

Bi-Directional Coupler

MBDC-20-63HP

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+10 dBm @Temperature = -55°C

FREQ. (MHz)	INSERTION LOSS (dB)		COUPLING (dB)		DIRECTIVITY (dB)		RETURN LOSS (dB)			
	In - Out	Rev - Fwd	In Fwd	Rev - Out	In - Rev	Out - Fwd	In	Out	Rev	Fwd
1000	0.03	0.00	26.40	26.42	30.48	30.36	49.91	48.96	48.33	50.90
1200	0.03	0.00	24.96	24.98	30.73	29.77	39.65	40.58	60.20	56.52
1500	0.05	0.00	23.26	23.28	28.22	28.12	45.56	41.37	35.86	34.61
1800	0.06	0.00	21.99	22.01	28.45	28.59	39.28	34.49	30.56	29.69
1900	0.05	0.00	21.62	21.65	27.90	27.03	37.71	33.45	31.04	29.46
2000	0.07	0.00	21.29	21.31	26.31	25.87	35.89	32.31	31.09	29.66
2100	0.08	0.00	21.02	21.04	25.36	25.81	35.15	31.60	28.03	27.83
2200	0.08	0.00	20.72	20.75	24.67	25.17	33.63	30.44	26.29	25.65
2300	0.09	0.00	20.44	20.49	26.39	24.87	33.19	29.90	27.83	26.33
2400	0.10	0.00	20.24	20.28	24.96	24.73	32.51	29.32	26.51	26.19
2500	0.09	0.00	20.05	20.08	23.40	24.37	29.79	27.65	23.16	23.26
2600	0.10	0.00	19.92	19.95	23.55	24.43	27.18	25.45	22.76	22.40
2700	0.11	0.00	19.72	19.76	24.21	24.86	25.93	24.35	23.75	23.25
2800	0.11	0.00	19.59	19.62	24.36	25.15	26.20	24.66	24.40	23.65
2900	0.12	0.00	19.41	19.43	22.99	23.01	26.16	24.54	24.38	23.26
3000	0.12	0.00	19.32	19.36	23.32	23.26	26.57	24.98	24.87	23.77
3100	0.13	0.00	19.27	19.29	23.10	23.41	26.37	24.90	26.25	25.13
3200	0.14	0.00	19.09	19.13	22.98	22.84	25.63	24.77	27.36	26.08
3300	0.14	0.00	19.13	19.17	23.25	22.71	25.18	24.77	28.11	27.18
3400	0.17	0.00	19.07	19.12	22.71	22.90	24.03	23.80	28.31	27.98
3500	0.16	0.00	19.16	19.21	20.79	21.27	23.05	22.74	27.43	27.10
3600	0.14	0.00	19.08	19.13	21.73	21.99	22.23	21.93	25.87	26.00
3700	0.14	0.00	18.97	19.02	21.39	21.62	22.18	21.92	26.15	26.26
3800	0.13	0.00	19.12	19.16	21.98	22.17	22.27	22.13	27.12	27.00
3900	0.12	0.00	19.18	19.23	22.48	23.27	22.58	22.61	27.54	27.56
4000	0.13	0.00	19.19	19.23	23.56	24.58	22.27	22.58	27.71	27.81
4100	0.10	0.00	19.42	19.43	20.04	20.47	22.50	22.90	28.01	27.33
4200	0.11	0.00	19.35	19.41	21.50	22.39	21.88	22.27	27.20	26.30
4300	0.09	0.00	19.40	19.44	20.75	22.33	21.64	21.57	28.04	26.31
4400	0.10	0.00	19.67	19.66	19.64	21.60	21.47	21.20	28.70	26.68
4500	0.11	0.00	19.72	19.73	19.89	21.51	21.30	21.05	26.87	26.20
4600	0.12	0.00	19.81	19.88	19.22	20.81	21.21	21.05	26.17	25.59
4700	0.13	0.00	19.90	19.95	19.53	21.16	21.12	20.83	26.47	24.97
4800	0.13	0.00	20.10	20.11	21.29	23.56	21.09	20.47	28.00	25.81
4900	0.12	0.00	20.34	20.20	20.25	21.24	21.01	20.26	28.65	26.79
5000	0.11	0.00	20.46	20.51	20.38	23.12	21.36	20.45	26.80	26.26
5100	0.11	0.00	20.59	20.66	20.77	23.30	21.96	21.08	27.92	27.29
5200	0.10	0.00	20.92	20.94	20.82	23.61	23.17	21.67	31.21	29.05
5300	0.10	0.00	21.17	21.07	21.45	23.65	24.85	22.84	30.45	29.41
5400	0.10	0.00	21.27	21.34	23.28	24.44	26.68	25.36	31.43	30.80
5500	0.09	0.00	21.49	21.58	22.54	23.77	27.46	27.55	31.87	34.16
5600	0.09	0.00	21.89	22.01	20.47	22.58	28.06	27.67	33.94	35.75
5700	0.07	0.00	22.25	22.12	21.55	23.95	27.98	28.79	37.44	35.27
5800	0.06	0.00	22.36	22.43	25.15	24.98	28.18	29.35	50.71	37.82
5900	0.09	0.00	22.71	22.68	29.26	26.71	29.44	30.58	36.00	41.59
6000	0.08	0.00	23.16	23.07	30.82	24.77	27.32	27.28	34.39	36.36
6100	0.09	0.00	23.43	23.42	35.93	26.69	24.76	24.20	30.54	31.61
6200	0.10	0.00	23.81	23.85	32.13	26.58	22.32	21.75	28.11	27.77
6300	0.11	0.00	24.12	24.26	29.00	25.98	20.82	20.38	26.79	25.47
6400	0.12	0.00	24.56	24.68	24.15	23.27	19.48	18.92	22.55	22.13
6500	0.13	0.00	24.83	25.04	20.46	21.60	18.65	17.74	19.77	19.84
6700	0.14	0.00	26.02	26.18	15.09	18.09	16.17	15.50	17.71	17.51
6900	0.18	0.00	27.06	27.14	15.41	13.98	13.70	13.10	14.72	14.80
7000	0.21	0.00	27.40	27.54	11.94	12.37	12.88	12.39	13.47	13.66

Notes

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Bi-Directional Coupler

MBDC-20-63HP

Typical Performance Data

TEST CONDITIONS: INPUT POWER = +10 dBm @Temperature = +25°C

FREQ. (MHz)	INSERTION LOSS (dB)		COUPLING (dB)		DIRECTIVITY (dB)		RETURN LOSS (dB)			
	In - Out	Rev - Fwd	In Fwd	Rev - Out	In - Rev	Out - Fwd	In	Out	Rev	Fwd
1000	0.02	0.01	19.66	26.42	26.99	26.95	39.35	40.86	47.63	52.74
1200	0.02	0.01	18.21	24.99	26.69	26.20	42.39	44.71	51.38	46.54
1500	0.04	0.03	16.51	23.31	27.13	26.85	49.27	43.41	38.55	36.63
1800	0.05	0.04	15.21	22.03	25.06	25.00	37.70	34.90	30.18	29.69
1900	0.05	0.05	14.85	21.68	24.15	23.96	35.12	32.55	29.16	28.40
2000	0.06	0.05	14.51	21.35	23.14	23.06	32.16	30.07	28.10	27.22
2100	0.07	0.07	14.21	21.07	22.68	22.48	30.43	28.53	26.53	26.04
2200	0.08	0.07	13.92	20.80	22.00	22.15	28.79	27.21	25.18	24.83
2300	0.09	0.07	13.66	20.54	21.81	22.05	27.57	26.26	24.60	24.25
2400	0.09	0.08	13.43	20.32	21.37	21.79	26.47	25.40	23.94	23.58
2500	0.10	0.08	13.25	20.16	21.59	22.05	25.47	24.67	23.21	22.92
2600	0.11	0.08	13.07	20.01	21.64	22.19	24.48	23.77	22.59	22.33
2700	0.12	0.09	12.91	19.85	21.16	21.68	23.45	22.76	22.10	22.03
2800	0.14	0.11	12.79	19.74	20.35	20.71	22.77	22.19	21.87	21.66
2900	0.15	0.12	12.66	19.62	19.91	20.30	22.06	21.54	21.62	21.31
3000	0.15	0.12	12.54	19.51	19.31	19.74	21.75	21.37	21.36	21.07
3100	0.15	0.11	12.42	19.42	18.71	19.29	21.30	21.07	20.98	20.94
3200	0.17	0.13	12.33	19.37	18.33	18.92	20.97	20.92	20.96	20.94
3300	0.16	0.13	12.21	19.29	18.59	19.06	20.76	20.88	21.17	21.07
3400	0.17	0.15	12.12	19.22	18.57	18.99	20.46	20.54	21.34	21.29
3500	0.17	0.15	12.08	19.25	18.00	18.40	20.40	20.31	21.39	21.41
3600	0.16	0.14	12.03	19.29	18.61	19.29	20.21	20.00	21.50	21.66
3700	0.15	0.12	11.96	19.26	19.24	19.71	20.16	19.98	21.94	22.00
3800	0.15	0.10	11.92	19.28	20.15	20.37	20.17	20.03	22.62	22.47
3900	0.13	0.11	11.94	19.28	20.03	20.01	20.42	20.39	22.90	22.67
4000	0.11	0.11	11.94	19.37	19.81	20.05	20.46	20.64	23.23	23.15
4100	0.11	0.11	11.96	19.42	19.03	19.49	20.69	20.83	23.72	23.38
4200	0.11	0.11	12.00	19.62	18.65	19.30	21.00	20.96	24.61	24.09
4300	0.11	0.10	12.01	19.64	18.98	19.64	21.27	20.83	25.79	24.88
4400	0.11	0.10	12.07	19.75	19.23	19.59	21.59	20.91	26.71	26.13
4500	0.11	0.09	12.10	19.81	20.06	20.09	22.16	21.30	27.58	26.63
4600	0.12	0.10	12.17	19.89	20.60	20.59	22.91	22.27	28.28	26.70
4700	0.11	0.10	12.22	20.13	21.03	21.14	23.46	22.86	29.95	27.46
4800	0.11	0.11	12.29	20.31	21.77	22.13	23.85	23.35	32.32	28.77
4900	0.09	0.10	12.38	20.47	22.54	22.85	24.07	23.77	35.52	31.50
5000	0.09	0.10	12.48	20.62	22.21	23.74	24.29	24.06	34.83	32.81
5100	0.09	0.11	12.61	20.79	22.44	23.51	24.65	24.54	35.11	33.86
5200	0.09	0.10	12.74	20.99	22.66	22.59	24.82	24.45	39.44	34.50
5300	0.09	0.09	12.93	21.26	22.39	21.97	25.42	25.04	42.97	35.78
5400	0.08	0.10	13.13	21.57	21.41	21.74	26.05	26.21	48.84	38.98
5500	0.08	0.10	13.32	21.84	20.98	22.10	26.40	27.38	41.26	43.00
5600	0.09	0.12	13.53	22.01	21.38	22.34	25.70	26.71	36.85	38.20
5700	0.10	0.13	13.71	22.33	22.33	22.17	24.56	25.38	35.13	34.90
5800	0.10	0.12	13.94	22.62	22.65	22.69	23.36	23.38	34.62	33.20
5900	0.11	0.12	14.20	22.98	22.79	22.62	22.95	22.87	30.88	30.04
6000	0.12	0.13	14.45	23.33	23.20	23.64	22.12	21.53	27.73	26.97
6100	0.12	0.13	14.72	23.72	23.31	23.21	21.46	20.95	25.68	24.77
6200	0.12	0.14	15.00	23.98	22.06	22.28	20.46	20.26	24.18	22.93
6300	0.12	0.13	15.31	24.41	20.41	21.08	19.39	19.45	22.90	21.58
6400	0.13	0.15	15.60	24.74	19.42	19.71	18.23	18.13	21.00	20.26
6500	0.15	0.17	15.99	25.22	17.19	18.58	17.57	17.42	19.28	19.11
6700	0.16	0.21	16.81	26.17	14.34	14.92	16.17	15.83	17.68	17.24
6900	0.19	0.23	17.76	27.32	12.26	12.59	14.54	14.25	15.25	15.10
7000	0.22	0.24	18.39	27.90	11.90	12.36	14.03	13.66	14.22	14.18

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Bi-Directional Coupler

MBDC-20-63HP

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+10 dBm @Temperature = +105°C

FREQ. (MHz)	INSERTION LOSS (dB)		COUPLING (dB)		DIRECTIVITY (dB)		RETURN LOSS (dB)			
	In - Out	Rev - Fwd	In Fwd	Rev - Out	In - Rev	Out - Fwd	In	Out	Rev	Fwd
1000	0.04	0.04	26.14	26.11	32.14	31.63	35.42	36.89	33.27	32.12
1200	0.05	0.06	24.70	24.68	33.12	32.42	35.46	37.37	34.21	33.02
1500	0.05	0.06	23.05	23.02	33.24	35.63	34.55	38.52	33.87	33.00
1800	0.06	0.07	21.79	21.77	30.40	39.41	34.59	36.02	33.04	32.71
1900	0.07	0.07	21.44	21.41	29.62	44.68	35.15	34.67	32.73	32.54
2000	0.07	0.08	21.15	21.11	26.87	42.52	35.52	33.36	31.52	31.42
2100	0.07	0.09	20.83	20.81	27.63	49.58	35.84	31.88	30.81	30.84
2200	0.08	0.09	20.52	20.49	25.41	33.75	35.23	30.37	30.23	30.42
2300	0.08	0.08	20.33	20.29	26.99	36.65	35.17	29.83	29.76	30.10
2400	0.08	0.08	20.09	20.06	25.94	32.01	35.17	29.27	29.28	29.78
2500	0.08	0.09	19.96	19.92	25.69	32.57	34.97	29.07	29.32	30.05
2600	0.10	0.10	19.86	19.81	25.24	32.85	35.72	29.12	30.21	30.41
2700	0.11	0.11	19.54	19.52	26.00	27.44	33.11	29.14	30.01	31.03
2800	0.11	0.10	19.61	19.54	24.23	29.61	31.98	29.10	30.75	31.21
2900	0.11	0.09	19.43	19.38	25.09	28.31	30.77	29.92	31.83	32.19
3000	0.11	0.10	19.28	19.22	25.57	26.62	29.83	30.60	32.86	33.00
3100	0.13	0.09	19.29	19.22	24.51	26.60	28.46	32.59	33.52	34.51
3200	0.13	0.11	19.21	19.13	23.79	23.07	27.86	34.44	35.53	35.11
3300	0.13	0.11	19.15	19.09	25.54	25.27	26.71	39.36	36.37	37.20
3400	0.11	0.11	19.04	18.99	28.34	25.33	26.00	42.73	36.48	36.09
3500	0.12	0.11	19.15	19.09	25.70	23.36	25.45	38.89	36.07	35.27
3600	0.11	0.11	19.21	19.14	25.48	23.44	24.86	34.39	34.73	34.45
3700	0.13	0.12	19.28	19.22	24.54	22.23	24.74	30.91	33.93	33.38
3800	0.12	0.12	19.29	19.21	26.05	22.18	24.57	28.87	33.17	32.90
3900	0.14	0.14	19.36	19.32	26.10	21.49	24.83	26.66	33.41	32.81
4000	0.11	0.13	19.26	19.21	32.03	24.32	25.05	25.20	34.43	33.34
4100	0.12	0.13	19.36	19.30	32.99	23.04	25.74	24.07	34.77	33.66
4200	0.13	0.13	19.51	19.51	30.71	22.73	26.48	22.98	35.47	34.64
4300	0.13	0.15	19.61	19.61	32.43	23.68	26.49	22.14	36.71	36.84
4400	0.13	0.15	19.77	19.72	35.59	23.17	26.28	21.33	39.59	39.61
4500	0.13	0.15	19.90	19.88	42.69	23.92	25.40	20.69	43.03	45.29
4600	0.13	0.17	20.10	20.07	33.85	22.71	22.93	20.63	47.23	46.12
4700	0.16	0.19	20.36	20.27	43.15	23.52	20.95	20.37	38.54	38.69
4800	0.16	0.17	20.49	20.40	34.50	25.91	19.51	20.06	33.86	33.90
4900	0.14	0.18	20.75	20.74	32.93	24.68	18.11	19.69	30.30	30.76
5000	0.15	0.17	20.95	20.99	32.44	26.27	17.39	19.45	28.86	28.11
5100	0.17	0.18	21.05	20.97	24.82	29.28	16.86	19.68	26.63	26.05
5200	0.14	0.19	21.53	21.57	27.47	26.68	16.64	19.82	24.51	24.10
5300	0.17	0.20	21.80	21.66	23.58	27.14	17.09	20.03	22.99	22.69
5400	0.16	0.20	22.06	22.06	22.10	29.98	17.60	20.45	21.50	21.37
5500	0.17	0.22	22.33	22.16	19.78	28.63	19.49	20.58	19.96	19.90
5600	0.17	0.23	22.63	22.62	18.56	24.90	21.38	20.59	18.78	18.93
5700	0.20	0.25	22.98	22.87	16.51	23.29	25.74	19.92	17.71	17.72
5800	0.17	0.24	23.30	23.38	17.04	22.97	33.65	18.61	16.96	16.82
5900	0.17	0.27	23.70	23.66	15.29	21.18	31.22	17.31	16.15	16.19
6000	0.20	0.27	24.12	24.05	14.84	19.27	23.84	15.97	15.54	15.45
6100	0.23	0.28	24.62	24.48	14.10	17.53	19.47	14.54	14.96	14.96
6200	0.24	0.30	25.12	25.01	13.12	17.30	16.69	13.43	14.44	14.30
6300	0.30	0.32	25.51	25.50	12.60	15.62	14.66	12.37	13.82	13.77
6400	0.34	0.34	26.02	25.99	12.07	12.91	13.21	11.56	13.28	13.20
6500	0.39	0.37	26.52	26.29	10.24	13.95	11.96	10.72	12.74	12.76
6700	0.51	0.42	27.53	27.41	9.97	10.37	10.25	9.46	12.00	11.95
6900	0.63	0.45	29.18	28.83	7.64	6.86	8.91	8.53	11.34	11.39
7000	0.70	0.47	29.48	29.42	5.78	5.73	8.47	8.20	11.05	11.14

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