

Bi-Directional Coupler

SYBD-22-82HP+

Typical Performance Data

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

FREQ. (MHz)	INSERTION LOSS		COUPLING		DIRECTIVITY		RETURN LOSS			
	(dB) IN-OUT	(dB) FWD-REV	(dB) IN-FWD	(dB) OUT-REV	(dB) IN-REV	(dB) OUT-FWD	(dB) IN	(dB) OUT	(dB) FWD	(dB) REV
300	0.01	0.01	30.14	30.15	27.99	28.05	42.22	41.53	45.01	45.65
400	0.00	0.01	27.68	27.69	28.23	27.92	45.12	43.70	46.10	45.76
500	0.02	0.03	25.79	25.78	28.03	27.89	50.16	48.04	45.80	43.66
550	0.03	0.04	24.97	24.98	28.25	27.86	56.51	49.40	44.48	42.34
560	0.03	0.04	24.82	24.83	28.20	27.89	55.21	49.73	44.08	42.16
570	0.04	0.04	24.67	24.67	28.19	27.93	54.20	49.50	43.88	41.66
580	0.04	0.05	24.52	24.53	28.41	28.07	53.08	50.44	43.51	41.56
590	0.04	0.05	24.37	24.38	28.55	28.02	52.34	49.75	43.31	41.40
600	0.04	0.05	24.24	24.24	28.43	27.93	50.24	48.97	42.66	40.82
620	0.03	0.04	23.94	23.95	28.42	27.95	48.58	47.93	42.25	40.48
630	0.03	0.04	23.81	23.81	28.44	27.90	47.92	47.11	42.09	40.32
640	0.03	0.04	23.67	23.68	28.59	27.90	47.21	47.03	41.81	40.08
650	0.04	0.04	23.55	23.55	28.49	27.99	47.19	46.36	41.40	39.79
700	0.04	0.05	22.92	22.92	28.59	28.05	42.94	43.85	40.14	38.84
750	0.06	0.06	22.34	22.35	28.87	28.28	40.70	41.37	39.06	37.80
760	0.06	0.06	22.24	22.24	29.09	28.27	40.32	41.03	38.96	37.80
770	0.06	0.06	22.13	22.13	29.08	28.35	39.87	40.69	38.91	37.64
780	0.06	0.07	22.02	22.02	29.05	28.47	39.61	40.19	38.67	37.37
790	0.07	0.07	21.91	21.92	29.11	28.30	39.06	40.02	38.46	37.14
800	0.06	0.07	21.80	21.81	29.09	28.36	38.82	39.59	38.43	37.01
820	0.07	0.07	21.60	21.61	29.27	28.20	38.09	38.82	37.89	36.87
830	0.08	0.08	21.50	21.50	29.40	28.20	37.84	38.77	37.53	36.85
840	0.08	0.08	21.40	21.42	29.46	28.16	37.60	38.55	37.33	36.72
850	0.08	0.08	21.30	21.31	29.51	28.33	37.52	38.31	37.14	36.49
900	0.09	0.09	20.83	20.84	29.80	28.50	36.38	36.97	36.48	36.15
950	0.10	0.10	20.40	20.41	30.64	29.09	35.46	35.87	35.87	35.51
1000	0.11	0.11	19.97	19.98	31.12	29.29	34.90	35.04	35.34	35.36
1100	0.13	0.13	19.20	19.21	31.71	29.24	34.07	33.91	34.65	35.33
1200	0.16	0.16	18.53	18.52	33.48	29.86	34.30	33.57	34.58	35.68
1300	0.18	0.18	17.89	17.90	35.80	30.49	35.06	34.29	35.09	36.37
1400	0.20	0.21	17.34	17.35	39.14	31.51	37.03	36.36	36.45	37.83
1500	0.22	0.23	16.81	16.83	49.29	33.18	39.25	39.93	38.74	39.12
1600	0.24	0.26	16.34	16.35	55.77	33.97	39.43	44.25	42.91	40.06
1700	0.26	0.27	15.89	15.91	43.92	36.00	35.74	40.84	49.56	38.61
1800	0.29	0.30	15.47	15.48	37.35	39.15	32.74	35.85	45.86	37.06
1900	0.32	0.34	15.12	15.14	36.87	38.88	30.36	32.41	39.59	35.66
2000	0.34	0.35	14.81	14.82	34.12	37.12	28.88	30.46	36.21	34.07
2100	0.38	0.38	14.51	14.52	34.07	41.34	28.28	28.95	34.68	33.43
2200	0.39	0.40	14.21	14.22	30.87	37.03	27.85	28.47	34.34	33.88
2300	0.43	0.44	13.99	14.00	31.67	48.41	28.55	28.71	33.87	34.90
2400	0.43	0.44	13.76	13.75	30.89	38.92	29.42	29.95	36.01	36.80
2500	0.46	0.46	13.47	13.50	28.83	37.46	31.51	31.84	39.15	40.66
2600	0.48	0.48	13.24	13.28	27.78	35.64	34.19	33.63	44.87	47.59
2700	0.52	0.51	12.99	13.07	26.64	32.04	38.13	32.90	40.64	41.28
2800	0.52	0.54	12.81	12.85	25.79	29.37	34.18	31.06	36.02	36.94
2900	0.54	0.56	12.65	12.70	25.28	27.92	29.89	28.18	32.26	32.61
3000	0.57	0.59	12.48	12.54	24.78	26.29	26.64	25.68	29.94	30.37
3500	0.70	0.68	11.81	11.79	22.35	21.08	20.88	20.95	26.72	27.11
4000	0.78	0.78	11.30	11.29	21.10	18.15	23.39	24.56	45.27	32.26
4500	0.86	0.90	11.10	11.11	21.19	17.10	29.82	32.72	24.74	24.49
5000	0.97	0.98	11.19	11.20	21.54	16.85	34.02	31.73	24.70	24.14
5500	1.00	1.03	11.53	11.51	18.45	14.92	33.95	35.53	28.04	25.67
6000	1.10	1.14	11.98	12.03	14.48	11.97	33.67	41.43	23.83	21.81

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Bi-Directional Coupler

SYBD-22-82HP+

Typical Performance Data

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

FREQ. (MHz)	INSERTION LOSS		COUPLING		DIRECTIVITY		RETURN LOSS			
	(dB) IN-OUT	(dB) FWD-REV	(dB) IN-FWD	(dB) OUT-REV	(dB) IN-REV	(dB) OUT-FWD	(dB) IN	(dB) OUT	(dB) FWD	(dB) REV
300	0.04	0.07	30.15	30.16	29.56	30.34	38.45	38.26	42.82	43.85
400	0.03	0.07	27.68	27.69	29.00	29.08	39.94	40.17	44.46	45.31
500	0.01	0.06	25.77	25.78	28.69	28.78	42.30	42.51	50.42	47.99
550	0.01	0.05	24.95	24.96	28.72	28.57	44.82	44.55	52.43	47.25
560	0.01	0.05	24.80	24.81	28.92	28.58	45.57	44.82	51.91	47.58
570	0.00	0.05	24.65	24.66	28.88	28.64	46.56	45.57	52.29	47.44
580	0.00	0.05	24.50	24.51	28.92	28.64	47.71	46.33	52.90	48.21
590	0.00	0.05	24.36	24.37	28.95	28.67	48.69	47.15	52.54	48.57
600	0.00	0.05	24.21	24.22	28.77	28.47	50.63	48.02	51.20	47.13
620	0.01	0.06	23.92	23.93	28.76	28.38	53.47	50.13	49.81	45.80
630	0.01	0.06	23.78	23.79	28.73	28.37	55.43	51.79	49.02	45.25
640	0.01	0.06	23.64	23.65	28.87	28.26	58.47	53.15	48.12	44.58
650	0.01	0.06	23.51	23.52	28.86	28.27	59.93	54.01	47.31	44.11
700	0.01	0.06	22.89	22.89	29.04	28.29	51.99	54.86	46.91	44.09
750	0.01	0.05	22.31	22.31	28.79	28.30	45.85	47.65	43.26	40.95
760	0.01	0.05	22.19	22.21	28.98	28.17	45.04	46.93	42.32	40.32
770	0.01	0.05	22.09	22.09	28.82	28.22	44.04	46.06	41.63	39.72
780	0.02	0.05	21.99	21.99	29.03	28.35	43.58	45.18	40.85	39.15
790	0.01	0.05	21.88	21.89	28.88	28.53	42.76	44.79	40.26	38.54
800	0.01	0.04	21.76	21.78	28.99	28.39	42.27	43.90	40.01	38.29
820	0.02	0.05	21.56	21.57	29.05	28.35	41.06	42.48	39.13	37.97
830	0.03	0.04	21.46	21.47	29.34	28.27	40.63	42.41	38.66	37.97
840	0.02	0.04	21.36	21.37	29.30	28.39	40.23	41.89	38.34	37.67
850	0.03	0.04	21.27	21.27	29.24	28.48	39.96	41.44	37.99	37.32
900	0.04	0.03	20.79	20.80	29.66	28.60	38.11	39.04	36.55	36.29
950	0.04	0.02	20.34	20.35	30.12	28.76	36.50	37.14	36.09	35.78
1000	0.05	0.02	19.91	19.92	30.43	28.82	35.46	35.70	35.49	35.57
1100	0.07	0.00	19.13	19.14	30.34	28.12	33.71	33.60	33.79	34.59
1200	0.09	0.01	18.44	18.45	32.42	29.22	33.35	32.89	33.53	34.90
1300	0.11	0.02	17.85	17.86	34.00	30.24	34.92	34.25	32.08	33.44
1400	0.13	0.04	17.22	17.23	36.82	31.07	35.73	35.20	33.36	34.41
1500	0.14	0.05	16.74	16.76	43.95	32.56	36.75	37.23	36.91	37.52
1600	0.18	0.09	16.29	16.30	37.49	28.93	40.85	43.52	42.33	41.52
1700	0.18	0.08	15.79	15.81	46.38	35.56	38.61	48.46	44.52	37.13
1800	0.21	0.10	15.37	15.38	36.77	36.61	33.57	37.15	45.62	39.07
1900	0.24	0.17	15.03	15.04	39.09	35.55	30.25	32.10	35.47	35.00
2000	0.25	0.13	14.67	14.69	32.21	34.25	28.46	30.34	35.62	33.80
2100	0.29	0.16	14.35	14.34	32.50	43.82	27.91	28.99	33.40	34.47
2200	0.29	0.17	14.09	14.11	29.12	34.52	26.97	28.14	30.94	31.01
2300	0.31	0.17	13.87	13.87	29.67	33.87	26.99	28.00	31.19	31.49
2400	0.34	0.19	13.52	13.54	27.31	33.69	28.57	29.60	33.24	33.34
2500	0.35	0.21	13.32	13.34	27.59	34.18	29.64	30.80	39.53	36.57
2600	0.39	0.23	13.07	13.09	25.81	32.41	34.26	34.11	38.04	37.04
2700	0.41	0.25	12.86	12.87	25.21	29.30	37.43	34.33	33.38	33.43
2800	0.41	0.28	12.76	12.85	27.69	31.01	35.60	32.68	39.14	36.36
2900	0.43	0.27	12.49	12.57	25.28	28.62	30.73	29.19	33.12	33.81
3000	0.46	0.29	12.27	12.31	25.20	25.76	26.62	25.60	30.49	31.22
3500	0.56	0.36	11.60	11.58	22.13	20.86	20.80	20.77	26.38	27.21
4000	0.63	0.42	11.04	11.04	22.30	18.88	22.95	23.96	47.29	32.01
4500	0.71	0.51	10.80	10.80	21.66	17.04	28.93	33.23	24.79	24.29
5000	0.79	0.55	10.74	10.80	22.40	16.56	32.42	33.87	23.85	22.92
5500	0.77	0.56	11.06	11.10	19.72	15.70	30.17	31.99	24.52	23.21
6000	0.83	0.58	11.51	11.57	15.71	13.36	33.60	54.44	23.56	22.43

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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		COUPLING		DIRECTIVITY		RETURN LOSS			
	(dB) IN-OUT	(dB) FWD-REV	(dB) IN-FWD	(dB) OUT-REV	(dB) IN-REV	(dB) OUT-FWD	(dB) IN	(dB) OUT	(dB) FWD	(dB) REV
300	0.00	0.03	30.14	30.14	27.45	27.30	45.27	43.06	42.80	44.00
400	0.03	0.06	27.68	27.70	27.82	27.34	49.00	43.90	41.35	40.61
500	0.05	0.08	25.78	25.79	27.98	27.77	48.68	45.01	41.23	39.92
550	0.06	0.09	24.97	24.98	28.19	27.83	47.63	44.09	40.03	38.89
560	0.06	0.10	24.82	24.83	28.24	27.75	46.78	44.09	39.76	38.81
570	0.07	0.10	24.67	24.68	28.37	27.92	45.96	43.72	39.66	38.50
580	0.07	0.10	24.53	24.53	28.53	28.11	45.31	43.85	39.45	38.53
590	0.07	0.10	24.38	24.39	28.62	28.06	44.87	43.49	39.45	38.57
600	0.07	0.10	24.24	24.25	28.49	28.17	43.95	42.99	39.22	38.30
620	0.06	0.09	23.94	23.96	28.81	28.04	43.26	42.37	39.12	38.18
630	0.06	0.09	23.81	23.83	28.70	28.19	42.80	41.88	39.09	38.11
640	0.06	0.10	23.68	23.69	28.89	28.07	42.48	41.84	39.02	37.96
650	0.06	0.10	23.55	23.56	28.88	28.10	42.47	41.54	38.80	37.92
700	0.07	0.11	22.93	22.93	29.02	28.31	39.87	40.28	38.09	37.48
750	0.09	0.12	22.35	22.36	29.67	28.75	38.62	38.93	37.88	37.20
760	0.09	0.13	22.25	22.25	29.87	28.75	38.42	38.76	37.89	37.29
770	0.09	0.13	22.14	22.15	29.80	28.87	38.07	38.58	38.02	37.26
780	0.10	0.13	22.03	22.04	29.89	28.95	37.98	38.37	37.91	37.11
790	0.10	0.13	21.93	21.94	30.03	29.09	37.68	38.31	37.81	37.00
800	0.10	0.13	21.82	21.83	30.15	29.31	37.56	38.05	37.86	36.88
820	0.11	0.13	21.62	21.63	30.05	29.13	37.12	37.60	37.35	36.80
830	0.11	0.14	21.52	21.52	30.32	29.22	36.93	37.68	37.11	36.83
840	0.11	0.15	21.41	21.43	30.31	29.26	36.82	37.59	36.95	36.72
850	0.11	0.14	21.32	21.33	30.66	29.41	36.87	37.50	36.84	36.61
900	0.12	0.16	20.85	20.86	31.41	29.85	36.32	36.82	37.20	36.96
950	0.13	0.17	20.40	20.41	32.12	30.25	35.81	36.26	37.50	37.09
1000	0.15	0.18	19.98	19.99	32.71	30.64	35.75	35.88	37.25	37.41
1100	0.17	0.21	19.19	19.20	31.71	29.36	35.39	35.10	37.28	38.51
1200	0.19	0.24	18.52	18.52	35.67	31.92	36.35	35.29	38.44	40.23
1300	0.22	0.26	17.94	17.95	40.18	33.10	37.90	36.68	40.18	42.79
1400	0.24	0.29	17.35	17.36	40.60	34.20	39.66	38.67	40.77	43.71
1500	0.26	0.32	16.85	16.86	47.00	37.45	41.87	43.16	44.82	45.15
1600	0.30	0.36	16.38	16.38	41.89	35.53	40.64	41.91	47.39	44.51
1700	0.32	0.39	15.93	15.93	41.48	36.03	36.26	38.63	48.04	42.76
1800	0.34	0.41	15.54	15.56	37.64	42.54	33.94	36.19	45.06	39.29
1900	0.37	0.46	15.15	15.18	33.39	45.19	32.18	34.14	41.97	40.19
2000	0.40	0.46	14.83	14.86	32.50	49.08	31.19	32.69	41.41	37.01
2100	0.42	0.49	14.57	14.56	32.59	53.53	29.82	30.63	40.33	36.77
2200	0.45	0.52	14.30	14.32	32.73	48.95	30.17	30.74	39.32	37.44
2300	0.48	0.55	14.09	14.10	34.14	42.24	30.59	30.31	39.88	39.31
2400	0.51	0.57	13.81	13.79	32.35	55.55	33.38	33.12	41.23	41.94
2500	0.53	0.61	13.56	13.64	31.32	44.88	34.01	33.72	40.43	44.69
2600	0.55	0.64	13.33	13.37	30.87	43.33	35.91	34.41	39.60	40.03
2700	0.58	0.67	13.08	13.12	28.38	36.24	36.79	32.67	37.85	39.05
2800	0.62	0.70	12.94	12.97	26.31	29.23	33.79	29.58	33.93	34.56
2900	0.64	0.74	12.78	12.82	26.29	28.02	30.34	28.21	32.46	33.10
3000	0.64	0.75	12.63	12.69	26.38	28.39	28.03	26.99	31.22	31.62
3500	0.79	0.88	11.99	12.00	22.87	21.31	21.69	22.06	28.75	28.83
4000	0.89	1.01	11.57	11.58	20.30	17.42	23.51	25.43	48.18	32.81
4500	1.02	1.15	11.43	11.51	19.18	15.89	29.40	28.70	27.63	28.18
5000	1.08	1.30	11.81	11.83	17.37	14.36	32.13	30.39	28.09	28.02
5500	1.17	1.37	12.40	12.47	13.63	11.91	34.51	39.02	30.97	28.77
6000	1.45	1.65	13.68	13.57	8.11	6.60	37.58	31.11	29.07	24.47

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