

Bi-Directional Coupler

SYBD-22-172HP+

Typical Performance Data

TEST CONDITIONS: INPUT POWER =0 dBm @Temperature = +25°C

FREQ. (MHz)	INSERTION LOSS		COUPLING		DIRECTIVITY		RETURN LOSS			
	(dB)		(dB)		(dB)		(dB)			
	IN-OUT	FWD-REV	IN-FWD	OUT-REV	IN-REV	OUT-FWD	IN	OUT	FWD	REV
500	0.05	0.05	31.31	31.31	30.96	29.78	39.95	39.94	58.89	46.18
600	0.04	0.03	29.76	29.77	29.76	28.55	36.90	36.69	48.08	44.83
700	0.02	0.02	28.47	28.49	28.56	27.39	34.44	34.18	42.84	42.08
800	0.01	0.01	27.37	27.38	27.26	26.30	32.41	32.07	40.07	39.23
900	0.00	0.00	26.41	26.42	25.74	25.18	30.97	30.61	37.46	37.36
1000	0.02	0.01	25.54	25.53	24.92	24.67	29.69	29.32	36.03	35.58
1100	0.03	0.03	24.82	24.81	22.83	22.94	29.05	28.54	35.22	34.97
1200	0.05	0.03	24.11	24.11	22.50	22.35	28.60	28.04	35.06	34.41
1300	0.05	0.05	23.50	23.50	21.51	21.79	28.80	28.37	35.13	34.51
1350	0.06	0.06	23.14	23.13	21.86	22.30	28.92	28.53	35.30	34.54
1400	0.06	0.06	22.90	22.90	21.09	21.58	29.31	28.97	35.81	35.05
1450	0.05	0.05	22.73	22.71	19.57	20.10	29.98	29.68	36.82	35.82
1500	0.05	0.06	22.34	22.33	20.78	21.48	30.37	30.15	36.61	36.05
1550	0.06	0.07	22.21	22.18	19.52	20.31	31.17	31.12	38.23	36.65
1560	0.06	0.07	22.16	22.14	19.44	20.44	31.33	31.23	37.96	36.95
1570	0.07	0.07	22.08	22.06	19.84	20.64	31.45	31.34	37.79	37.20
1580	0.07	0.07	22.04	22.02	19.81	20.52	31.63	31.63	37.93	37.26
1590	0.06	0.06	21.99	21.97	19.71	20.36	31.85	32.01	38.03	37.38
1600	0.06	0.06	21.94	21.93	19.72	20.29	32.07	32.42	37.91	37.68
1650	0.06	0.06	21.78	21.77	18.98	19.75	33.19	33.76	37.03	38.34
1700	0.07	0.07	21.48	21.45	19.73	20.71	34.52	34.91	36.91	38.00
1750	0.08	0.08	21.30	21.29	19.49	20.11	36.51	37.36	36.24	37.12
1800	0.09	0.10	21.34	21.29	17.37	18.06	39.64	42.06	34.38	35.17
1900	0.10	0.10	20.74	20.70	20.04	20.59	41.47	48.93	32.37	33.82
2000	0.11	0.12	20.77	20.73	16.98	17.32	40.34	42.11	29.99	31.22
2100	0.14	0.14	20.18	20.22	19.09	19.91	39.50	39.23	29.30	30.49
2200	0.16	0.14	20.13	20.09	18.33	18.28	36.15	35.47	28.29	29.64
2300	0.15	0.16	19.75	19.76	19.57	19.47	36.07	35.50	27.91	29.14
2400	0.16	0.16	19.59	19.60	18.88	19.34	36.02	35.89	28.56	29.75
2500	0.19	0.19	19.26	19.37	20.96	20.16	38.65	39.01	30.04	31.63
2600	0.18	0.20	19.18	19.22	20.06	19.42	43.58	46.28	32.01	34.10
2700	0.20	0.19	18.89	18.95	21.38	20.51	43.16	39.37	36.58	38.98
2800	0.25	0.22	18.85	18.84	19.77	18.51	37.19	33.04	41.82	48.21
2900	0.24	0.23	18.81	18.78	18.53	17.23	32.15	30.08	34.88	35.77
3000	0.24	0.24	18.62	18.60	18.40	17.46	28.11	27.07	30.02	29.87
3100	0.25	0.28	18.42	18.48	17.31	16.73	25.88	25.10	25.89	26.19
3200	0.27	0.27	18.34	18.27	16.62	16.09	24.15	23.66	23.53	23.88
3300	0.29	0.29	18.26	18.19	15.32	14.83	23.11	22.69	21.74	21.81
3400	0.31	0.30	18.17	18.11	14.06	13.60	22.24	22.10	20.32	20.68
3500	0.31	0.34	18.14	17.97	13.28	12.91	21.83	21.73	19.38	19.88
3600	0.33	0.35	17.98	17.82	12.74	12.33	21.87	22.00	18.93	19.31
3700	0.34	0.37	17.92	17.73	11.72	11.41	22.13	22.54	18.60	19.08
3800	0.34	0.38	17.73	17.50	11.48	11.21	23.02	23.48	19.01	19.26
3900	0.35	0.38	17.62	17.50	10.79	10.38	24.01	24.89	19.35	19.63
4000	0.36	0.39	17.57	17.41	10.02	9.88	25.44	27.14	20.02	20.18
4250	0.38	0.39	17.35	17.28	9.21	9.10	32.60	38.88	23.78	23.71
4500	0.44	0.41	17.39	17.32	8.37	8.31	28.87	29.79	33.12	32.10
4750	0.48	0.43	17.45	17.40	7.96	8.16	23.93	24.38	36.33	41.28
5000	0.52	0.48	17.69	17.70	7.07	7.57	21.63	22.10	30.20	31.11
5250	0.54	0.50	18.08	17.94	6.51	6.74	20.74	20.91	29.96	30.06
5500	0.57	0.52	18.41	18.18	5.97	5.91	19.58	19.77	31.03	33.84
5750	0.64	0.56	18.92	18.67	4.86	4.16	17.73	18.25	34.15	38.00
6000	0.71	0.58	19.29	19.04	4.16	2.85	16.22	16.50	34.16	34.48

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Bi-Directional Coupler

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Typical Performance Data

TEST CONDITIONS: INPUT POWER =0 dBm @Temperature = -55°C

FREQ. (MHz)	INSERTION LOSS (dB)		COUPLING (dB)		DIRECTIVITY (dB)		RETURN LOSS (dB)			
	IN-OUT	FWD-REV	IN-FWD	OUT-REV	IN-REV	OUT-FWD	IN	OUT	FWD	REV
500	0.08	0.12	31.30	31.32	31.05	29.48	43.66	47.13	47.52	45.60
600	0.08	0.12	29.75	29.77	30.17	28.58	40.33	40.82	53.57	49.93
700	0.07	0.12	28.44	28.47	29.38	28.02	36.60	36.49	50.40	52.52
800	0.06	0.11	27.35	27.36	27.87	27.08	33.82	33.62	44.36	44.09
900	0.05	0.11	26.38	26.39	26.72	26.10	31.95	31.59	40.22	40.08
1000	0.03	0.11	25.49	25.50	25.60	25.47	29.91	29.58	35.74	35.06
1100	0.02	0.10	24.77	24.77	22.84	23.30	28.67	28.27	34.44	33.68
1200	0.02	0.10	24.05	24.06	22.67	22.57	27.99	27.46	34.58	33.58
1300	0.01	0.09	23.44	23.45	21.29	21.73	28.10	27.63	33.17	32.89
1350	0.00	0.09	23.08	23.08	21.55	22.19	28.28	27.87	33.94	33.11
1400	0.00	0.09	22.82	22.83	20.96	21.49	28.67	28.37	35.49	34.64
1450	0.01	0.10	22.68	22.68	19.12	19.71	29.33	29.11	36.91	36.12
1500	0.02	0.10	22.27	22.27	20.68	21.20	29.60	29.40	37.95	37.53
1550	0.02	0.09	22.12	22.10	19.69	20.11	30.24	30.13	43.15	40.38
1560	0.01	0.09	22.07	22.05	19.77	20.25	30.34	30.19	43.26	41.15
1570	0.01	0.09	21.99	21.98	20.17	20.33	30.44	30.31	43.18	42.20
1580	0.00	0.10	21.94	21.94	20.14	20.19	30.60	30.54	43.40	42.55
1590	0.01	0.11	21.89	21.89	19.97	19.97	30.82	30.88	43.39	42.71
1600	0.01	0.10	21.86	21.87	19.81	19.69	31.11	31.36	42.79	42.93
1650	0.02	0.11	21.69	21.69	19.03	19.42	32.28	32.70	38.57	41.14
1700	0.01	0.10	21.38	21.35	19.49	20.52	33.87	34.11	36.23	37.86
1750	0.00	0.09	21.20	21.20	19.43	19.84	36.23	37.10	35.76	36.68
1800	0.01	0.08	21.25	21.21	17.30	17.91	40.01	41.79	35.41	36.48
1900	0.01	0.09	20.60	20.61	19.91	20.25	41.05	46.81	33.23	34.97
2000	0.02	0.07	20.65	20.63	17.12	16.82	38.68	42.84	31.46	32.25
2100	0.05	0.06	20.07	20.10	18.92	19.61	37.10	38.85	28.99	30.12
2200	0.07	0.06	19.99	19.96	17.94	18.26	35.27	34.96	26.21	27.95
2300	0.06	0.05	19.61	19.64	19.66	19.35	34.92	34.06	27.49	28.85
2400	0.07	0.06	19.45	19.48	18.97	19.27	34.96	34.53	27.01	27.88
2500	0.08	0.04	19.13	19.24	20.24	20.22	37.37	36.95	29.54	30.89
2600	0.07	0.04	19.00	19.06	20.33	20.22	40.84	40.88	31.39	33.19
2700	0.10	0.05	18.77	18.79	20.87	20.73	49.38	46.03	36.35	38.24
2800	0.13	0.03	18.71	18.67	20.14	18.81	40.37	34.50	44.64	42.37
2900	0.12	0.02	18.69	18.66	18.60	17.20	30.95	29.04	34.68	34.26
3000	0.13	0.02	18.45	18.46	18.22	17.44	26.45	25.55	32.27	31.88
3100	0.13	0.00	18.26	18.29	17.08	16.81	24.86	24.22	27.37	26.98
3200	0.14	0.01	18.16	18.07	17.10	16.06	24.31	23.65	23.37	23.73
3300	0.15	0.02	18.03	18.00	15.85	14.71	24.00	23.27	20.90	21.15
3400	0.16	0.02	17.94	17.90	14.15	13.67	23.06	22.60	19.45	19.92
3500	0.17	0.05	17.88	17.78	13.03	13.13	22.40	22.07	19.09	19.58
3600	0.18	0.04	17.76	17.60	12.66	12.54	22.29	22.28	18.86	19.16
3700	0.20	0.05	17.70	17.55	11.82	11.35	22.48	22.68	18.77	19.01
3800	0.19	0.05	17.51	17.33	11.59	11.37	23.33	23.66	19.31	19.34
3900	0.19	0.06	17.39	17.32	11.06	10.54	23.95	24.68	19.12	19.19
4000	0.21	0.06	17.32	17.20	10.34	9.95	24.70	26.07	18.95	19.09
4250	0.23	0.04	17.11	17.03	9.55	9.10	29.78	35.49	24.17	23.97
4500	0.27	0.04	17.18	17.01	8.56	8.56	29.51	31.38	30.17	31.22
4750	0.30	0.05	17.13	17.09	7.87	8.26	24.19	24.62	33.71	40.63
5000	0.34	0.08	17.31	17.34	7.27	7.91	21.11	21.55	28.16	28.55
5250	0.35	0.09	17.70	17.64	6.53	6.85	19.91	20.08	32.41	31.71
5500	0.38	0.10	18.01	17.80	6.08	5.95	19.04	19.13	33.30	34.28
5750	0.44	0.12	18.48	18.38	4.98	4.47	17.74	17.99	32.91	33.77
6000	0.49	0.13	18.81	18.64	4.26	3.20	16.66	16.78	32.08	33.18

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Bi-Directional Coupler

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Typical Performance Data

TEST CONDITIONS: INPUT POWER =0 dBm @Temperature = +100°C

FREQ. (MHz)	INSERTION LOSS (dB)		COUPLING (dB)		DIRECTIVITY (dB)		RETURN LOSS (dB)			
	IN-OUT	FWD-REV	IN-FWD	OUT-REV	IN-REV	OUT-FWD	IN	OUT	FWD	REV
500	0.02	0.00	31.33	31.33	30.13	28.38	38.16	37.33	48.12	41.58
600	0.00	0.03	29.79	29.80	28.65	27.21	35.79	35.19	43.49	40.97
700	0.01	0.04	28.50	28.51	27.23	26.20	34.03	33.50	39.69	39.16
800	0.03	0.06	27.41	27.40	26.22	25.27	32.50	32.00	38.46	37.72
900	0.04	0.07	26.45	26.45	24.62	24.17	31.51	30.98	36.11	36.47
1000	0.06	0.09	25.57	25.55	24.23	23.89	30.72	30.23	35.67	35.87
1100	0.08	0.12	24.86	24.83	22.35	22.54	30.53	29.88	35.91	35.69
1200	0.09	0.13	24.15	24.13	22.23	22.60	30.49	29.75	37.06	35.28
1300	0.10	0.15	23.57	23.54	21.25	21.88	30.87	30.32	37.71	35.10
1350	0.11	0.16	23.21	23.19	21.81	22.56	30.94	30.53	37.43	35.22
1400	0.12	0.16	22.96	22.94	21.21	22.06	31.26	30.91	36.11	34.65
1450	0.11	0.16	22.83	22.78	19.40	20.52	31.93	31.67	35.49	34.19
1500	0.10	0.17	22.44	22.40	20.63	21.91	32.09	32.02	34.82	34.15
1550	0.11	0.19	22.26	22.22	19.83	21.22	32.70	32.90	35.22	34.11
1560	0.12	0.19	22.20	22.15	19.92	21.55	32.78	32.91	34.93	34.04
1570	0.12	0.19	22.11	22.07	20.44	21.89	32.84	32.97	34.52	34.32
1580	0.13	0.19	22.09	22.05	20.00	21.41	33.15	33.26	34.56	34.18
1590	0.12	0.19	22.07	22.03	19.59	20.91	33.46	33.71	34.56	34.14
1600	0.12	0.18	22.03	21.99	19.74	20.85	33.64	34.28	34.23	34.53
1650	0.12	0.19	21.87	21.84	18.97	20.15	34.88	35.84	33.72	34.36
1700	0.13	0.19	21.59	21.56	19.86	20.96	35.49	36.47	34.17	34.92
1750	0.15	0.21	21.36	21.32	20.30	21.12	36.72	38.11	34.33	35.01
1800	0.16	0.23	21.43	21.37	17.74	18.43	39.13	41.55	32.42	32.79
1900	0.17	0.25	20.79	20.74	21.04	21.61	39.07	42.26	31.55	32.43
2000	0.18	0.26	20.87	20.82	17.18	17.82	43.08	52.88	29.29	31.07
2100	0.21	0.28	20.32	20.32	19.30	19.77	47.81	50.00	30.50	32.19
2200	0.23	0.30	20.29	20.22	18.18	17.63	43.45	41.69	30.03	31.93
2300	0.23	0.31	19.85	19.86	19.30	19.37	43.99	43.63	29.65	31.76
2400	0.24	0.33	19.72	19.69	18.91	18.37	43.58	43.14	30.07	32.56
2500	0.26	0.36	19.43	19.46	19.99	18.97	48.11	45.53	30.90	34.51
2600	0.27	0.39	19.34	19.34	19.32	18.09	57.60	46.33	32.23	39.14
2700	0.31	0.40	18.97	19.00	21.50	19.65	38.91	37.39	34.37	45.24
2800	0.34	0.42	19.07	19.13	17.51	16.90	36.18	34.38	34.79	39.78
2900	0.33	0.44	18.95	18.96	16.90	16.31	32.29	31.12	33.23	33.79
3000	0.35	0.45	18.75	18.74	17.19	16.75	29.26	28.04	29.46	29.30
3100	0.34	0.49	18.57	18.59	17.12	16.49	27.13	26.32	26.13	27.30
3200	0.37	0.49	18.53	18.40	15.95	15.96	25.18	24.83	24.05	24.81
3300	0.39	0.52	18.45	18.36	14.88	14.83	23.58	23.50	22.47	23.19
3400	0.41	0.54	18.32	18.19	14.36	14.20	22.62	22.84	20.88	21.93
3500	0.43	0.58	18.31	18.07	13.53	13.14	21.70	21.98	19.93	21.23
3600	0.45	0.60	18.22	17.96	12.82	12.31	21.54	22.20	19.28	20.61
3700	0.46	0.62	18.13	17.88	11.95	11.38	22.20	23.15	19.22	20.56
3800	0.46	0.64	17.98	17.76	11.52	10.92	23.35	24.40	19.39	20.44
3900	0.47	0.67	17.87	17.68	11.09	10.50	24.59	26.04	19.73	20.60
4000	0.49	0.68	17.90	17.66	10.14	9.78	26.65	28.27	21.01	21.27
4250	0.51	0.71	17.60	17.50	9.32	9.08	37.74	40.35	25.37	23.24
4500	0.57	0.76	17.69	17.58	8.19	7.97	29.14	29.73	30.75	26.19
4750	0.62	0.80	17.76	17.60	7.64	7.83	25.49	26.46	35.51	43.82
5000	0.69	0.89	18.04	17.87	6.56	7.24	22.70	23.77	33.59	31.63
5250	0.72	0.93	18.38	18.15	6.16	6.30	21.19	21.96	30.32	25.77
5500	0.77	0.98	18.79	18.40	5.55	5.70	19.24	19.80	26.34	25.61
5750	0.85	1.03	19.43	18.97	4.95	4.00	16.66	17.22	27.14	30.07
6000	0.92	1.09	19.67	19.53	3.98	3.19	15.40	15.66	29.04	29.91

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