

Bi-Directional Coupler

SYBD-28-62HP+

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	0.04	0.04	42.81	42.81	31.44	31.66	45.43	44.83	46.84	47.61
200	0.02	0.01	36.83	36.84	32.49	32.03	43.42	43.46	45.48	46.09
300	0.00	0.00	33.34	33.35	32.22	31.91	43.69	44.99	46.46	45.52
350	0.01	0.01	32.02	32.02	31.86	31.70	44.56	46.78	46.69	45.02
390	0.01	0.01	31.10	31.09	32.09	31.36	45.77	49.14	45.97	43.23
400	0.01	0.02	30.89	30.87	31.83	31.25	46.31	49.22	45.93	42.92
410	0.00	0.00	30.64	30.64	31.67	31.32	46.82	49.86	45.74	42.75
420	0.00	0.00	30.44	30.43	31.52	31.13	47.18	50.75	45.70	42.39
430	0.00	0.00	30.24	30.23	31.34	30.98	47.48	52.07	45.31	42.21
440	0.00	0.00	30.04	30.04	31.85	30.94	47.73	52.96	45.13	41.85
450	0.00	0.00	29.85	29.86	31.74	31.11	48.10	53.18	44.82	41.70
460	0.00	0.00	29.67	29.65	31.17	30.92	48.47	54.28	44.66	41.48
470	0.00	0.01	29.48	29.48	31.47	30.77	48.22	55.30	44.25	41.13
480	0.00	0.01	29.30	29.31	30.97	30.90	48.71	55.16	43.80	40.67
490	0.01	0.01	29.13	29.12	31.23	30.74	48.34	55.80	43.47	40.31
500	0.00	0.01	28.95	28.95	31.32	30.81	48.43	55.17	43.19	39.96
510	0.01	0.02	28.78	28.78	31.17	30.38	48.95	55.46	42.79	39.86
520	0.01	0.02	28.62	28.61	30.99	30.44	49.77	55.08	42.72	39.67
530	0.01	0.02	28.46	28.45	31.08	30.22	50.34	54.82	42.59	39.49
540	0.01	0.02	28.29	28.29	30.90	30.25	50.37	53.55	42.43	39.39
550	0.02	0.02	28.14	28.14	30.84	30.16	50.17	53.17	42.06	39.01
560	0.02	0.02	27.99	27.99	30.82	30.04	49.68	52.37	41.70	38.78
570	0.02	0.02	27.84	27.84	30.75	30.04	50.06	51.57	41.30	38.51
580	0.02	0.02	27.70	27.69	30.47	29.85	49.72	50.59	41.14	38.33
590	0.02	0.02	27.55	27.54	30.41	29.94	49.41	50.04	40.83	38.15
600	0.02	0.02	27.41	27.40	30.28	29.68	48.11	49.59	40.68	37.94
610	0.02	0.03	27.26	27.26	30.43	29.90	47.98	49.21	40.26	37.66
620	0.03	0.03	27.13	27.13	30.29	29.60	47.64	48.28	39.95	37.41
630	0.02	0.04	26.99	26.98	30.17	29.51	46.81	47.49	39.62	37.16
640	0.03	0.03	26.86	26.85	30.23	29.60	46.94	47.02	39.65	37.14
650	0.03	0.03	26.73	26.72	30.16	29.50	46.75	46.37	39.18	37.05
700	0.04	0.04	26.09	26.08	29.68	29.24	43.96	44.58	38.03	35.96
800	0.05	0.05	25.00	24.99	28.22	27.76	40.71	41.44	36.20	34.54
900	0.07	0.07	24.01	24.00	27.64	27.56	38.38	39.47	34.33	33.44
1000	0.08	0.09	23.14	23.14	26.81	26.48	36.75	37.70	32.58	32.46
1100	0.10	0.10	22.36	22.36	25.73	25.84	35.47	36.59	31.51	31.92
1200	0.12	0.12	21.68	21.64	25.06	25.05	34.70	35.44	30.69	31.22
1300	0.13	0.13	21.04	21.05	24.23	24.14	34.82	35.66	30.29	30.92
1400	0.14	0.15	20.49	20.48	23.36	23.38	35.14	35.96	30.09	30.85
1500	0.15	0.16	19.93	19.94	23.33	23.36	36.29	36.51	30.29	30.97
1600	0.17	0.19	19.43	19.44	22.95	23.00	37.15	36.79	30.57	31.37
1700	0.19	0.20	18.99	18.99	22.81	22.75	38.46	36.35	31.73	32.09
1800	0.21	0.22	18.59	18.59	22.37	22.23	37.80	35.22	33.11	32.72
1900	0.24	0.24	18.27	18.26	21.55	21.45	35.77	34.25	35.36	34.12
2000	0.25	0.25	17.97	17.97	21.12	20.94	33.69	32.26	38.59	34.63
2500	0.33	0.33	16.54	16.55	22.80	22.04	30.52	29.66	35.00	36.42
3000	0.40	0.42	15.52	15.54	24.63	23.31	41.06	41.86	38.98	40.15
3500	0.48	0.49	14.71	14.70	19.30	19.88	25.30	24.51	31.96	29.71
4000	0.56	0.57	13.98	13.99	15.47	16.34	28.83	26.37	40.14	31.83
4500	0.65	0.70	13.62	13.65	13.53	14.22	25.09	24.66	22.94	22.84
5000	0.74	0.85	13.63	13.59	14.14	14.18	19.81	20.01	16.97	17.50
5500	0.79	0.92	13.63	13.63	14.95	14.89	21.20	21.84	16.25	16.40
6000	0.84	1.00	13.71	13.66	13.05	14.40	20.08	20.16	15.78	15.83

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Page 1 of 3



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Bi-Directional Coupler

SYBD-28-62HP+

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	0.05	0.07	42.88	42.85	28.85	29.15	49.93	47.20	41.50	41.53
200	0.03	0.06	36.87	36.85	28.53	29.43	41.17	41.17	42.43	43.58
300	0.02	0.06	33.38	33.37	30.35	30.67	39.74	40.30	43.98	45.46
350	0.02	0.06	32.04	32.03	30.84	31.19	40.48	41.51	45.21	47.73
390	0.01	0.06	31.11	31.10	30.98	30.79	41.70	43.06	48.60	47.75
400	0.01	0.06	30.88	30.87	31.15	30.65	41.99	43.19	49.01	47.97
410	0.03	0.08	30.66	30.65	30.89	30.84	42.22	43.36	47.70	48.63
420	0.03	0.08	30.45	30.43	31.02	31.28	42.64	43.61	47.38	49.22
430	0.03	0.08	30.25	30.24	31.33	31.07	42.82	43.87	47.92	50.09
440	0.03	0.08	30.06	30.05	31.43	31.31	42.99	44.30	48.31	50.30
450	0.03	0.08	29.85	29.86	31.72	31.02	43.32	44.61	49.95	50.37
460	0.03	0.08	29.67	29.65	31.26	30.93	43.50	44.70	51.41	49.44
470	0.03	0.08	29.49	29.47	31.27	30.92	43.15	45.10	53.58	48.27
480	0.03	0.08	29.31	29.30	31.45	31.18	43.44	45.01	53.63	46.69
490	0.03	0.08	29.13	29.12	31.60	31.10	43.76	45.26	53.03	45.48
500	0.03	0.08	28.96	28.94	31.65	30.87	43.93	45.73	52.97	44.78
510	0.03	0.07	28.80	28.77	31.68	30.78	44.24	46.19	52.51	44.90
520	0.02	0.07	28.62	28.62	31.58	30.72	44.48	46.77	52.84	45.30
530	0.02	0.08	28.46	28.45	31.34	30.85	44.64	47.02	52.52	45.74
540	0.02	0.08	28.30	28.28	31.29	30.96	45.26	47.55	51.74	46.00
550	0.02	0.07	28.14	28.12	31.59	31.23	45.72	47.96	50.02	45.20
560	0.02	0.08	27.98	27.97	31.46	31.26	46.90	48.90	49.32	44.38
570	0.01	0.07	27.83	27.83	31.32	31.04	48.01	50.13	48.58	43.46
580	0.02	0.08	27.69	27.68	31.07	30.91	48.71	51.29	48.29	42.94
590	0.02	0.08	27.54	27.53	31.13	30.73	49.34	51.91	47.17	42.44
600	0.01	0.07	27.39	27.39	31.39	30.87	50.40	52.53	46.61	41.83
610	0.01	0.08	27.26	27.25	31.72	30.77	50.95	53.58	45.50	41.22
620	0.01	0.08	27.12	27.10	31.52	30.71	52.90	57.14	44.94	40.73
630	0.01	0.08	26.98	26.97	31.05	30.69	55.32	61.07	44.57	40.48
640	0.01	0.08	26.85	26.84	31.01	30.72	58.06	63.46	44.92	40.68
650	0.01	0.08	26.72	26.71	31.20	30.82	58.04	61.54	44.41	40.80
700	0.01	0.07	26.07	26.06	31.07	30.70	53.51	52.64	41.28	38.18
800	0.01	0.08	24.97	24.96	29.37	28.94	45.48	46.09	37.94	35.72
900	0.02	0.07	23.97	23.96	28.82	28.70	40.57	41.80	35.14	34.13
1000	0.03	0.05	23.10	23.09	27.97	27.48	36.94	37.69	32.16	32.15
1100	0.04	0.06	22.32	22.32	26.19	25.91	34.66	35.78	30.19	30.87
1200	0.05	0.05	21.64	21.60	25.20	24.77	33.86	34.49	29.34	30.11
1300	0.06	0.05	20.97	20.95	24.73	24.22	34.08	34.85	28.37	29.03
1400	0.07	0.03	20.35	20.33	24.29	23.97	33.98	34.74	28.24	29.08
1500	0.08	0.03	19.81	19.79	23.31	23.37	34.48	35.20	28.93	29.64
1600	0.09	0.02	19.39	19.38	22.21	22.12	35.16	35.14	30.29	31.00
1700	0.12	0.01	18.79	18.77	23.95	24.09	36.50	35.76	31.59	32.00
1800	0.12	0.00	18.51	18.49	21.93	21.48	41.12	36.01	31.87	30.99
1900	0.16	0.01	18.39	18.35	18.81	18.64	37.23	35.85	36.70	34.04
2000	0.14	0.00	17.91	17.91	19.88	19.75	33.02	31.28	49.24	35.34
2500	0.22	0.05	16.32	16.42	23.06	22.51	29.61	28.88	36.42	35.94
3000	0.26	0.09	15.33	15.30	25.78	23.68	43.84	51.01	34.80	36.47
3500	0.33	0.12	14.48	14.46	19.08	19.99	24.03	23.62	33.87	33.04
4000	0.38	0.16	13.74	13.68	15.40	16.70	28.71	26.20	34.90	31.82
4500	0.46	0.23	13.32	13.35	14.01	13.96	24.56	23.82	24.62	23.56
5000	0.53	0.37	13.32	13.24	13.80	13.79	19.56	19.82	15.57	15.85
5500	0.59	0.40	13.26	13.22	15.09	15.09	20.56	21.32	15.64	15.84
6000	0.61	0.42	13.26	13.35	12.95	14.67	20.05	20.08	15.95	16.19

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Page 2 of 3



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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
100	0.02	0.03	42.78	42.82	32.80	31.90	41.95	41.44	46.86	48.29
200	0.01	0.00	36.83	36.81	34.25	33.77	43.35	42.56	44.81	45.24
300	0.02	0.03	33.35	33.33	32.99	32.97	43.97	45.41	44.95	45.17
350	0.03	0.04	32.02	32.01	33.00	32.13	44.65	47.58	42.98	41.75
390	0.04	0.04	31.08	31.08	32.01	31.38	45.34	48.84	42.52	40.62
400	0.04	0.05	30.87	30.86	32.04	31.59	45.70	48.99	42.79	40.71
410	0.02	0.03	30.65	30.64	32.34	31.41	45.78	49.59	42.99	40.84
420	0.02	0.03	30.44	30.43	32.24	31.59	45.50	50.18	43.04	40.60
430	0.02	0.03	30.24	30.23	32.47	31.28	45.66	50.92	42.61	40.28
440	0.03	0.03	30.05	30.03	31.50	31.23	45.78	50.77	42.31	39.83
450	0.03	0.04	29.85	29.84	31.53	31.28	45.88	50.37	41.81	39.61
460	0.02	0.04	29.66	29.65	31.55	30.98	45.92	51.03	41.63	39.42
470	0.03	0.04	29.48	29.48	31.49	30.65	45.69	50.94	41.33	39.17
480	0.03	0.05	29.30	29.30	31.41	30.83	45.59	50.82	40.98	38.77
490	0.03	0.05	29.12	29.12	31.28	31.02	44.89	50.04	40.66	38.45
500	0.03	0.05	28.95	28.95	31.07	30.61	44.85	48.71	40.43	38.18
510	0.03	0.05	28.78	28.77	31.07	30.33	44.99	48.09	40.24	38.16
520	0.04	0.05	28.62	28.61	30.73	30.18	45.32	47.68	40.49	38.25
530	0.04	0.06	28.46	28.45	30.75	30.23	45.44	47.76	40.62	38.30
540	0.04	0.05	28.30	28.30	30.99	30.19	44.99	47.14	40.52	38.26
550	0.04	0.06	28.14	28.14	30.92	30.16	44.42	46.60	40.09	37.78
560	0.04	0.06	28.00	27.99	30.46	30.15	43.59	45.60	39.64	37.35
570	0.05	0.06	27.84	27.84	30.54	29.74	43.21	44.74	39.16	36.95
580	0.05	0.07	27.69	27.70	30.08	29.30	43.09	44.23	39.02	36.83
590	0.05	0.06	27.55	27.54	30.14	29.28	42.95	44.12	38.86	36.79
600	0.05	0.06	27.40	27.40	30.13	29.59	42.32	44.08	38.74	36.64
600	0.05	0.06	27.40	27.40	30.13	29.59	42.32	44.08	38.74	36.64
620	0.05	0.07	27.14	27.12	29.87	29.27	41.48	42.82	37.92	35.97
630	0.06	0.07	27.00	26.99	29.47	28.94	40.86	41.96	37.68	35.75
640	0.06	0.08	26.85	26.85	29.41	29.07	40.81	41.64	37.85	35.89
650	0.06	0.08	26.72	26.73	29.56	28.90	40.78	41.43	37.71	36.03
700	0.06	0.09	26.06	26.06	29.19	29.08	38.65	39.69	36.71	35.03
800	0.08	0.09	25.00	24.99	27.49	27.36	36.92	38.00	35.50	34.06
900	0.10	0.12	24.01	24.00	26.91	27.02	35.64	36.78	34.43	33.61
1000	0.11	0.15	23.15	23.14	26.07	26.30	34.87	35.69	33.20	32.95
1100	0.13	0.16	22.39	22.39	24.90	25.25	34.60	35.81	32.51	32.83
1200	0.14	0.18	21.70	21.66	24.59	24.73	34.35	35.22	32.16	32.71
1300	0.16	0.20	21.05	21.06	24.12	24.40	34.68	36.00	31.75	32.30
1400	0.17	0.22	20.44	20.44	24.45	24.38	35.21	36.11	31.22	31.86
1500	0.19	0.25	19.98	19.97	22.99	22.99	37.40	37.91	31.23	31.79
1600	0.21	0.28	19.43	19.43	23.78	23.31	38.21	38.22	31.17	31.92
1700	0.25	0.29	18.99	18.96	23.46	22.94	36.31	38.77	32.22	32.37
1800	0.26	0.32	18.72	18.72	21.30	21.51	34.56	33.82	32.97	32.53
1900	0.31	0.37	18.47	18.40	20.16	19.73	32.13	32.87	33.41	34.00
2000	0.28	0.34	18.08	18.09	21.12	20.59	32.55	30.91	37.34	33.56
2500	0.39	0.46	16.55	16.60	22.94	22.36	32.01	30.99	38.35	42.82
3000	0.48	0.56	15.53	15.48	25.80	24.63	35.85	37.23	43.24	40.62
3500	0.54	0.67	14.79	14.78	19.45	19.64	26.13	25.37	30.27	27.86
4000	0.62	0.78	14.07	14.10	15.39	16.44	30.12	26.09	37.17	30.92
4500	0.74	0.90	13.81	13.76	13.36	14.41	24.46	24.18	23.07	23.52
5000	0.83	1.08	13.81	13.77	13.99	13.76	19.94	19.83	17.95	18.47
5500	0.93	1.20	13.83	13.79	14.69	13.95	21.48	22.58	16.86	16.71
6000	0.96	1.30	13.82	13.86	13.02	13.49	19.81	20.17	15.62	15.61

REV. X1

SYBD-28-62HP+

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Page 3 of 3



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