

# Bi-Directional Coupler

# BDCA1-10-40+

## 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
1000	0.44	0.45	13.50	13.51	24.97	25.10	26.36	26.48	26.74	26.67
1100	0.49	0.49	12.85	12.86	25.55	25.84	26.56	26.72	26.72	26.68
1200	0.54	0.54	12.27	12.29	26.30	26.78	27.38	27.27	27.20	27.15
1300	0.58	0.59	11.77	11.79	27.07	27.42	28.45	28.38	27.88	27.89
1400	0.63	0.64	11.34	11.35	27.74	28.01	29.94	29.62	29.10	29.23
1500	0.67	0.68	10.94	10.96	27.90	27.98	32.01	31.90	31.19	31.25
1600	0.72	0.73	10.60	10.61	27.57	27.57	34.99	34.80	34.31	34.43
1700	0.76	0.77	10.30	10.32	27.16	27.08	38.91	39.77	38.61	39.70
1800	0.80	0.81	10.05	10.06	26.47	26.50	38.93	40.35	38.37	39.46
1850	0.82	0.83	9.93	9.95	26.12	26.16	36.51	37.50	36.29	36.66
1900	0.84	0.85	9.83	9.84	25.84	25.71	34.36	34.97	34.13	34.04
1950	0.86	0.87	9.74	9.75	25.60	25.41	32.49	33.32	32.48	32.12
2000	0.88	0.89	9.65	9.65	25.38	25.15	30.90	31.83	30.69	30.48
2050	0.90	0.91	9.58	9.58	24.86	24.73	29.39	30.19	29.09	29.22
2100	0.91	0.93	9.50	9.51	24.59	24.49	28.35	28.92	28.01	28.13
2150	0.93	0.95	9.44	9.45	24.39	24.24	27.35	28.06	26.99	27.19
2200	0.95	0.96	9.38	9.39	24.07	24.11	26.30	26.90	26.10	26.35
2250	0.96	0.98	9.34	9.34	23.84	23.82	25.55	25.98	25.49	25.65
2300	0.98	0.99	9.29	9.29	23.74	23.79	25.13	25.45	24.86	25.08
2400	1.00	1.02	9.22	9.23	23.41	23.55	24.36	24.54	23.99	24.14
2500	1.03	1.05	9.17	9.18	23.31	23.23	23.83	23.92	23.62	23.77
2600	1.05	1.06	9.14	9.14	23.30	23.09	23.41	23.34	23.60	23.53
2700	1.07	1.08	9.13	9.15	23.03	23.13	23.26	23.17	23.96	23.92
2800	1.08	1.09	9.14	9.17	23.50	23.65	23.46	23.38	24.93	24.95
2850	1.09	1.10	9.15	9.15	23.56	23.98	23.64	23.37	25.47	25.31
2900	1.09	1.10	9.18	9.20	23.86	23.84	24.02	23.71	25.97	25.97
2950	1.08	1.10	9.20	9.21	24.35	24.25	24.30	24.10	26.73	26.46
3000	1.10	1.11	9.23	9.22	24.09	24.38	24.70	24.37	27.80	27.41
3100	1.08	1.09	9.31	9.35	25.91	25.48	25.94	25.77	31.21	30.35
3200	1.08	1.10	9.38	9.40	27.18	27.33	27.20	26.88	36.14	33.66
3300	1.08	1.09	9.51	9.57	28.75	29.40	29.23	28.99	44.85	36.42
3400	1.07	1.09	9.68	9.72	31.29	31.12	31.59	31.24	35.94	33.10
3450	1.06	1.08	9.78	9.80	34.35	33.61	33.81	32.74	33.41	31.65
3500	1.06	1.08	9.90	9.89	35.56	36.20	35.34	34.40	31.44	30.46
3550	1.04	1.07	9.95	9.97	48.91	37.95	36.98	35.80	29.99	29.20
3600	1.04	1.07	10.12	10.14	53.46	38.81	40.60	38.43	28.30	27.81
3650	1.04	1.07	10.18	10.18	40.78	36.23	39.24	38.64	27.77	27.51
3700	1.03	1.06	10.30	10.35	36.45	34.55	40.09	41.84	27.31	26.98
3750	1.03	1.06	10.46	10.43	33.06	31.72	39.34	39.81	26.72	27.04
3800	1.04	1.07	10.57	10.68	32.88	31.38	37.90	40.47	26.52	26.05
3900	1.01	1.04	10.90	10.89	27.64	26.91	36.23	36.45	26.28	26.47
4000	0.99	1.02	11.24	11.23	24.44	24.44	34.56	34.10	26.97	27.71
4100	0.97	0.99	11.61	11.60	21.99	22.51	32.37	31.32	29.18	29.83
4200	0.96	0.99	11.96	12.02	20.13	20.66	29.17	28.68	31.53	33.46
4300	0.97	0.98	12.49	12.47	18.44	19.36	25.82	25.36	31.08	35.04
4400	0.95	0.94	12.99	13.02	17.02	17.95	23.27	22.70	28.54	30.21
4500	0.94	0.94	13.65	13.62	15.82	17.39	20.63	20.61	24.24	25.09
4600	0.94	0.94	14.32	14.32	15.07	16.65	18.62	18.49	21.20	21.77
4700	0.97	0.96	15.31	15.31	14.25	15.87	17.04	16.92	18.70	18.98
4800	1.00	0.99	16.07	16.09	12.85	14.77	15.19	15.06	16.39	16.65
4900	1.03	1.01	17.06	17.05	12.39	14.27	13.68	13.69	14.61	14.86
5000	1.10	1.06	18.26	18.33	11.07	13.30	12.52	12.44	13.24	13.42
5500	1.51	1.48	27.28	27.13	4.75	6.64	8.66	8.63	9.04	9.15

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# Bi-Directional Coupler

# BDCA1-10-40+

## 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
1000	0.33	0.32	13.47	13.41	25.66	26.37	27.44	27.51	27.79	27.62
1100	0.36	0.36	12.81	12.75	26.01	26.67	27.26	27.26	27.49	27.60
1200	0.41	0.40	12.23	12.17	26.54	27.72	27.57	27.29	28.06	28.17
1300	0.44	0.45	11.72	11.66	27.37	27.43	28.43	28.27	28.26	28.21
1400	0.48	0.48	11.28	11.21	27.65	28.49	29.71	29.03	29.79	30.05
1500	0.52	0.52	10.88	10.80	27.04	27.90	31.37	30.77	31.68	32.08
1600	0.56	0.56	10.52	10.45	26.85	27.92	36.81	35.49	34.87	36.71
1700	0.60	0.59	10.22	10.14	26.72	27.04	47.28	38.46	39.83	38.52
1800	0.63	0.63	9.96	9.87	25.91	25.19	41.97	42.52	43.71	38.15
1850	0.65	0.65	9.84	9.75	25.25	24.32	37.15	42.00	36.04	34.48
1900	0.66	0.67	9.74	9.64	24.97	23.96	33.70	37.92	31.18	31.07
1950	0.68	0.68	9.64	9.54	24.73	24.72	31.91	34.58	30.05	31.50
2000	0.70	0.70	9.54	9.44	24.31	24.10	30.22	31.27	31.61	32.34
2050	0.72	0.72	9.47	9.37	23.70	22.37	28.17	28.79	28.45	27.24
2100	0.73	0.73	9.40	9.30	23.33	22.71	26.65	26.86	26.44	26.26
2150	0.74	0.74	9.33	9.22	23.27	23.24	25.62	25.88	26.50	26.92
2200	0.76	0.76	9.27	9.16	23.42	23.03	25.45	25.94	25.18	25.43
2250	0.77	0.77	9.21	9.10	23.23	23.60	25.39	25.69	24.81	25.53
2300	0.78	0.78	9.16	9.05	22.87	23.39	24.83	25.09	24.53	25.23
2400	0.80	0.81	9.09	8.98	22.24	22.19	22.87	22.89	23.62	23.82
2500	0.82	0.82	9.03	8.92	22.25	21.95	22.12	21.95	23.32	23.40
2600	0.83	0.83	8.98	8.87	22.76	23.26	23.17	22.71	23.74	24.02
2700	0.85	0.84	8.96	8.84	22.25	23.54	22.70	22.27	24.06	24.29
2800	0.85	0.85	8.97	8.85	22.45	23.07	22.97	22.59	23.66	23.61
2850	0.85	0.85	8.97	8.84	22.83	23.23	23.39	23.01	24.05	23.65
2900	0.86	0.85	8.99	8.87	23.06	24.11	23.73	23.07	26.37	26.52
2950	0.85	0.85	9.00	8.89	23.73	24.36	23.52	23.15	27.08	26.89
3000	0.86	0.85	9.02	8.88	23.91	24.03	23.63	23.17	27.30	26.46
3100	0.85	0.84	9.12	9.01	23.83	25.53	24.62	23.99	30.21	30.64
3200	0.83	0.84	9.17	9.04	25.38	27.19	26.46	25.83	33.59	33.61
3300	0.82	0.82	9.29	9.19	27.25	28.40	30.00	29.55	46.04	39.33
3400	0.81	0.82	9.46	9.32	30.72	32.94	34.80	34.22	39.88	45.94
3450	0.80	0.80	9.54	9.40	33.17	33.59	37.14	36.02	37.20	36.01
3500	0.78	0.80	9.63	9.47	37.74	38.57	38.59	36.32	31.88	31.44
3550	0.77	0.78	9.74	9.56	41.04	43.44	40.75	38.61	31.23	31.84
3600	0.79	0.80	9.82	9.65	47.46	43.09	39.60	39.09	30.94	31.80
3650	0.76	0.77	9.91	9.77	37.85	37.69	40.00	40.02	30.01	29.82
3700	0.78	0.79	10.00	9.90	36.77	35.78	37.58	40.57	29.40	29.03
3750	0.74	0.76	10.18	10.01	33.07	32.61	39.15	43.86	28.08	28.03
3800	0.75	0.76	10.26	10.12	29.95	29.27	37.38	44.79	28.80	29.45
3900	0.71	0.74	10.61	10.41	26.10	28.79	36.84	39.78	27.58	28.89
4000	0.70	0.71	10.93	10.72	24.63	26.87	35.61	37.67	28.15	29.38
4100	0.66	0.69	11.28	11.08	23.04	24.05	32.72	34.32	28.68	29.56
4200	0.65	0.66	11.65	11.53	20.93	21.88	30.32	30.25	29.86	33.03
4300	0.63	0.63	12.06	11.88	18.46	20.05	26.80	26.26	30.20	41.11
4400	0.64	0.61	12.64	12.41	16.62	19.62	23.40	21.80	27.46	37.55
4500	0.63	0.60	13.24	13.05	15.50	18.38	20.58	19.92	25.07	29.10
4600	0.62	0.58	13.84	13.64	14.79	17.84	18.25	17.69	22.49	24.24
4700	0.65	0.59	14.75	14.58	13.80	16.46	16.75	16.52	20.84	21.35
4800	0.63	0.58	15.40	15.23	13.30	16.10	15.42	15.27	18.16	18.46
4900	0.65	0.60	16.43	16.27	12.75	15.00	14.37	14.24	16.27	16.25
5000	0.71	0.64	17.51	17.32	11.31	14.08	13.04	12.63	14.45	14.13
5500	1.03	1.04	25.93	25.70	5.87	7.84	9.03	8.77	9.03	8.76

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# Bi-Directional Coupler

# BDCA1-10-40+

## 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
1000	0.50	0.51	13.50	13.54	24.73	24.94	25.94	26.09	26.38	26.33
1100	0.56	0.56	12.86	12.90	25.53	25.89	26.50	26.70	26.59	26.52
1200	0.61	0.62	12.29	12.33	26.52	27.25	27.77	27.66	27.44	27.44
1300	0.65	0.67	11.79	11.84	27.62	28.13	29.37	29.28	28.22	28.30
1400	0.70	0.72	11.36	11.41	28.59	28.92	31.24	30.84	29.68	29.88
1500	0.76	0.77	10.97	11.03	29.23	29.29	33.38	33.39	32.13	32.27
1600	0.80	0.82	10.64	10.70	29.10	28.71	35.67	36.22	35.29	35.20
1700	0.85	0.87	10.35	10.41	28.69	28.51	37.64	41.68	38.15	41.14
1800	0.90	0.92	10.10	10.16	27.98	28.35	36.92	38.78	36.45	39.44
1850	0.92	0.94	9.99	10.05	27.68	28.33	35.45	36.02	35.30	37.07
1900	0.94	0.96	9.89	9.95	27.48	27.94	34.05	34.07	34.16	34.83
1950	0.96	0.98	9.79	9.86	27.28	27.59	32.70	33.04	33.17	32.88
2000	0.99	1.00	9.71	9.77	27.10	27.31	31.53	32.25	31.24	30.94
2050	1.00	1.02	9.64	9.70	26.67	27.13	30.33	31.22	29.73	30.17
2100	1.02	1.04	9.57	9.63	26.41	27.03	29.48	30.26	29.12	29.64
2150	1.04	1.06	9.51	9.57	26.18	26.51	28.51	29.56	28.29	28.64
2200	1.06	1.08	9.45	9.51	25.91	26.23	27.43	28.33	27.42	27.79
2250	1.07	1.10	9.40	9.47	25.67	25.82	26.72	27.37	26.92	27.06
2300	1.09	1.11	9.36	9.43	25.61	25.68	26.44	26.95	26.21	26.31
2400	1.12	1.15	9.29	9.36	25.43	25.61	26.18	26.55	25.23	25.28
2500	1.15	1.17	9.25	9.32	25.52	25.74	25.74	25.98	25.56	25.81
2600	1.17	1.20	9.23	9.29	25.36	24.61	25.18	25.32	25.26	24.78
2700	1.19	1.22	9.23	9.31	25.49	24.69	25.06	25.18	25.63	25.23
2800	1.21	1.24	9.24	9.32	25.48	25.47	25.20	25.00	27.11	26.74
2850	1.23	1.24	9.27	9.34	25.46	25.73	25.38	25.10	27.90	27.48
2900	1.23	1.25	9.29	9.40	26.03	25.36	25.67	25.47	27.68	27.29
2950	1.23	1.25	9.32	9.41	25.89	25.85	26.08	25.85	28.42	27.80
3000	1.24	1.27	9.38	9.47	25.61	25.65	26.61	26.52	30.07	29.58
3100	1.22	1.25	9.44	9.54	28.49	27.88	27.30	27.42	33.17	31.23
3200	1.24	1.27	9.53	9.64	28.39	29.05	28.07	27.86	36.57	34.07
3300	1.24	1.26	9.67	9.80	29.87	31.83	29.60	29.41	39.87	35.90
3400	1.23	1.26	9.86	9.98	32.49	33.82	31.26	30.80	33.36	31.34
3450	1.22	1.26	9.95	10.06	34.09	41.11	32.66	31.56	32.44	30.89
3500	1.21	1.25	10.04	10.14	35.87	44.81	33.40	32.05	32.28	31.77
3550	1.23	1.26	10.17	10.24	34.87	48.61	34.67	32.46	29.75	29.51
3600	1.22	1.24	10.25	10.38	34.43	40.68	34.85	33.01	28.77	27.73
3650	1.21	1.25	10.38	10.51	34.74	37.64	35.33	33.59	28.38	27.59
3700	1.21	1.24	10.47	10.66	31.74	35.43	34.62	34.25	28.50	27.93
3750	1.21	1.25	10.64	10.72	29.71	32.33	34.90	33.37	27.96	28.70
3800	1.22	1.26	10.72	10.90	27.98	30.45	32.92	33.27	27.54	27.37
3900	1.19	1.23	11.17	11.28	28.03	27.88	31.57	32.37	27.53	26.84
4000	1.18	1.21	11.49	11.57	24.97	24.40	30.54	30.50	28.75	28.32
4100	1.15	1.19	11.88	11.97	22.35	22.94	29.14	28.34	30.90	31.06
4200	1.17	1.21	12.33	12.48	20.70	21.94	26.42	26.41	30.95	31.49
4300	1.15	1.17	12.88	12.97	19.52	20.27	23.88	24.11	29.61	31.05
4400	1.17	1.19	13.26	13.44	17.42	17.69	21.29	21.61	26.45	25.70
4500	1.17	1.20	14.05	14.19	16.94	17.64	19.74	20.06	22.80	22.95
4600	1.16	1.18	14.78	14.87	16.00	16.74	18.36	18.42	20.36	20.52
4700	1.16	1.19	15.58	15.72	14.84	16.39	16.62	16.89	17.64	17.62
4800	1.20	1.22	16.53	16.66	13.82	15.28	14.99	15.07	15.85	16.01
4900	1.27	1.27	17.56	17.62	12.52	13.97	13.53	13.63	14.18	14.34
5000	1.32	1.31	18.78	18.97	11.86	13.77	12.40	12.48	13.07	13.32
5500	1.79	1.78	28.30	27.92	5.02	6.09	8.68	8.82	9.15	9.43

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