

Bi-Directional Coupler

SYBD-28-82HP+

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
100	0.06	0.06	44.84	44.80	23.07	23.55	46.34	45.65	46.52	47.63
200	0.04	0.04	38.84	38.83	23.74	23.93	45.05	44.07	44.89	44.74
300	0.02	0.02	35.35	35.36	24.09	23.95	46.01	45.46	46.32	44.42
400	0.00	0.00	32.90	32.90	23.73	23.69	46.44	46.30	46.33	44.01
500	0.01	0.01	31.00	31.00	23.65	23.31	44.35	45.35	42.26	41.43
550	0.01	0.02	30.19	30.20	23.47	23.01	43.57	44.70	40.19	40.32
590	0.02	0.02	29.61	29.62	23.14	22.68	42.51	43.49	38.86	38.99
600	0.02	0.02	29.46	29.46	23.17	22.65	42.12	43.56	38.40	38.58
620	0.01	0.01	29.17	29.17	23.08	22.58	41.67	42.88	37.87	38.09
630	0.00	0.01	29.04	29.05	22.99	22.39	41.36	43.00	37.51	37.93
640	0.01	0.01	28.91	28.91	22.87	22.46	41.27	42.59	37.42	37.73
650	0.00	0.01	28.77	28.78	22.82	22.38	41.09	42.39	37.05	37.59
660	0.01	0.01	28.64	28.65	22.88	22.28	40.95	42.19	36.84	37.32
670	0.01	0.02	28.51	28.53	22.77	22.38	41.08	41.95	36.53	37.07
680	0.01	0.01	28.39	28.40	22.81	22.31	40.67	41.79	36.44	36.65
690	0.01	0.01	28.26	28.28	22.67	22.10	40.41	41.62	36.12	36.47
700	0.01	0.02	28.15	28.16	22.59	22.04	40.23	41.53	35.85	36.30
720	0.01	0.02	27.91	27.93	22.37	21.84	40.24	41.15	35.42	35.88
730	0.01	0.03	27.81	27.82	22.34	21.90	39.95	40.71	35.11	35.62
740	0.02	0.02	27.68	27.70	22.34	21.85	39.85	40.79	34.95	35.45
750	0.02	0.02	27.56	27.59	22.29	21.79	39.63	40.63	34.78	35.24
760	0.02	0.03	27.45	27.47	22.39	21.70	39.68	40.40	34.61	35.00
770	0.02	0.02	27.35	27.36	22.30	21.66	39.37	40.47	34.33	34.80
780	0.03	0.03	27.25	27.26	22.32	21.62	39.32	40.41	34.25	34.65
790	0.03	0.04	27.14	27.16	22.14	21.52	39.06	40.30	34.02	34.50
800	0.03	0.03	27.04	27.05	21.98	21.44	39.03	40.24	33.86	34.26
820	0.03	0.04	26.85	26.86	21.73	21.16	39.03	40.00	33.62	34.02
830	0.03	0.04	26.76	26.78	21.45	20.99	38.95	39.78	33.57	33.98
840	0.03	0.03	26.67	26.67	21.39	20.95	38.91	39.59	33.49	33.78
850	0.03	0.03	26.56	26.58	21.39	21.01	38.93	39.50	33.40	33.69
900	0.04	0.04	26.09	26.10	21.16	20.72	38.53	39.16	32.77	33.19
950	0.05	0.05	25.64	25.65	20.97	20.50	38.27	38.89	32.14	32.59
1000	0.05	0.05	25.22	25.23	20.80	20.28	38.48	38.70	31.96	32.44
1100	0.06	0.07	24.48	24.49	19.94	19.61	39.82	39.11	31.73	32.36
1200	0.08	0.08	23.79	23.78	19.64	19.34	41.39	40.63	31.89	32.82
1300	0.09	0.09	23.22	23.23	18.63	18.41	46.28	43.59	33.47	34.23
1400	0.10	0.10	22.70	22.71	18.01	17.89	52.06	47.84	36.30	36.98
1500	0.11	0.12	22.16	22.18	18.15	17.97	43.09	43.83	42.13	42.68
1600	0.12	0.13	21.71	21.73	17.98	17.90	37.57	38.88	58.31	61.65
1700	0.13	0.14	21.32	21.32	18.04	17.90	34.30	35.49	39.49	39.76
1800	0.15	0.17	20.94	20.96	18.32	18.00	32.26	33.15	33.61	34.30
1900	0.16	0.17	20.63	20.63	18.51	18.09	30.58	31.25	30.56	30.78
2000	0.18	0.19	20.38	20.38	18.65	17.86	29.88	30.32	28.42	28.82
2500	0.24	0.25	19.25	19.33	21.08	18.62	34.99	34.29	28.46	28.96
3000	0.30	0.30	18.63	18.68	17.18	15.96	25.89	25.44	30.31	32.01
3500	0.37	0.36	18.00	18.01	13.07	12.75	21.88	21.90	24.68	25.37
4000	0.40	0.40	17.49	17.47	10.56	10.65	27.72	28.35	32.57	35.20
4500	0.48	0.47	17.16	17.22	9.64	9.76	33.48	33.90	28.18	28.43
5000	0.56	0.57	16.92	17.07	8.79	8.99	26.78	27.13	22.97	23.57
5500	0.62	0.66	16.70	16.86	6.97	7.14	24.06	24.36	19.52	19.53
6000	0.79	0.83	16.27	16.34	5.40	5.44	17.14	17.23	16.07	16.11
6500	1.21	1.07	15.56	15.55	4.31	4.58	11.73	11.76	13.71	13.87
7000	1.87	1.55	15.07	15.18	3.73	4.66	8.57	8.92	10.60	10.98

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Bi-Directional Coupler

SYBD-28-82HP+

Typical Performance Data

TEST CONDITIONS: INPUT POWER =0 dBm @Temperature = -55°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
100	0.07	0.08	44.85	44.82	22.73	22.47	50.34	47.73	41.36	41.16
200	0.06	0.08	38.85	38.87	22.76	22.78	42.35	42.22	41.97	41.75
300	0.05	0.07	35.37	35.37	23.26	23.16	43.27	43.35	44.56	42.59
400	0.04	0.07	32.90	32.91	23.39	23.13	47.39	46.56	51.35	44.00
500	0.03	0.07	31.00	31.01	23.49	23.27	52.44	50.79	49.66	44.48
550	0.03	0.06	30.19	30.20	23.56	22.95	53.18	56.00	46.48	44.99
590	0.02	0.07	29.59	29.60	23.32	22.89	51.00	55.52	42.96	42.63
600	0.03	0.07	29.45	29.45	23.42	22.83	50.08	56.04	41.97	41.74
620	0.04	0.08	29.15	29.16	23.38	22.67	48.32	51.94	40.97	40.92
630	0.04	0.08	29.03	29.02	23.14	22.67	47.46	51.71	40.63	40.79
640	0.04	0.08	28.90	28.91	23.14	22.58	47.09	50.21	40.73	40.82
650	0.04	0.09	28.75	28.77	23.08	22.58	46.80	49.67	40.54	41.02
660	0.04	0.08	28.63	28.64	23.11	22.63	46.48	49.19	40.50	40.93
670	0.04	0.08	28.50	28.51	23.03	22.50	46.61	48.49	40.15	40.72
680	0.03	0.08	28.37	28.39	23.19	22.63	45.75	47.83	39.92	40.11
690	0.03	0.08	28.24	28.27	22.85	22.38	45.27	47.04	39.28	39.69
700	0.03	0.08	28.14	28.15	22.83	22.41	44.90	46.90	38.75	39.23
720	0.03	0.08	27.89	27.91	22.81	22.31	44.88	46.26	37.73	38.27
730	0.03	0.08	27.78	27.79	22.79	22.30	44.42	45.23	37.11	37.70
740	0.03	0.08	27.66	27.68	22.75	22.19	44.02	45.29	36.72	37.30
750	0.03	0.08	27.56	27.56	22.55	22.11	43.50	44.90	36.48	36.96
760	0.03	0.08	27.44	27.45	22.63	22.14	43.53	44.42	36.33	36.71
770	0.03	0.08	27.35	27.36	22.36	21.78	43.06	44.63	36.10	36.53
780	0.02	0.08	27.25	27.25	22.17	21.60	42.88	44.38	36.04	36.47
790	0.03	0.08	27.13	27.15	22.17	21.59	42.49	44.09	35.78	36.19
800	0.02	0.08	27.03	27.04	22.11	21.66	42.15	43.71	35.51	35.83
820	0.02	0.08	26.82	26.83	22.08	21.73	41.64	42.81	35.00	35.26
830	0.02	0.08	26.72	26.75	21.62	21.63	41.40	42.31	34.81	35.18
840	0.02	0.08	26.63	26.65	21.83	21.47	41.19	41.96	34.66	34.89
850	0.02	0.08	26.53	26.54	21.82	21.51	41.06	41.70	34.53	34.79
900	0.02	0.08	26.05	26.06	21.68	21.24	39.80	40.37	33.71	34.23
950	0.01	0.08	25.60	25.61	21.39	20.93	38.92	39.34	32.44	32.93
1000	0.01	0.07	25.20	25.20	21.17	20.41	38.49	38.50	32.13	32.78
1100	0.00	0.07	24.43	24.46	20.30	19.81	37.83	37.44	31.08	32.15
1200	0.01	0.07	23.78	23.79	19.15	18.92	38.95	38.94	31.00	32.22
1300	0.02	0.06	23.16	23.18	18.69	18.36	43.40	41.05	31.63	32.49
1400	0.02	0.06	22.59	22.60	18.41	18.23	52.61	43.54	33.47	34.07
1500	0.03	0.06	22.08	22.10	17.97	17.95	47.70	52.54	39.71	39.62
1600	0.04	0.05	21.55	21.57	18.42	18.58	41.30	43.69	65.35	57.12
1700	0.06	0.04	21.32	21.30	17.28	17.02	36.13	37.48	39.05	39.43
1800	0.06	0.03	20.70	20.70	19.52	19.06	34.48	35.92	34.83	35.39
1900	0.08	0.01	20.40	20.38	20.01	18.77	31.06	31.94	31.04	31.69
2000	0.09	0.03	20.33	20.32	17.42	16.76	27.94	28.58	28.17	28.73
2500	0.11	0.00	19.20	19.22	21.21	18.56	33.07	33.96	28.77	28.62
3000	0.16	0.02	18.54	18.59	16.90	15.23	26.16	25.94	29.12	31.43
3500	0.23	0.03	17.84	17.83	12.80	12.54	21.11	20.99	26.31	26.73
4000	0.24	0.06	17.35	17.27	10.50	10.69	27.52	28.35	28.59	30.51
4500	0.29	0.10	16.89	16.96	10.05	9.84	32.60	32.33	33.40	29.87
5000	0.35	0.18	16.53	16.70	8.99	9.06	27.32	27.30	21.16	21.34
5500	0.41	0.26	16.54	16.76	6.37	6.57	23.69	24.39	18.21	18.50
6000	0.56	0.33	15.97	16.01	5.51	5.79	17.02	16.92	15.81	16.08
6500	0.99	0.57	15.10	15.14	4.29	4.57	11.42	11.33	13.45	13.43
7000	1.55	1.01	15.05	14.80	3.21	4.04	8.27	8.57	9.64	9.66

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Bi-Directional Coupler

SYBD-28-82HP+

Typical Performance Data

TEST CONDITIONS: INPUT POWER =0 dBm @Temperature = +100°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
100	0.05	0.04	44.84	44.81	23.67	23.79	43.39	43.20	46.97	49.44
200	0.02	0.00	38.83	38.85	23.77	24.20	45.18	43.39	44.23	44.78
300	0.00	0.02	35.37	35.39	23.80	23.90	43.77	43.08	43.90	43.86
400	0.02	0.04	32.92	32.92	23.62	23.30	42.41	42.35	41.67	41.67
500	0.04	0.06	31.02	31.04	22.95	22.77	41.13	41.67	39.05	39.28
550	0.04	0.07	30.22	30.23	22.85	22.39	40.83	41.48	38.18	38.87
590	0.05	0.07	29.64	29.64	22.64	22.10	40.29	40.74	37.43	37.92
600	0.05	0.08	29.49	29.50	22.54	21.98	40.07	40.92	37.01	37.57
620	0.03	0.06	29.20	29.21	22.44	21.83	39.79	40.46	36.49	37.07
630	0.03	0.07	29.07	29.09	22.42	21.82	39.61	40.52	36.17	36.90
640	0.04	0.06	28.94	28.95	22.44	21.84	39.59	40.32	36.16	36.82
650	0.04	0.06	28.80	28.82	22.23	21.76	39.55	40.28	35.97	36.85
660	0.04	0.07	28.68	28.69	22.12	21.64	39.56	40.31	35.93	36.78
670	0.04	0.07	28.54	28.56	22.11	21.57	39.74	40.26	35.71	36.61
680	0.04	0.07	28.42	28.44	22.17	21.59	39.46	40.23	35.67	36.23
690	0.04	0.07	28.30	28.33	21.88	21.38	39.33	40.12	35.41	36.10
700	0.04	0.08	28.17	28.21	21.91	21.39	39.33	40.17	35.30	36.03
720	0.05	0.08	27.95	27.96	21.88	21.35	39.53	40.21	35.01	35.76
730	0.05	0.09	27.84	27.85	21.87	21.24	39.44	39.90	34.65	35.52
740	0.05	0.08	27.72	27.74	21.64	21.19	39.43	40.13	34.46	35.31
750	0.05	0.08	27.61	27.61	21.78	21.09	39.28	40.07	34.32	35.01
760	0.05	0.09	27.51	27.51	21.64	20.98	39.49	39.99	34.20	34.88
770	0.06	0.09	27.41	27.42	21.36	20.76	39.44	40.36	34.02	34.80
780	0.06	0.09	27.30	27.32	21.20	20.71	39.55	40.55	34.04	34.78
790	0.06	0.10	27.20	27.22	21.18	20.68	39.55	40.65	33.92	34.68
800	0.06	0.09	27.09	27.10	21.10	20.72	39.58	40.70	33.81	34.44
820	0.06	0.10	26.87	26.88	21.17	20.78	39.76	40.60	33.63	34.23
830	0.06	0.10	26.79	26.82	20.83	20.50	39.84	40.57	33.67	34.32
840	0.06	0.09	26.69	26.71	20.86	20.48	40.01	40.59	33.68	34.19
850	0.07	0.10	26.60	26.61	20.95	20.45	40.18	40.72	33.66	34.17
900	0.07	0.11	26.12	26.14	20.70	20.28	40.47	41.23	33.40	34.05
950	0.08	0.12	25.68	25.69	20.45	20.06	40.91	41.84	33.12	33.68
1000	0.09	0.13	25.27	25.28	20.41	19.73	42.05	42.49	33.38	33.89
1100	0.10	0.15	24.51	24.53	19.91	19.50	47.00	44.34	33.60	34.29
1200	0.12	0.16	23.90	23.91	18.95	18.68	50.47	47.09	34.55	35.74
1300	0.14	0.18	23.29	23.31	18.55	18.48	45.59	46.93	36.89	37.76
1400	0.15	0.19	22.72	22.73	18.61	18.50	42.08	43.52	40.74	41.61
1500	0.16	0.21	22.23	22.25	18.51	18.35	37.89	38.62	50.68	53.14
1600	0.17	0.23	21.70	21.70	19.31	19.26	35.14	36.16	48.96	49.48
1700	0.20	0.25	21.57	21.57	17.08	16.99	31.99	32.90	37.18	37.51
1800	0.22	0.27	20.88	20.88	20.39	20.10	32.31	33.09	34.72	35.21
1900	0.25	0.32	20.55	20.52	21.48	19.64	32.28	32.38	32.20	32.88
2000	0.25	0.30	20.52	20.52	18.52	17.68	32.12	32.18	29.78	29.88
2500	0.32	0.39	19.46	19.47	19.63	17.56	37.36	35.35	30.01	31.09
3000	0.39	0.48	18.77	18.81	16.50	15.28	26.28	26.05	32.83	34.85
3500	0.47	0.55	18.18	18.18	13.17	12.91	23.97	24.44	25.23	25.94
4000	0.53	0.63	17.72	17.68	10.63	10.65	28.16	28.75	33.34	35.04
4500	0.61	0.74	17.31	17.35	9.35	9.79	36.65	42.46	28.03	28.77
5000	0.72	0.87	16.91	17.15	8.95	9.27	26.68	27.09	22.86	23.44
5500	0.83	1.00	16.86	17.31	6.55	7.04	22.08	22.63	19.51	19.86
6000	0.99	1.16	16.51	16.66	5.58	5.66	16.91	16.96	16.27	16.21
6500	1.40	1.47	15.86	15.91	4.31	4.42	12.16	12.34	13.78	13.91
7000	2.08	1.95	15.39	15.89	2.79	4.38	8.87	9.11	10.96	11.57

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