

Wideband Double Balanced Mixer

MDB-54H+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @ IF(OUT)=30MHz (dB)		
		@LO (dBm)		
		+14	+15	+16
18000	18030	10.6	10.6	10.8
19000	19030	10.2	10.0	10.0
20000	20030	10.3	10.2	10.2
21000	21030	11.1	11.0	10.8
22000	22030	10.7	10.6	10.6
23000	23030	11.0	11.0	11.2
24000	24030	11.7	11.7	11.8
25000	25030	11.8	11.9	12.3
26000	26030	11.2	11.4	11.8
27000	27030	11.6	11.9	12.3
28000	28030	11.2	11.5	12.0
29000	29030	10.4	10.4	10.7
30000	30030	9.7	9.8	10.1
31000	31030	9.5	9.2	9.3
32000	32030	9.2	9.1	9.2
33000	33030	10.5	10.4	10.3
34000	34030	9.7	9.8	10.2
35000	35030	11.4	11.3	10.5
36000	36030	11.2	11.4	11.9
37000	37030	12.3	12.2	12.2
38000	38030	12.3	12.3	12.4
39000	39030	11.8	11.9	12.0
40000	40030	11.8	11.9	12.1
41000	41030	11.7	11.7	11.9
42000	42030	11.9	11.9	12.1
43000	43030	12.0	12.1	12.5
44000	44030	11.4	11.5	11.9
45000	45030	10.9	11.0	11.3
46000	46030	10.5	10.5	10.8
47000	47030	10.9	10.9	10.9
48000	48030	10.7	10.7	10.6
49000	49030	11.1	11.0	10.9
50000	50030	12.5	11.9	11.4
51000	51030	13.6	13.0	12.5
52000	52030	15.5	14.2	13.2

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @ IF(OUT)=2GHz (dB)		
		@LO (dBm)		
		+14	+15	+16
18000	20000	11.0	11.0	11.1
19000	21000	9.6	9.6	9.6
20000	22000	9.7	9.8	9.9
21000	23000	10.7	10.8	11.0
22000	24000	10.7	10.7	10.8
23000	25000	11.2	11.2	11.4
24000	26000	12.0	12.1	12.4
25000	27000	11.9	12.1	12.5
26000	28000	11.4	11.6	11.9
27000	29000	11.7	11.6	11.7
28000	30000	11.3	11.3	11.6
29000	31000	11.1	10.6	10.5
30000	32000	9.8	9.7	9.9
31000	33000	9.9	9.8	9.7
32000	34000	9.8	9.8	10.1
33000	35000	10.3	11.6	10.6
34000	36000	9.9	10.2	10.6
35000	37000	11.1	10.9	10.2
36000	38000	11.6	11.8	12.2
37000	39000	12.2	12.2	12.3
38000	40000	12.1	12.2	12.5
39000	41000	11.8	11.8	12.0
40000	42000	12.1	12.0	12.3
41000	43000	11.9	11.9	12.2
42000	44000	12.1	12.2	12.4
43000	45000	12.2	12.2	12.5
44000	46000	11.5	11.6	11.8
45000	47000	10.8	10.8	10.9
46000	48000	10.5	10.4	10.4
47000	49000	11.1	10.9	10.8
48000	50000	12.4	11.2	10.7
49000	51000	12.5	11.5	11.1
50000	52000	12.5	12.7	12.0
51000	53000	---	---	---
52000	54000	---	---	---

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @ IF(OUT)=3GHz (dB)		
		@LO (dBm)		
		+14	+15	+16
18000	21000	11.2	11.2	11.3
19000	22000	9.7	9.9	10.0
20000	23000	10.2	10.4	10.6
21000	24000	10.9	11.0	11.2
22000	25000	10.9	11.0	11.2
23000	26000	11.2	11.4	11.7
24000	27000	12.0	12.3	12.7
25000	28000	12.0	12.2	12.5
26000	29000	11.4	11.3	11.4
27000	30000	11.7	11.8	12.0
28000	31000	11.8	11.4	11.2
29000	32000	10.7	10.6	10.7
30000	33000	10.3	10.2	10.1
31000	34000	10.1	10.2	10.6
32000	35000	10.5	11.2	10.3
33000	36000	10.4	10.6	11.1
34000	37000	10.4	11.0	10.2
35000	38000	10.3	10.5	11.0
36000	39000	11.6	11.5	11.5
37000	40000	11.74	11.84	12.14
38000	41000	11.92	11.95	12.17
39000	42000	11.81	11.79	11.95
40000	43000	11.99	11.99	12.20
41000	44000	11.73	11.77	11.98
42000	45000	11.93	12.00	12.26
43000	46000	11.93	11.98	12.18
44000	47000	11.26	11.26	11.34
45000	48000	10.57	10.50	10.54
46000	49000	10.34	10.13	10.10
47000	50000	12.26	11.11	10.66
48000	51000	11.90	10.89	10.51
49000	52000	14.35	11.98	11.31
50000	53000	---	---	---
51000	54000	---	---	---
52000	55000	---	---	---



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IF/RF MICROWAVE COMPONENTS

REV. OR
 MDB-54H+
 5/5/2021
 Page 1 of 5

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	IP-3 INPUT (dBm)			RF (IN) (MHz)	LO (MHz)	COMPRESSION @ RF IN=+10dBm (dB)		
		@LO (dBm)					@LO (dBm)		
		+14	+15	+16			+14	+15	+16
20000	22000	20.11	20.87	21.61	20000	22000	0.96	0.96	0.83
21000	23000	21.26	21.89	22.55	21000	23000	0.66	0.58	0.52
22000	24000	23.32	23.37	23.76	22000	24000	0.43	0.42	0.39
23000	25000	24.35	24.58	24.30	23000	25000	0.34	0.30	0.28
24000	26000	25.25	25.84	26.22	24000	26000	0.75	0.73	0.47
25000	27000	26.66	26.98	26.86	25000	27000	0.37	0.35	0.38
26000	28000	24.70	26.09	27.96	26000	28000	0.37	0.31	0.26
27000	29000	23.08	23.49	25.19	27000	29000	0.32	0.28	0.23
28000	30000	23.96	24.80	25.08	28000	30000	0.31	0.29	0.27
29000	31000	21.36	22.73	23.51	29000	31000	0.71	0.39	0.34
30000	32000	20.94	21.41	21.98	30000	32000	0.57	0.37	0.35
31000	33000	23.75	23.70	23.49	31000	33000	0.30	0.26	0.25
32000	34000	25.90	25.29	24.34	32000	34000	0.20	0.14	0.15
33000	35000	23.06	20.55	21.99	33000	35000	0.48	0.37	0.43
34000	36000	23.56	22.74	22.23	34000	36000	0.33	0.31	0.26
35000	37000	22.27	23.95	24.18	35000	37000	0.55	0.59	0.63
36000	38000	24.70	24.82	23.70	36000	38000	0.25	0.23	0.35
37000	39000	26.16	24.41	24.96	37000	39000	0.44	0.33	0.27
38000	40000	24.67	24.01	23.37	38000	40000	0.34	0.30	0.44
39000	41000	24.31	25.28	23.10	39000	41000	0.46	0.49	0.49
40000	42000	20.17	19.95	19.45	40000	42000	0.65	0.60	0.63
41000	43000	24.44	23.70	24.43	41000	43000	0.39	0.37	0.61
42000	44000	20.10	19.83	19.74	42000	44000	0.51	0.51	0.54
43000	45000	21.55	21.41	21.08	43000	45000	0.49	0.51	0.66
44000	46000	19.38	19.30	18.93	44000	46000	0.27	0.49	0.56
45000	47000	19.90	19.93	19.67	45000	47000	0.73	0.77	0.87
46000	48000	19.13	19.73	19.82	46000	48000	1.12	1.14	1.12
47000	49000	18.20	18.66	18.77	47000	49000	0.90	0.73	0.86
48000	50000	15.14	16.33	16.90	48000	50000	1.16	1.35	1.39
49000	51000	18.67	19.57	19.46	49000	51000	0.76	0.70	0.88
50000	52000	17.13	14.29	15.05	50000	52000	0.33	0.77	0.81

Typical Performance Data

IF (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @ RF=20GHz (dB)			IF (MHz)	RF (MHz)	CONVERSION LOSS VS. IF FREQUENCY @ LO=20GHz (dB)		
		@LO (dBm)					@LO (dBm)		
		+14	+15	+16			+14	+15	+16
10	20010	10.4	10.2	10.2	10	20010	10.3	10.2	10.2
100	20100	10.3	10.2	10.2	100	20100	10.5	10.4	10.4
500	20500	10.2	10.1	10.0	500	20500	11.2	11.0	11.0
1000	21000	10.1	10.1	10.1	1000	21000	12.1	11.9	11.9
1500	21500	10.1	10.2	10.3	1500	21500	12.6	12.4	12.4
2000	22000	10.1	10.2	10.3	2000	22000	12.8	12.6	12.6
2500	22500	10.4	10.5	10.6	2500	22500	13.0	12.9	12.9
3000	23000	10.6	10.8	11.0	3000	23000	13.2	13.2	13.2
3500	23500	10.8	10.9	11.1	3500	23500	13.4	13.5	13.5
4000	24000	10.8	10.9	11.1	4000	24000	13.6	13.6	13.6
4500	24500	11.2	11.4	11.6	4500	24500	13.6	13.6	13.6
5000	25000	11.4	11.6	11.8	5000	25000	13.4	13.4	13.4
5500	25500	11.5	11.7	11.9	5500	25500	13.0	13.0	13.0
6000	26000	11.8	11.9	12.1	6000	26000	12.9	12.9	12.9
6500	26500	11.9	12.1	12.4	6500	26500	13.0	13.0	13.0
7000	27000	11.8	12.1	12.4	7000	27000	13.1	13.1	13.1
7500	27500	11.9	12.1	12.4	7500	27500	13.1	13.1	13.1
8000	28000	12.1	12.3	12.6	8000	28000	12.8	12.7	12.7
8500	28500	12.1	12.2	12.4	8500	28500	12.6	12.4	12.4
9000	29000	12.1	12.3	12.5	9000	29000	12.2	12.1	12.1
9500	29500	12.5	12.8	13.3	9500	29500	11.9	11.8	11.8
10000	30000	12.7	12.8	13.1	10000	30000	11.9	11.8	11.8
10500	30500	12.7	12.7	12.8	10500	30500	11.7	11.5	11.5
11000	31000	13.0	13.0	13.0	11000	31000	11.5	11.3	11.3
11500	31500	13.1	13.3	13.5	11500	31500	11.3	11.1	11.1
12000	32000	12.9	13.0	13.2	12000	32000	11.3	11.1	11.1
12500	32500	12.9	12.9	13.0	12500	32500	11.4	11.2	11.2
13000	33000	13.2	13.2	13.3	13000	33000	12.0	11.8	11.8
13500	33500	13.6	13.7	13.9	13500	33500	12.5	12.3	12.3
14000	34000	14.4	14.6	15.1	14000	34000	12.9	12.6	12.6
14500	34500	14.9	14.9	14.9	14500	34500	13.2	12.9	12.9
15000	35000	17.3	15.7	15.1	15000	35000	13.6	13.3	13.3
15500	35500	15.1	14.9	14.9	15500	35500	14.1	13.9	13.9
16000	36000	15.0	15.4	16.0	16000	36000	14.9	14.6	14.6
16500	36500	15.0	14.9	15.0	16500	36500	15.4	15.2	15.2
17000	37000	17.2	15.7	15.2	17000	37000	15.6	15.4	15.4
18000	38000	15.4	15.6	16.1	18000	38000	15.1	15.0	15.0
19000	39000	15.5	15.5	15.5	19000	39000	14.9	14.9	14.9
20000	40000	17.0	17.1	17.4	20000	40000	16.2	16.3	16.3

Wideband Double Balanced Mixer **MDB-54H+**

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+14	+15	+16	+14	+15	+16
18000	31.7	32.9	33.8	32.3	32.7	33.4
19000	35.2	37.1	38.1	33.3	33.9	34.7
20000	35.3	36.1	36.6	32.7	33.8	35.3
21000	38.5	39.6	40.5	35.1	36.1	37.3
22000	40.3	40.9	41.2	36.6	37.8	39.1
23000	40.9	41.2	41.2	38.1	39.4	40.8
24000	41.3	42.0	42.6	38.7	40.1	41.6
25000	41.9	42.3	42.6	39.4	41.0	42.7
26000	41.7	42.6	43.6	40.4	42.3	44.2
27000	40.4	41.6	42.8	42.2	44.0	45.8
28000	40.9	41.8	42.7	43.4	44.9	46.3
29000	42.0	42.8	43.6	42.0	43.7	45.1
30000	42.6	43.2	43.5	42.2	43.2	44.1
31000	42.2	42.1	41.8	41.8	43.1	44.3
32000	39.8	40.4	40.7	40.1	40.8	41.5
33000	37.2	37.4	37.4	37.8	38.4	38.9
34000	37.4	37.7	37.5	33.9	33.6	33.4
35000	39.7	39.4	39.4	47.5	48.5	47.6
36000	37.4	37.3	37.1	36.6	36.2	36.1
37000	40.3	40.3	40.3	34.2	34.4	34.6
38000	40.2	40.4	40.5	32.8	33.1	33.3
39000	40.4	40.7	41.0	31.9	32.4	32.7
40000	39.2	39.5	39.7	31.3	31.7	32.0
41000	37.6	37.8	38.1	30.6	30.9	31.3
42000	36.5	36.6	36.9	28.6	29.0	29.3
43000	35.9	36.0	36.2	28.1	28.5	28.8
44000	34.6	34.8	35.0	28.3	28.7	29.1
45000	34.1	34.3	34.4	28.3	28.7	29.0
46000	33.4	33.6	33.6	27.5	27.9	28.2
47000	34.1	34.3	34.3	25.5	25.8	26.1
48000	36.4	36.4	36.2	24.3	24.6	24.9
49000	40.1	39.7	39.1	25.5	25.6	25.8
50000	46.7	45.5	44.5	29.6	29.6	29.6
51000	45.0	44.0	43.1	32.6	32.5	32.4
52000	45.2	44.2	43.3	37.2	36.9	36.7

RF (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+14	+15	+16
18000	20000	28.1	28.8	29.5
19000	21000	28.3	29.1	29.1
20000	22000	35.8	35.1	33.8
21000	23000	35.0	32.5	31.4
22000	24000	34.8	32.6	31.4
23000	25000	33.1	31.9	32.2
24000	26000	37.4	36.9	37.4
25000	27000	40.1	40.5	41.7
26000	28000	42.0	41.9	42.3
27000	29000	43.0	43.4	43.6
28000	30000	40.8	40.9	41.0
29000	31000	36.9	37.0	36.3
30000	32000	34.6	34.8	35.1
31000	33000	31.4	31.3	31.1
32000	34000	28.5	28.5	28.5
33000	35000	25.6	26.1	26.3
34000	36000	26.8	26.9	26.9
35000	37000	25.5	25.9	26.1
36000	38000	25.0	25.0	25.1
37000	39000	23.5	23.5	23.5
38000	40000	23.5	23.5	23.5
39000	41000	23.7	23.6	23.7
40000	42000	24.4	24.4	24.4
41000	43000	23.9	24.0	23.9
42000	44000	22.7	22.7	22.7
43000	45000	23.2	23.3	23.3
44000	46000	23.4	23.6	23.6
45000	47000	23.3	23.4	23.5
46000	48000	22.3	22.5	22.5
47000	49000	20.3	20.4	20.4
48000	50000	19.4	19.5	19.6
49000	51000	21.1	21.2	21.2
50000	52000	25.2	25.1	25.1
51000	53000	30.1	29.8	29.3
52000	54000	36.6	36.3	35.3



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IF/RF MICROWAVE COMPONENTS

Wideband Double Balanced Mixer

MDB-54H+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)			LO (MHz)	LO VSWR (:1)			IF (OUT) (MHz)	IF VSWR @ LO=2GHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+14	+15	+16		+14	+15	+16		+14	+15	+16
18000	20000	3.03	3.10	3.13	18000	3.35	3.19	3.08	10	1.18	1.22	1.21
19000	21000	2.04	2.15	2.23	19000	3.28	3.11	2.98	100	1.18	1.22	1.20
20000	22000	2.58	2.67	2.70	20000	2.86	2.78	2.71	500	1.17	1.21	1.19
21000	23000	3.44	3.43	3.42	21000	2.38	2.34	2.31	1000	1.16	1.20	1.20
22000	24000	3.57	3.51	3.47	22000	2.07	2.04	2.03	2000	1.17	1.21	1.22
23000	25000	3.20	3.12	3.08	23000	1.72	1.74	1.78	3000	1.19	1.21	1.23
24000	26000	3.52	3.47	3.44	24000	1.50	1.56	1.62	4000	1.34	1.31	1.33
25000	27000	3.88	3.82	3.79	25000	1.34	1.42	1.48	5000	1.70	1.66	1.65
26000	28000	3.43	3.35	3.32	26000	1.34	1.39	1.44	6000	2.00	1.94	1.92
27000	29000	3.02	2.89	2.84	27000	1.47	1.49	1.50	7000	2.05	1.99	1.97
28000	30000	3.12	3.05	3.04	28000	1.58	1.57	1.56	8000	2.18	2.12	2.10
29000	31000	3.75	3.23	3.10	29000	1.78	1.75	1.74	9000	2.59	2.53	2.50
30000	32000	2.29	2.13	2.07	30000	2.46	2.32	2.22	10000	2.81	2.72	2.70
31000	33000	1.48	1.42	1.39	31000	3.35	3.04	2.79	11000	2.59	2.50	2.47
32000	34000	1.71	1.59	1.55	32000	3.25	2.98	2.73	12000	2.23	2.15	2.13
33000	35000	2.15	1.85	1.71	33000	2.64	2.43	2.27	13000	2.26	2.18	2.16
34000	36000	1.64	1.59	1.57	34000	2.86	2.63	2.45	14000	2.76	2.65	2.61
35000	37000	2.79	2.37	2.19	35000	4.06	3.65	3.46	15000	3.39	3.27	3.22
36000	38000	2.51	2.44	2.41	36000	4.30	3.90	3.66	16000	4.05	3.94	3.88
37000	39000	3.34	3.30	3.27	37000	4.34	3.47	3.19	17000	4.43	4.32	4.24
38000	40000	3.88	3.84	3.80	38000	2.75	2.30	2.19	18000	4.04	3.95	3.87
39000	41000	3.37	3.32	3.28	39000	2.67	2.22	2.09	19000	4.22	4.12	4.03
40000	42000	2.43	2.40	2.37	40000	2.98	2.42	2.27	20000	5.68	5.55	5.44
41000	43000	2.62	2.59	2.57	41000	2.34	1.96	1.90	21000	6.34	6.21	6.10
42000	44000	2.97	2.93	2.92	42000	1.76	1.57	1.52	22000	5.25	5.15	5.08
43000	45000	2.53	2.51	2.50	43000	1.49	1.31	1.27	23000	3.60	3.57	3.62
44000	46000	1.89	1.86	1.85	44000	1.29	1.15	1.12	24000	3.35	3.38	3.47
45000	47000	1.62	1.60	1.58	45000	1.30	1.20	1.18	25000	4.26	4.34	4.38
46000	48000	1.26	1.26	1.27	46000	1.70	1.58	1.55	26000	4.83	4.89	4.89
47000	49000	1.54	1.54	1.55	47000	2.35	2.09	2.00	27000	5.26	5.27	5.27
48000	50000	2.26	2.15	2.09	48000	2.63	2.35	2.28	---	---	---	---
49000	51000	1.87	1.78	1.72	49000	3.23	2.84	2.68	---	---	---	---
50000	52000	1.84	1.74	1.69	50000	3.59	3.12	2.93	---	---	---	---



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 Page 5 of 5