

Bi-Directional Coupler

SYBD-18-142HP+

Typical Performance Data

TEST CONDITIONS: INPUT POWER =0 dBm @Temperature = +25°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	0.01	0.01	25.89	25.90	35.38	31.97	39.23	39.05	36.38	35.06
600	0.01	0.04	24.34	24.37	33.76	30.30	36.50	36.41	33.85	33.13
700	0.04	0.06	23.06	23.07	32.35	28.88	34.47	34.28	31.91	31.62
800	0.06	0.08	21.94	21.96	31.32	27.32	32.44	32.33	30.58	30.36
850	0.07	0.09	21.44	21.46	30.69	26.96	31.85	31.80	29.90	29.94
900	0.08	0.10	20.97	20.99	29.97	26.36	31.31	31.10	29.41	29.58
950	0.09	0.11	20.53	20.54	29.49	25.93	30.69	30.57	29.04	29.21
960	0.09	0.11	20.44	20.46	29.47	25.82	30.63	30.49	28.99	29.17
970	0.08	0.09	20.34	20.36	29.44	25.77	30.60	30.42	28.96	29.15
980	0.08	0.09	20.25	20.27	29.35	25.77	30.58	30.38	28.91	29.11
990	0.08	0.09	20.17	20.18	29.31	25.69	30.59	30.34	28.84	29.09
1000	0.08	0.10	20.08	20.09	29.28	25.67	30.57	30.28	28.77	29.06
1050	0.10	0.11	19.69	19.70	28.11	24.88	30.23	29.82	28.60	29.03
1100	0.10	0.12	19.34	19.35	27.76	24.49	29.92	29.68	28.69	29.12
1150	0.12	0.13	18.98	18.99	27.32	24.05	29.84	29.40	28.78	29.18
1200	0.13	0.14	18.64	18.63	26.94	23.60	29.62	29.12	28.93	29.27
1230	0.13	0.15	18.45	18.45	26.81	23.47	29.57	29.30	29.17	29.54
1240	0.14	0.15	18.38	18.38	26.72	23.36	29.62	29.32	29.20	29.61
1250	0.13	0.14	18.30	18.31	26.75	23.35	29.65	29.36	29.27	29.68
1260	0.13	0.15	18.23	18.25	26.78	23.34	29.71	29.42	29.35	29.75
1300	0.14	0.16	17.98	17.99	26.60	23.13	30.01	29.86	29.63	30.02
1350	0.15	0.17	17.67	17.68	26.58	23.16	30.52	30.51	30.31	30.56
1400	0.16	0.18	17.40	17.41	25.81	22.71	31.01	31.17	30.98	31.27
1500	0.18	0.21	16.88	16.89	25.18	22.11	31.69	32.64	33.65	33.10
1600	0.22	0.23	16.32	16.33	26.13	22.19	32.21	34.10	37.49	34.61
1700	0.24	0.24	16.00	16.01	24.06	20.79	33.59	39.65	44.33	33.64
1800	0.26	0.28	15.60	15.61	24.06	20.50	32.84	41.77	36.77	31.28
1900	0.30	0.31	15.23	15.22	24.59	20.63	32.09	36.93	32.11	28.94
2000	0.31	0.32	14.88	14.89	24.08	20.32	28.79	33.00	29.00	26.64
2100	0.34	0.37	14.59	14.60	25.23	20.15	27.66	29.65	26.87	25.51
2200	0.38	0.40	14.31	14.36	25.76	19.88	26.63	27.82	25.31	24.47
2300	0.38	0.44	14.06	14.07	26.55	19.60	25.25	26.43	23.66	23.45
2400	0.41	0.43	13.78	13.79	26.03	19.78	24.97	25.82	23.54	22.91
2500	0.43	0.46	13.56	13.55	28.06	20.22	24.37	25.34	23.29	22.74
2600	0.45	0.49	13.36	13.37	28.60	19.84	24.36	25.36	22.92	22.78
2700	0.47	0.50	13.13	13.14	30.17	19.87	24.08	25.01	23.29	23.09
2800	0.52	0.52	12.86	12.95	35.24	20.25	24.88	25.37	23.95	23.66
2900	0.52	0.56	12.69	12.81	33.85	19.93	25.61	26.20	24.59	24.47
3000	0.54	0.55	12.52	12.55	36.56	20.37	26.07	26.59	26.15	25.37
3100	0.56	0.57	12.32	12.37	32.45	19.87	26.41	27.38	27.24	26.27
3200	0.58	0.60	12.16	12.18	30.49	19.78	27.47	28.78	28.56	27.26
3300	0.60	0.61	12.02	12.02	27.60	19.43	27.81	29.62	29.76	27.54
3400	0.62	0.64	11.84	11.86	25.47	19.81	28.37	30.55	30.43	27.22
3500	0.65	0.66	11.71	11.72	24.01	18.95	28.27	30.79	29.35	26.39
3600	0.67	0.68	11.61	11.57	23.25	18.39	27.44	29.74	27.90	25.46
3700	0.69	0.72	11.48	11.48	21.65	17.72	26.41	27.78	25.88	23.98
3800	0.71	0.73	11.36	11.37	20.78	17.16	25.17	26.14	23.78	22.65
3900	0.74	0.77	11.28	11.27	19.93	16.56	24.11	24.39	22.08	21.15
4000	0.78	0.81	11.23	11.24	19.04	16.03	22.70	22.82	20.54	19.85
4500	0.95	1.00	11.04	11.03	16.94	13.24	16.95	17.38	15.61	15.35
5000	1.14	1.14	11.00	10.93	16.51	11.64	14.83	15.64	14.89	14.35
5500	1.23	1.22	10.90	10.91	16.05	10.92	14.67	15.80	16.61	15.18
6000	1.33	1.33	10.76	10.64	14.92	11.75	15.82	16.29	17.37	16.13

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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		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	0.07	25.88	25.91	40.17	35.61	44.92	47.73	41.72	38.11
600	0.04	0.06	24.33	24.34	37.52	33.06	41.61	43.02	37.39	35.72
700	0.02	0.05	23.03	23.04	34.38	31.17	37.75	37.80	34.29	33.64
800	0.00	0.04	21.91	21.92	33.00	29.37	34.42	34.48	32.41	32.10
850	0.00	0.03	21.41	21.42	32.27	28.83	33.57	33.70	31.65	31.66
900	0.01	0.03	20.93	20.95	31.14	28.15	32.71	32.58	30.62	30.73
950	0.02	0.02	20.49	20.50	30.26	27.38	31.77	31.71	29.80	29.86
960	0.03	0.02	20.40	20.41	30.21	27.29	31.66	31.58	29.73	29.78
970	0.01	0.04	20.29	20.30	30.18	27.28	31.59	31.45	29.67	29.73
980	0.01	0.04	20.21	20.21	30.13	27.20	31.50	31.34	29.56	29.63
990	0.01	0.04	20.12	20.13	30.13	27.09	31.43	31.23	29.41	29.52
1000	0.01	0.04	20.04	20.04	30.08	27.04	31.32	31.09	29.24	29.39
1050	0.03	0.03	19.63	19.64	28.55	25.95	30.53	30.20	28.57	28.88
1100	0.03	0.02	19.29	19.30	28.07	25.18	29.93	29.75	28.78	29.05
1150	0.04	0.01	18.93	18.93	27.88	24.45	29.62	29.25	28.65	28.96
1200	0.05	0.01	18.58	18.57	27.30	24.04	29.28	28.83	28.21	28.61
1230	0.06	0.00	18.39	18.39	26.93	23.74	29.33	28.96	28.27	28.71
1240	0.06	0.00	18.32	18.32	26.78	23.71	29.33	28.97	28.24	28.71
1250	0.05	0.01	18.24	18.25	26.76	23.67	29.34	29.03	28.25	28.72
1260	0.05	0.01	18.17	18.18	26.76	23.63	29.39	29.09	28.27	28.75
1300	0.06	0.00	17.91	17.92	26.43	23.47	29.82	29.58	28.47	28.95
1350	0.06	0.00	17.61	17.61	26.21	23.47	30.38	30.22	29.49	29.95
1400	0.08	0.01	17.33	17.34	25.61	23.06	30.61	30.57	30.63	31.19
1500	0.09	0.03	16.81	16.82	25.33	22.11	30.57	31.04	31.68	31.57
1600	0.12	0.05	16.27	16.27	25.66	21.67	30.88	32.53	35.18	33.06
1700	0.15	0.06	15.89	15.88	23.89	20.76	32.96	37.34	44.60	34.57
1800	0.17	0.08	15.48	15.46	24.42	20.81	32.38	40.18	44.12	33.58
1900	0.20	0.10	15.12	15.12	24.47	20.35	32.36	37.87	33.39	28.51
2000	0.20	0.11	14.79	14.80	23.74	19.81	28.78	33.14	28.72	25.59
2100	0.24	0.14	14.46	14.45	25.05	20.26	27.17	29.53	27.32	25.63
2200	0.27	0.16	14.16	14.18	25.25	20.41	26.57	28.57	25.77	24.87
2300	0.26	0.18	13.89	13.92	26.28	19.69	25.30	27.10	24.03	23.13
2400	0.29	0.19	13.65	13.66	24.62	19.54	24.91	25.95	22.48	21.99
2500	0.31	0.20	13.41	13.40	27.42	20.38	23.87	24.79	23.22	22.36
2600	0.32	0.24	13.22	13.21	28.19	20.23	23.70	24.77	22.46	22.48
2700	0.36	0.23	13.02	13.00	29.53	20.26	23.60	24.47	23.70	23.55
2800	0.38	0.25	12.72	12.78	33.93	20.35	24.81	25.62	23.57	23.08
2900	0.38	0.28	12.50	12.60	35.92	20.43	25.74	26.42	24.19	24.22
3000	0.39	0.27	12.31	12.36	37.31	20.56	26.77	27.52	24.65	23.98
3100	0.41	0.28	12.14	12.19	30.71	19.85	27.23	28.38	26.39	25.28
3200	0.42	0.30	11.98	11.99	31.68	20.11	27.50	28.21	27.50	26.53
3300	0.44	0.30	11.83	11.81	28.13	19.57	27.36	28.61	30.88	28.54
3400	0.46	0.32	11.63	11.62	25.36	19.13	28.44	30.74	30.85	27.33
3500	0.49	0.34	11.51	11.50	22.75	18.42	27.84	29.98	27.95	25.32
3600	0.51	0.35	11.39	11.36	23.01	18.37	27.11	28.83	26.07	23.99
3700	0.52	0.37	11.26	11.25	21.40	18.08	26.85	27.73	25.19	23.56
3800	0.54	0.39	11.12	11.13	20.95	17.78	25.60	26.10	23.27	22.30
3900	0.57	0.41	11.04	11.03	20.44	17.20	24.69	24.65	22.43	21.29
4000	0.59	0.44	10.95	10.95	19.86	16.74	23.65	23.69	21.16	20.23
4500	0.73	0.60	10.74	10.75	17.44	13.67	17.55	18.08	15.42	15.08
5000	0.91	0.72	10.67	10.62	16.88	11.67	14.50	15.46	14.45	13.82
5500	0.97	0.73	10.60	10.56	15.60	11.61	14.21	15.19	15.92	14.72
6000	1.03	0.79	10.30	10.32	15.08	12.34	16.20	16.72	16.67	15.76

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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	0.06	25.90	25.92	32.98	29.99	36.17	36.33	34.19	32.62
600	0.05	0.09	24.37	24.38	32.21	28.65	34.43	34.51	32.51	31.47
700	0.07	0.11	23.08	23.09	31.31	27.38	33.19	33.08	30.76	30.23
800	0.10	0.14	21.97	21.98	30.14	26.39	32.02	31.82	29.58	29.23
850	0.10	0.15	21.47	21.49	29.82	26.04	31.80	31.64	28.99	28.90
900	0.11	0.16	21.00	21.02	29.36	25.65	31.55	31.21	28.75	28.83
950	0.13	0.18	20.55	20.57	29.30	25.18	31.17	30.88	28.61	28.77
960	0.13	0.18	20.47	20.48	29.28	25.15	31.20	30.87	28.59	28.78
970	0.12	0.16	20.36	20.38	29.26	25.17	31.28	30.86	28.58	28.80
980	0.12	0.16	20.28	20.29	29.24	25.14	31.34	30.89	28.55	28.80
990	0.12	0.16	20.19	20.20	29.16	25.08	31.38	30.91	28.50	28.80
1000	0.12	0.17	20.11	20.11	29.12	25.08	31.39	30.90	28.45	28.79
1050	0.14	0.18	19.72	19.72	27.96	24.45	31.37	30.66	28.47	29.06
1100	0.15	0.19	19.36	19.36	27.98	24.29	31.30	30.76	28.62	29.26
1150	0.16	0.21	19.01	19.01	27.51	24.02	31.46	30.73	28.90	29.52
1200	0.17	0.22	18.69	18.66	26.94	23.57	31.37	30.50	29.55	30.18
1230	0.18	0.23	18.48	18.48	27.21	23.62	31.34	30.73	29.93	30.67
1240	0.18	0.23	18.41	18.42	27.15	23.60	31.36	30.79	29.98	30.76
1250	0.17	0.22	18.33	18.34	27.27	23.61	31.31	30.79	30.09	30.85
1260	0.17	0.23	18.27	18.28	27.34	23.59	31.27	30.78	30.21	30.97
1300	0.18	0.24	18.02	18.03	27.21	23.45	31.59	31.17	30.65	31.43
1350	0.20	0.25	17.72	17.72	27.28	23.45	31.88	31.58	31.34	32.06
1400	0.21	0.27	17.45	17.46	26.65	22.96	31.94	31.91	31.75	32.55
1500	0.23	0.30	16.93	16.94	25.95	22.51	32.43	33.19	34.09	34.43
1600	0.26	0.33	16.51	16.52	24.63	21.34	33.17	35.43	38.43	35.82
1700	0.28	0.35	16.04	16.04	25.73	21.42	32.90	36.82	40.81	33.45
1800	0.33	0.39	15.69	15.69	24.61	20.40	32.67	36.98	36.18	31.05
1900	0.36	0.42	15.33	15.32	25.12	19.98	31.72	36.39	33.66	29.94
2000	0.38	0.45	14.95	14.96	25.44	20.13	29.57	34.38	30.84	28.08
2100	0.40	0.50	14.66	14.69	25.86	19.21	28.88	31.33	27.48	26.53
2200	0.44	0.53	14.42	14.44	25.95	18.76	27.34	28.63	25.70	25.16
2300	0.45	0.55	14.14	14.16	26.32	18.36	26.11	27.51	24.25	23.96
2400	0.48	0.58	13.87	13.85	27.81	18.41	25.63	26.45	23.68	23.32
2500	0.52	0.61	13.67	13.69	27.94	17.96	24.61	25.35	22.84	22.81
2600	0.54	0.64	13.42	13.43	28.93	17.81	24.68	25.19	22.44	22.52
2700	0.55	0.66	13.22	13.26	30.16	17.66	24.36	24.94	22.33	22.16
2800	0.61	0.69	13.03	13.09	29.43	17.46	24.25	24.73	22.77	22.39
2900	0.62	0.74	12.79	12.89	31.74	18.18	24.74	25.41	23.30	22.96
3000	0.64	0.76	12.64	12.70	31.75	17.73	24.37	25.20	24.19	23.59
3100	0.67	0.77	12.48	12.54	30.51	17.55	24.31	25.61	24.67	23.39
3200	0.69	0.81	12.30	12.32	29.07	17.93	25.16	27.05	25.79	23.80
3300	0.71	0.82	12.19	12.18	26.75	17.68	25.58	28.12	25.63	23.53
3400	0.73	0.86	12.05	12.04	26.06	18.01	25.91	28.70	25.69	23.39
3500	0.77	0.88	11.94	11.90	24.86	17.80	26.37	29.90	25.48	23.03
3600	0.78	0.91	11.78	11.78	23.41	17.74	25.73	29.14	24.87	22.77
3700	0.81	0.95	11.69	11.68	21.83	17.02	24.20	26.27	23.32	21.72
3800	0.85	0.98	11.59	11.57	21.13	16.58	23.19	24.46	22.72	20.96
3900	0.87	1.02	11.52	11.49	20.09	16.22	22.62	23.33	21.30	20.15
4000	0.92	1.06	11.45	11.39	19.49	15.69	21.53	22.03	19.72	18.94
4500	1.11	1.28	11.33	11.30	17.16	13.04	16.89	17.29	16.19	15.78
5000	1.30	1.52	11.38	11.27	15.82	10.84	15.17	15.90	15.16	14.47
5500	1.49	1.66	11.47	11.17	15.50	9.36	14.81	15.57	16.14	14.28
6000	1.72	1.82	11.43	10.90	12.99	9.78	15.19	15.37	18.19	15.96

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