

Bi-Directional Coupler

SYDC-20-61HP+

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
0.3	0.11	0.11	20.02	19.95	31.43	29.78	25.25	25.27	25.36	25.54
0.5	0.11	0.10	20.03	19.96	33.85	32.53	27.22	27.53	27.32	27.80
0.7	0.10	0.10	20.04	19.97	36.27	35.28	29.20	29.78	29.28	30.06
0.9	0.10	0.09	20.05	19.98	38.69	38.04	31.17	32.04	31.25	32.32
1.0	0.09	0.09	20.05	19.99	39.90	39.41	32.16	33.17	32.23	33.45
1.3	0.09	0.08	20.06	20.01	43.53	43.54	35.12	36.55	35.17	36.84
1.5	0.08	0.07	20.07	20.02	45.95	46.30	37.09	38.80	37.14	39.11
1.7	0.08	0.07	20.08	20.02	47.06	47.70	37.78	39.69	37.83	40.00
1.9	0.08	0.07	20.08	20.02	47.75	48.65	38.06	40.12	38.11	40.44
2	0.08	0.07	20.08	20.02	48.09	49.13	38.19	40.34	38.25	40.66
5	0.09	0.08	20.09	20.03	49.63	56.21	39.96	42.71	40.11	43.25
10	0.09	0.08	20.09	20.04	43.30	46.52	39.57	40.91	40.20	41.63
15	0.09	0.08	20.10	20.05	39.25	42.06	38.49	38.92	39.62	40.02
20	0.09	0.08	20.10	20.05	36.64	39.09	37.33	37.29	38.83	38.53
25	0.09	0.08	20.10	20.06	34.59	36.85	36.15	35.93	37.94	37.27
30	0.10	0.09	20.10	20.06	32.87	34.98	35.09	34.76	36.99	36.23
35	0.11	0.09	20.10	20.06	31.42	33.50	34.13	33.76	36.11	35.32
40	0.11	0.10	20.10	20.07	30.20	32.17	33.27	32.86	35.31	34.50
45	0.11	0.10	20.10	20.07	29.07	31.01	32.43	32.06	34.53	33.73
50	0.11	0.10	20.10	20.08	28.09	29.91	31.65	31.29	33.80	33.06
55	0.12	0.11	20.10	20.08	27.23	29.03	30.96	30.64	33.14	32.42
60	0.12	0.11	20.10	20.09	26.43	28.14	30.37	30.03	32.56	31.86
65	0.13	0.11	20.10	20.09	25.70	27.44	29.82	29.46	32.05	31.32
70	0.13	0.12	20.10	20.10	25.05	26.73	29.27	28.91	31.55	30.79
75	0.14	0.12	20.09	20.10	24.43	26.05	28.76	28.38	31.05	30.29
80	0.14	0.12	20.09	20.11	23.84	25.40	28.31	27.88	30.60	29.81
85	0.14	0.13	20.09	20.11	23.30	24.80	27.83	27.40	30.16	29.36
90	0.15	0.13	20.08	20.12	22.77	24.24	27.39	26.95	29.73	28.93
95	0.15	0.13	20.08	20.12	22.27	23.71	26.97	26.52	29.34	28.54
100	0.15	0.14	20.07	20.12	21.75	23.15	26.56	26.12	28.94	28.15
125	0.18	0.16	20.02	20.14	19.55	20.74	24.79	24.34	27.22	26.53
150	0.21	0.18	19.97	20.15	17.75	18.73	23.35	22.93	25.87	25.11
175	0.24	0.20	19.91	20.16	16.16	16.93	22.10	21.67	24.66	23.87
200	0.27	0.23	19.84	20.15	14.71	15.31	20.99	20.54	23.64	22.77
225	0.31	0.26	19.76	20.13	13.38	13.78	20.02	19.54	22.71	21.82
250	0.35	0.29	19.68	20.07	12.15	12.36	19.13	18.66	21.85	20.97
275	0.41	0.33	19.61	19.98	11.01	10.99	18.31	17.83	21.10	20.14
300	0.47	0.37	19.52	19.81	9.95	9.67	17.54	17.06	20.42	19.41
325	0.54	0.43	19.45	19.56	9.01	8.36	16.80	16.38	19.76	18.76
350	0.62	0.49	19.39	19.15	8.19	7.04	16.10	15.76	19.16	18.22
375	0.72	0.57	19.37	18.55	7.52	5.67	15.41	15.19	18.57	17.75
400	0.84	0.69	19.41	17.69	7.08	4.20	14.70	14.76	17.92	17.45
425	1.02	0.88	19.64	16.52	6.90	2.58	13.90	14.52	16.96	17.51
450	1.29	1.19	20.34	15.18	7.04	0.84	12.92	14.59	15.29	18.08
475	1.65	1.56	21.88	14.04	7.38	1.00	11.74	14.93	13.36	18.87
500	2.11	1.91	24.97	13.11	8.04	3.83	10.41	15.81	11.87	19.27

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Bi-Directional Coupler

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Typical Performance Data

TEST CONDITIONS: INPUT POWER =0 dBm @Temperature = -40°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
0.3	0.13	0.13	20.07	19.96	29.11	27.19	21.55	21.54	21.64	21.79
0.5	0.12	0.12	20.07	19.97	31.26	29.69	23.73	23.78	23.83	24.03
0.7	0.11	0.11	20.06	19.98	33.40	32.19	25.91	26.02	26.02	26.27
0.9	0.10	0.09	20.06	19.99	35.55	34.69	28.09	28.26	28.21	28.51
1.0	0.09	0.09	20.06	20.00	36.62	35.94	29.18	29.37	29.30	29.64
1.3	0.08	0.07	20.05	20.01	39.83	39.70	32.45	32.73	32.59	33.00
1.5	0.07	0.05	20.05	20.02	41.98	42.20	34.63	34.97	34.78	35.24
1.7	0.06	0.05	20.05	20.03	43.25	43.72	35.61	36.09	35.75	36.38
1.9	0.07	0.05	20.05	20.03	44.23	44.94	36.19	36.86	36.33	37.16
2	0.07	0.06	20.06	20.03	44.73	45.54	36.48	37.24	36.62	37.56
5	0.08	0.07	20.08	20.03	48.83	54.54	39.93	42.74	40.11	43.47
10	0.08	0.07	20.09	20.04	43.11	46.26	40.10	42.26	40.69	43.34
15	0.08	0.07	20.10	20.05	39.23	42.29	39.56	40.53	40.75	42.10
20	0.09	0.07	20.10	20.06	36.72	39.42	38.81	38.95	40.55	40.66
25	0.09	0.07	20.10	20.06	34.86	37.23	37.82	37.54	39.99	39.34
30	0.09	0.08	20.10	20.07	33.27	35.50	36.78	36.25	39.10	38.18
35	0.09	0.08	20.10	20.07	31.97	34.21	35.73	35.11	38.09	37.07
40	0.10	0.08	20.10	20.08	30.80	32.91	34.68	34.03	37.03	36.03
45	0.10	0.08	20.10	20.09	29.80	31.84	33.60	33.06	35.94	35.02
50	0.10	0.09	20.10	20.09	28.92	30.88	32.58	32.10	34.86	34.09
55	0.10	0.09	20.10	20.10	28.07	30.01	31.66	31.27	33.88	33.19
60	0.11	0.09	20.10	20.10	27.30	29.17	30.84	30.49	33.02	32.39
65	0.11	0.09	20.10	20.11	26.64	28.47	30.10	29.75	32.25	31.62
70	0.11	0.09	20.10	20.11	25.99	27.73	29.38	29.06	31.53	30.91
75	0.11	0.10	20.09	20.12	25.35	27.00	28.74	28.41	30.86	30.24
80	0.12	0.10	20.09	20.12	24.72	26.29	28.17	27.82	30.27	29.64
85	0.12	0.10	20.09	20.13	24.13	25.61	27.61	27.27	29.74	29.09
90	0.12	0.10	20.08	20.13	23.53	24.94	27.11	26.76	29.25	28.58
95	0.13	0.11	20.08	20.13	22.94	24.30	26.66	26.30	28.82	28.15
100	0.13	0.11	20.07	20.14	22.34	23.63	26.25	25.89	28.42	27.75
125	0.15	0.12	20.02	20.15	19.85	20.90	24.60	24.20	26.89	26.25
150	0.17	0.14	19.96	20.15	17.98	18.85	23.24	22.86	25.64	24.94
175	0.19	0.15	19.89	20.15	16.46	17.13	21.84	21.48	24.19	23.54
200	0.22	0.18	19.82	20.14	15.03	15.51	20.54	20.20	22.90	22.22
225	0.26	0.21	19.74	20.12	13.62	13.92	19.53	19.17	21.92	21.23
250	0.29	0.23	19.65	20.05	12.33	12.46	18.74	18.37	21.19	20.49
275	0.34	0.26	19.56	19.96	11.17	11.14	17.99	17.62	20.54	19.77
300	0.38	0.30	19.47	19.82	10.10	9.84	17.22	16.86	19.86	19.07
325	0.44	0.34	19.38	19.59	9.09	8.54	16.45	16.15	19.18	18.39
350	0.51	0.39	19.29	19.23	8.18	7.20	15.75	15.51	18.61	17.85
375	0.59	0.45	19.23	18.68	7.41	5.82	15.08	14.95	18.08	17.39
400	0.70	0.55	19.19	17.87	6.84	4.35	14.38	14.48	17.48	17.05
425	0.86	0.71	19.29	16.69	6.53	2.67	13.56	14.18	16.61	17.02
450	1.11	1.02	19.82	15.19	6.58	0.74	12.56	14.23	14.97	17.63
475	1.46	1.43	21.29	13.95	6.86	1.15	11.35	14.57	12.77	18.56
500	1.99	1.82	24.04	12.70	7.21	4.19	9.88	15.76	11.20	19.42

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Typical Performance Data

TEST CONDITIONS: INPUT POWER =0 dBm @Temperature = +85°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
0.3	0.11	0.12	20.02	19.95	32.43	30.90	26.96	27.02	27.04	27.28
0.5	0.11	0.11	20.04	19.97	34.67	33.44	28.63	29.08	28.68	29.33
0.7	0.10	0.11	20.05	19.98	36.92	35.98	30.29	31.13	30.33	31.39
0.9	0.10	0.10	20.06	19.99	39.16	38.52	31.96	33.18	31.98	33.45
1.0	0.10	0.10	20.07	19.99	40.29	39.78	32.79	34.21	32.80	34.48
1.3	0.10	0.09	20.08	20.01	43.65	43.59	35.29	37.28	35.28	37.56
1.5	0.09	0.09	20.10	20.02	45.90	46.13	36.96	39.33	36.92	39.62
1.7	0.09	0.09	20.10	20.02	46.98	47.33	37.55	40.07	37.53	40.37
1.9	0.09	0.09	20.10	20.03	47.68	48.10	37.80	40.38	37.79	40.68
2	0.09	0.09	20.10	20.03	48.03	48.48	37.93	40.54	37.92	40.84
5	0.09	0.08	20.10	20.03	49.81	55.51	39.58	41.96	39.73	42.41
10	0.09	0.08	20.10	20.04	43.39	46.59	38.93	39.96	39.53	40.56
15	0.10	0.09	20.11	20.05	39.39	42.11	37.55	37.91	38.54	38.84
20	0.10	0.09	20.11	20.05	36.57	39.21	36.21	36.24	37.49	37.29
25	0.11	0.10	20.12	20.05	34.43	36.81	34.97	34.91	36.48	36.02
30	0.11	0.10	20.12	20.06	32.66	34.82	33.94	33.79	35.53	35.01
35	0.12	0.11	20.12	20.06	31.18	33.17	33.05	32.87	34.72	34.17
40	0.13	0.11	20.12	20.07	29.83	31.79	32.30	32.06	34.03	33.44
45	0.13	0.12	20.12	20.07	28.64	30.50	31.59	31.37	33.41	32.80
50	0.13	0.12	20.12	20.08	27.58	29.42	30.96	30.72	32.86	32.25
55	0.14	0.13	20.12	20.09	26.70	28.46	30.42	30.18	32.38	31.75
60	0.14	0.13	20.12	20.09	25.87	27.59	29.97	29.69	31.99	31.32
65	0.15	0.13	20.12	20.10	25.10	26.84	29.55	29.22	31.66	30.93
70	0.15	0.14	20.12	20.11	24.46	26.13	29.13	28.78	31.32	30.52
75	0.16	0.14	20.12	20.11	23.83	25.48	28.73	28.33	30.97	30.15
80	0.16	0.15	20.11	20.12	23.26	24.89	28.37	27.90	30.65	29.77
85	0.17	0.15	20.11	20.13	22.74	24.32	27.96	27.48	30.31	29.40
90	0.17	0.15	20.10	20.13	22.24	23.79	27.58	27.07	29.96	29.03
95	0.18	0.16	20.10	20.14	21.77	23.30	27.20	26.67	29.61	28.69
100	0.18	0.16	20.09	20.15	21.31	22.81	26.81	26.28	29.24	28.34
125	0.21	0.19	20.05	20.18	19.29	20.63	24.97	24.47	27.42	26.68
150	0.25	0.21	20.00	20.20	17.55	18.63	23.47	23.02	25.98	25.18
175	0.28	0.24	19.94	20.22	15.94	16.79	22.33	21.84	24.89	24.02
200	0.32	0.27	19.87	20.22	14.49	15.17	21.37	20.84	24.05	23.05
225	0.38	0.31	19.80	20.20	13.19	13.70	20.46	19.89	23.19	22.16
250	0.42	0.35	19.72	20.14	12.01	12.30	19.54	18.98	22.30	21.28
275	0.49	0.40	19.65	20.04	10.92	10.96	18.67	18.11	21.50	20.39
300	0.56	0.45	19.58	19.84	9.92	9.64	17.91	17.33	20.80	19.63
325	0.64	0.52	19.53	19.55	9.06	8.36	17.20	16.67	20.17	18.99
350	0.74	0.59	19.49	19.10	8.34	7.07	16.52	16.06	19.58	18.47
375	0.85	0.69	19.51	18.45	7.81	5.75	15.83	15.52	18.98	18.01
400	1.00	0.83	19.63	17.57	7.51	4.38	15.12	15.11	18.27	17.73
425	1.20	1.03	19.95	16.48	7.48	2.95	14.34	14.88	17.27	17.76
450	1.46	1.32	20.71	15.31	7.72	1.48	13.43	14.92	15.80	18.14
475	1.80	1.65	22.16	14.32	8.22	0.04	12.36	15.17	14.20	18.75
500	2.16	1.93	24.54	13.72	9.16	1.65	11.28	15.55	12.89	18.78

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