

MMIC Amplifier Die

ERA-51SM-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: Id = 65mA, Vd = 4.44V @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	17.81	20.79	24.67	42.04	1.06	0.71	36.18	18.43	3.06
100	17.77	20.38	24.96	45.28	1.04	0.74	36.05	18.35	3.22
200	17.74	20.43	25.67	41.08	1.05	0.73	36.93	18.40	3.14
300	17.67	20.38	24.73	37.20	1.05	0.73	37.32	18.34	3.17
400	17.63	20.42	25.02	33.55	1.05	0.73	36.84	18.28	3.14
500	17.58	20.43	24.28	31.54	1.05	0.72	36.33	18.24	3.20
600	17.50	20.44	23.62	29.51	1.06	0.71	36.24	18.16	3.18
700	17.43	20.44	23.13	28.23	1.06	0.71	36.35	18.06	3.21
800	17.36	20.44	22.31	27.17	1.06	0.71	36.17	17.89	3.21
900	17.28	20.42	22.03	26.13	1.06	0.70	36.07	17.80	3.15
1000	17.19	20.42	21.79	25.05	1.07	0.69	35.58	17.71	3.14
1100	17.09	20.45	21.32	23.89	1.07	0.68	35.34	17.74	3.13
1200	17.00	20.44	20.99	23.22	1.08	0.68	35.16	17.66	3.16
1300	16.88	20.41	20.99	22.53	1.08	0.67	34.77	17.70	3.19
1400	16.78	20.41	20.81	21.65	1.08	0.67	34.49	17.68	3.07
1500	16.66	20.41	20.47	20.94	1.09	0.66	34.66	17.58	3.15
1600	16.55	20.35	20.34	20.32	1.09	0.65	35.26	17.54	3.16
1700	16.43	20.30	20.35	19.79	1.09	0.65	34.87	17.48	3.14
1800	16.32	20.32	20.24	19.37	1.10	0.64	34.17	17.51	3.12
1900	16.20	20.31	20.35	18.98	1.11	0.63	33.59	17.51	3.18
2000	16.08	20.20	20.53	18.49	1.11	0.63	33.14	17.52	3.15
2200	15.83	20.24	20.83	17.74	1.12	0.61	32.44	17.22	3.15
2300	15.71	20.13	20.82	17.41	1.12	0.61	32.12	16.97	3.16
2400	15.56	20.13	20.93	16.91	1.13	0.60	31.73	16.83	3.19
2500	15.42	20.13	21.02	16.55	1.14	0.59	31.27	16.69	3.26
2600	15.31	20.07	21.47	16.46	1.14	0.59	30.95	16.47	3.21
2700	15.19	19.99	21.70	16.09	1.14	0.59	30.48	16.13	3.18
2800	15.04	20.01	21.98	15.75	1.15	0.57	29.99	16.17	3.24
2900	14.93	19.99	22.69	15.60	1.15	0.57	29.72	15.80	3.20
3000	14.80	19.88	23.17	15.23	1.15	0.56	29.40	15.62	3.17
3200	14.53	19.88	23.83	14.81	1.17	0.55	28.58	15.01	3.23
3300	14.45	19.74	24.66	14.47	1.16	0.55	28.10	14.84	3.29
3400	14.29	19.73	25.38	14.22	1.17	0.54	27.71	14.47	3.31
3500	14.17	19.68	25.74	14.10	1.17	0.54	27.40	14.35	3.33
3600	14.07	19.57	26.98	13.80	1.17	0.54	27.14	14.21	3.32
3800	13.81	19.46	28.41	13.48	1.18	0.52	26.53	13.74	3.37
4000	13.60	19.28	32.63	12.90	1.17	0.52	25.70	13.31	3.24

Note: Test data of die packaged in industry standard Micro-X Package



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IF/RF MICROWAVE COMPONENTS

MMIC Amplifier Die

ERA-51SM-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: Id = 52mA, Vd = 4.36V @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	17.63	20.05	27.25	35.17	1.04	0.76	32.01	16.43	3.01
100	17.59	20.15	28.65	33.84	1.04	0.74	31.77	16.15	3.15
200	17.56	20.27	28.55	34.96	1.05	0.73	32.19	16.34	3.08
300	17.49	20.24	27.06	33.26	1.05	0.73	32.37	16.29	3.12
400	17.45	20.28	27.74	32.05	1.05	0.72	31.99	16.30	3.10
500	17.40	20.36	26.25	30.16	1.06	0.71	31.72	16.30	3.13
600	17.34	20.26	25.24	28.50	1.06	0.72	31.66	16.07	3.15
700	17.26	20.26	24.51	27.81	1.06	0.71	31.90	15.95	3.15
800	17.18	20.25	23.49	26.66	1.06	0.70	31.88	15.62	3.16
900	17.12	20.27	23.19	25.97	1.06	0.70	31.78	15.65	3.09
1000	17.02	20.28	22.73	24.95	1.07	0.69	31.52	15.49	3.11
1100	16.92	20.28	22.21	23.92	1.07	0.68	31.47	15.69	3.06
1200	16.84	20.25	21.80	23.19	1.08	0.68	31.47	15.54	3.11
1300	16.72	20.26	21.78	22.51	1.08	0.67	31.30	15.58	3.13
1400	16.61	20.24	21.54	21.63	1.08	0.67	31.16	15.56	3.00
1500	16.50	20.25	21.20	20.86	1.09	0.66	31.31	15.46	3.08
1600	16.41	20.20	20.99	20.23	1.09	0.65	31.92	15.55	3.10
1700	16.28	20.17	20.95	19.80	1.10	0.65	32.10	15.41	3.09
1800	16.17	20.24	20.88	19.24	1.11	0.63	31.66	15.65	3.06
1900	16.05	20.16	20.89	18.92	1.11	0.63	31.21	15.60	3.12
2000	15.94	20.12	21.08	18.38	1.11	0.63	30.96	15.59	3.09
2200	15.67	20.11	21.35	17.67	1.12	0.61	30.51	15.21	3.12
2300	15.58	20.08	21.35	17.34	1.12	0.61	30.36	15.09	3.12
2400	15.43	19.99	21.44	16.83	1.13	0.60	30.13	15.10	3.11
2500	15.29	20.00	21.51	16.46	1.13	0.59	29.72	15.14	3.17
2600	15.19	19.97	21.95	16.31	1.14	0.58	29.59	15.12	3.10
2700	15.07	19.88	22.24	15.96	1.14	0.58	29.27	14.96	3.14
2800	14.91	19.85	22.50	15.64	1.15	0.57	28.92	15.05	3.18
2900	14.81	19.80	23.13	15.49	1.15	0.57	28.70	14.80	3.14
3000	14.68	19.79	23.63	15.10	1.15	0.56	28.36	14.64	3.09
3200	14.42	19.75	24.24	14.66	1.16	0.55	27.62	14.24	3.16
3300	14.33	19.63	25.00	14.35	1.16	0.55	27.26	14.06	3.20
3400	14.19	19.63	26.13	14.04	1.17	0.54	26.86	13.77	3.26
3500	14.06	19.55	26.17	13.98	1.17	0.54	26.63	13.63	3.25
3600	13.97	19.46	27.57	13.69	1.17	0.53	26.30	13.52	3.27
3800	13.73	19.37	28.74	13.40	1.17	0.52	25.82	13.06	3.30
4000	13.49	19.24	32.78	12.84	1.18	0.52	24.98	12.64	3.17

Note: Test data of die packaged in industry standard Micro-X Package



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IF/RF MICROWAVE COMPONENTS

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ERA-51SM-D+
5/13/2021
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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: Id = 78mA, Vd = 4.52V @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	17.91	20.36	23.54	41.07	1.04	0.75	40.31	19.61	3.14
100	17.86	20.43	23.86	43.21	1.04	0.74	41.21	19.70	3.29
200	17.84	20.51	24.26	36.66	1.05	0.74	44.01	19.61	3.18
300	17.77	20.43	23.55	34.64	1.05	0.74	43.30	19.54	3.25
400	17.74	20.47	23.95	32.47	1.05	0.73	43.40	19.38	3.19
500	17.70	20.56	23.29	30.89	1.05	0.72	40.83	19.31	3.26
600	17.60	20.46	22.60	28.96	1.05	0.72	40.04	19.30	3.26
700	17.53	20.52	22.31	27.81	1.06	0.71	39.11	19.16	3.29
800	17.46	20.50	21.66	26.76	1.06	0.71	38.48	19.03	3.27
900	17.38	20.51	21.35	25.83	1.06	0.70	37.97	18.89	3.21
1000	17.29	20.50	21.21	24.68	1.07	0.70	37.18	18.82	3.20
1100	17.18	20.49	20.70	23.72	1.07	0.69	36.70	18.75	3.19
1200	17.09	20.49	20.51	23.00	1.07	0.68	36.30	18.71	3.24
1300	16.97	20.48	20.56	22.34	1.08	0.67	35.64	18.79	3.25
1400	16.87	20.43	20.44	21.52	1.08	0.67	35.56	18.73	3.13
1500	16.75	20.43	20.06	20.78	1.09	0.66	35.58	18.64	3.20
1600	16.64	20.40	19.95	20.17	1.09	0.66	35.49	18.53	3.24
1700	16.52	20.41	20.02	19.73	1.10	0.65	34.65	18.45	3.19
1800	16.40	20.39	19.91	19.31	1.10	0.64	33.95	18.29	3.19
1900	16.27	20.39	19.99	18.93	1.11	0.63	33.62	18.28	3.25
2000	16.15	20.36	20.18	18.45	1.11	0.63	33.33	18.31	3.24
2200	15.89	20.31	20.56	17.72	1.12	0.61	32.57	18.08	3.28
2300	15.79	20.23	20.58	17.44	1.12	0.61	32.34	17.79	3.24
2400	15.63	20.21	20.60	16.96	1.13	0.60	32.02	17.53	3.26
2500	15.49	20.19	20.71	16.60	1.13	0.59	31.59	17.28	3.32
2600	15.38	20.13	21.13	16.46	1.14	0.59	31.33	17.04	3.30
2700	15.25	20.09	21.32	16.09	1.14	0.58	31.02	16.68	3.26
2800	15.11	20.04	21.62	15.77	1.15	0.58	30.50	16.71	3.35
2900	15.00	20.03	22.30	15.61	1.15	0.57	30.26	16.38	3.29
3000	14.87	19.99	22.77	15.25	1.16	0.56	30.02	16.18	3.24
3200	14.61	19.92	23.36	14.82	1.17	0.55	29.20	15.54	3.31
3300	14.50	19.82	24.22	14.49	1.16	0.55	28.85	15.37	3.37
3400	14.34	19.75	24.64	14.23	1.17	0.54	28.40	15.00	3.39
3500	14.23	19.71	25.24	14.09	1.17	0.54	28.14	14.91	3.43
3600	14.13	19.67	26.33	13.76	1.17	0.53	27.82	14.76	3.43
3800	13.89	19.52	27.76	13.45	1.18	0.53	27.48	14.32	3.44
4000	13.66	19.39	31.22	12.90	1.18	0.52	26.71	13.86	3.33

Note: Test data of die packaged in industry standard Micro-X Package