	16.60	4.64
6.6	15.14	39.81	19.45	16.64	8.33	0.98	32.27	17.04	4.21
6.8	15.23	39.66	20.80	17.24	8.14	0.98	31.61	17.03	4.19
7.0	15.26	39.43	21.46	17.44	7.92	0.98	30.73	17.13	4.21
7.2	15.30	39.48	21.26	17.25	7.92	0.98	30.66	17.20	3.92
7.4	15.28	39.35	20.50	16.84	7.79	0.98	30.38	17.12	4.08
7.6	15.27	39.36	19.52	16.33	7.77	0.98	29.76	17.43	3.87
7.8	15.22	39.44	18.55	15.78	7.84	0.98	29.79	17.09	3.99
8.0	15.21	39.54	17.67	15.26	7.89	0.98	29.60	17.36	3.98
8.2	15.14	39.42	16.85	14.75	7.79	0.98	29.58	17.09	3.95
8.4	15.12	39.51	16.18	14.30	7.84	0.98	29.08	16.95	4.10
8.6	15.05	39.40	15.61	13.88	7.74	0.98	28.81	17.42	3.96
8.8	15.00	39.52	15.11	13.50	7.84	0.98	28.72	17.26	4.03
9.0	14.96	39.48	14.70	13.18	7.79	0.98	29.26	18.39	4.09
9.2	14.88	39.43	14.32	12.89	7.76	0.98	28.98	17.68	3.99
9.4	14.82	39.56	13.99	12.60	7.87	0.98	28.60	17.95	4.21
9.6	14.76	39.79	13.73	12.36	8.10	0.98	28.44	17.42	4.13
9.8	14.68	39.69	13.49	12.13	8.03	0.98	28.51	16.52	4.30
10.0	14.66	39.74	13.31	11.94	8.06	0.97	27.77	17.72	4.23
10.5	14.49	39.64	12.92	11.47	8.02	0.97	27.27	17.79	4.40
11.0	14.38	39.48	12.66	11.08	7.90	0.97	26.94	18.10	4.56
11.5	14.28	39.58	12.46	10.76	8.01	0.96	26.87	18.42	4.61
12.0	14.14	39.51	12.39	10.53	8.02	0.96	26.42	17.71	4.65
12.5	14.06	39.50	12.32	10.31	8.04	0.95	26.31	18.02	4.77
13.0	13.96	39.24	12.30	10.17	7.87	0.95	25.95	16.91	4.82
13.5	13.92	39.01	12.43	10.09	7.71	0.95	25.66	17.73	4.79
14.0	13.87	38.38	12.56	10.01	7.22	0.94	25.72	18.33	4.93
14.5	13.84	38.18	12.71	9.98	7.08	0.94	25.97	18.36	5.06
15.0	13.83	37.37	12.94	9.97	6.48	0.94	25.68	18.53	5.11
15.5	13.84	36.69	13.06	9.94	6.00	0.93	26.36	16.93	5.05
16.0	13.83	35.96	13.19	10.02	5.54	0.93	26.66	18.78	5.23
16.5	13.83	35.64	13.31	10.20	5.36	0.94	26.51	17.68	5.18
17.0	13.81	34.95	13.32	10.51	5.00	0.95	26.27	18.51	5.30
17.5	13.78	34.29	13.19	10.92	4.68	0.96	26.15	18.26	5.24
18.0	13.70	33.57	12.71	11.49	4.36	0.97	25.83	17.83	5.34
18.5	13.55	33.10	12.01	12.23	4.21	1.00	26.18	17.20	5.36
19.0	13.31	32.75	11.16	13.29	4.14	1.02	28.05	16.28	5.67
19.5	12.90	32.32	10.25	14.42	4.08	1.05	29.04	15.94	5.88
20.0	12.36	32.10	9.32	15.30	4.16	1.09	29.08	15.18	6.10



MMIC Amplifier Die

AVA-183A-D+

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: Vd = 5.25V, Id = 136mA @Temperature = +25°C

FREQ.	Gain	Isolation	Input Return Loss	Output Return Loss	Stability		IP-3 Output	1dB Comp. Output	Noise Figure
					K	Measure			
(GHz)	(dB)	(dB)	(dB)	(dB)	K	Measure	(dBm)	(dBm)	(dB)
5.0	11.42	43.87	8.43	6.30	13.90	0.87	28.49	15.79	7.93
5.2	12.38	43.26	9.31	7.45	12.82	0.91	34.45	16.59	7.04
5.4	13.09	42.51	10.37	8.72	11.74	0.94	32.18	16.86	6.49
5.6	13.64	41.79	11.59	10.07	10.82	0.96	31.49	17.08	5.81
5.8	14.08	40.98	13.00	11.45	9.84	0.97	30.73	17.24	5.38
6.0	14.41	40.62	14.58	12.87	9.42	0.98	30.20	17.67	5.09
6.2	14.63	40.30	16.33	14.22	9.07	0.98	29.68	17.86	4.65
6.4	14.81	39.90	18.17	15.40	8.64	0.98	29.40	17.90	4.67
6.6	14.93	39.62	20.01	16.33	8.34	0.98	29.27	18.18	4.35
6.8	15.02	39.57	21.35	16.85	8.24	0.98	28.96	18.16	4.23
7.0	15.05	39.53	21.84	16.97	8.19	0.98	28.74	18.40	4.25
7.2	15.09	39.47	21.38	16.76	8.09	0.98	28.59	18.48	3.97
7.4	15.06	39.26	20.43	16.35	7.89	0.98	28.46	18.39	4.12
7.6	15.05	39.40	19.33	15.87	7.98	0.98	28.34	18.55	3.93
7.8	14.99	39.37	18.25	15.37	7.96	0.98	28.12	18.36	4.05
8.0	14.98	39.41	17.33	14.87	7.95	0.98	27.98	18.62	4.06
8.2	14.90	39.36	16.51	14.40	7.91	0.98	27.92	18.37	3.99
8.4	14.87	39.48	15.84	13.97	7.99	0.98	27.79	18.23	4.08
8.6	14.80	39.59	15.25	13.57	8.10	0.98	27.62	18.54	3.99
8.8	14.74	39.45	14.76	13.21	7.96	0.98	27.46	18.52	4.17
9.0	14.69	39.45	14.33	12.90	7.95	0.98	27.44	19.43	4.19
9.2	14.60	39.80	13.96	12.61	8.29	0.98	27.29	18.78	4.06
9.4	14.54	39.37	13.65	12.35	7.90	0.98	27.19	19.04	4.31
9.6	14.47	39.67	13.38	12.12	8.20	0.98	27.06	18.53	4.19
9.8	14.38	39.83	13.14	11.89	8.37	0.98	27.01	17.79	4.41
10.0	14.34	39.76	12.96	11.70	8.30	0.97	26.83	18.75	4.30
10.5	14.16	39.77	12.58	11.25	8.39	0.97	26.66	19.02	4.48
11.0	14.03	39.59	12.32	10.89	8.26	0.97	26.40	19.20	4.64
11.5	13.90	39.85	12.12	10.58	8.54	0.96	26.03	19.31	4.68
12.0	13.75	39.61	12.04	10.35	8.41	0.96	25.74	18.88	4.75
12.5	13.65	39.57	11.98	10.16	8.42	0.96	25.60	19.19	4.85
13.0	13.53	39.42	11.96	10.01	8.36	0.95	25.34	18.12	4.92
13.5	13.47	39.47	12.07	9.95	8.48	0.95	25.12	18.89	4.91
14.0	13.39	38.71	12.20	9.87	7.84	0.94	24.82	19.47	5.05
14.5	13.35	38.38	12.34	9.84	7.59	0.94	24.86	19.34	5.07
15.0	13.32	37.74	12.52	9.82	7.10	0.94	24.66	19.38	5.31
15.5	13.32	36.84	12.63	9.79	6.41	0.94	24.75	18.22	5.22
16.0	13.30	36.33	12.76	9.88	6.08	0.94	24.72	19.81	5.36
16.5	13.28	35.71	12.86	10.03	5.70	0.94	24.58	18.94	5.28
17.0	13.26	35.17	12.90	10.30	5.40	0.95	24.48	19.53	5.39
17.5	13.23	34.49	12.82	10.65	5.05	0.96	24.33	19.35	5.32
18.0	13.15	33.85	12.44	11.15	4.74	0.97	24.23	18.98	5.51
18.5	13.01	33.23	11.83	11.78	4.49	0.99	24.00	18.38	5.49
19.0	12.80	32.92	11.07	12.68	4.43	1.02	24.09	17.48	5.82
19.5	12.43	32.52	10.24	13.63	4.37	1.05	24.33	17.28	6.02
20.0	11.92	32.19	9.37	14.37	4.38	1.08	25.13	16.45	6.27



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