

Bi-Directional Coupler

BDCH-20-272

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+10 dBm @ Temperature = -55°C, In port at pad 1

FREQ. (MHz)	INSERTION LOSS (dB)	COUPLING		DIRECTIVITY (dB) In - Rev	RETURN LOSS (dB)			
		(dB)			In	Out	Rev	Fwd
		In Fwd	Rev - Out					
100.00	0.02	36.21	36.20	34.04	37.33	37.69	37.84	37.36
200.00	0.04	30.35	30.34	27.77	27.79	28.09	27.15	26.80
300.00	0.05	27.05	27.03	26.09	26.61	27.17	27.72	27.18
400.00	0.06	24.84	24.82	25.56	27.76	28.34	29.56	28.92
500.00	0.06	23.28	23.25	25.14	29.85	30.92	31.77	30.76
550.00	0.07	22.67	22.64	24.81	31.46	32.55	32.12	31.06
600.00	0.07	22.14	22.12	24.40	32.54	33.74	32.46	31.58
650.00	0.08	21.71	21.68	24.10	33.47	34.35	33.42	32.41
700.00	0.08	21.34	21.31	23.81	34.28	35.12	35.53	34.69
750.00	0.08	21.03	21.00	23.57	36.47	36.17	37.38	36.88
800.00	0.09	20.78	20.75	23.05	39.55	37.26	38.10	38.70
850.00	0.09	20.59	20.56	22.62	41.91	37.99	38.00	39.97
900.00	0.10	20.44	20.40	22.13	37.97	35.27	38.17	42.27
950.00	0.10	20.33	20.31	21.70	34.26	32.76	36.05	39.77
1000.00	0.11	20.27	20.25	21.46	30.98	30.35	33.13	34.85
1100.00	0.12	20.26	20.23	21.15	26.81	26.42	28.24	28.56
1200.00	0.13	20.36	20.34	21.17	24.00	24.00	25.48	25.53
1300.00	0.14	20.54	20.50	21.43	22.39	22.51	23.87	23.76
1400.00	0.15	20.76	20.71	22.52	22.08	22.20	23.26	23.15
1500.00	0.15	20.98	20.88	23.11	22.54	22.63	23.46	23.41
1600.00	0.15	21.09	20.99	23.67	23.85	23.85	24.61	24.59
1700.00	0.15	21.16	21.02	22.66	26.07	25.79	27.18	27.32
1800.00	0.15	21.12	20.96	21.38	30.61	29.65	32.71	33.04
1900.00	0.16	21.01	20.81	20.11	43.16	36.48	44.13	50.55
2000.00	0.16	20.88	20.64	19.19	34.92	34.19	33.26	32.56
2100.00	0.18	20.76	20.51	18.65	28.00	28.24	27.55	27.03
2200.00	0.19	20.69	20.43	18.44	24.60	24.89	24.64	24.32
2250.00	0.20	20.68	20.42	18.42	23.24	23.32	23.66	23.30
2300.00	0.20	20.69	20.44	18.59	22.89	23.14	23.12	22.88
2350.00	0.21	20.76	20.50	18.51	22.23	22.31	22.46	22.22
2400.00	0.21	20.86	20.59	18.75	22.14	22.34	22.46	22.26
2450.00	0.22	20.95	20.72	18.73	22.13	22.24	22.19	22.03
2500.00	0.22	21.12	20.93	19.29	22.43	22.45	22.51	22.46
2550.00	0.22	21.32	21.14	19.41	23.03	23.14	22.90	22.80
2600.00	0.21	21.58	21.37	19.63	23.73	23.71	23.62	23.64
2650.00	0.21	21.88	21.74	19.91	24.96	25.03	24.59	24.84
2700.00	0.21	22.26	22.13	19.54	26.12	26.08	25.74	26.27
2750.00	0.21	22.72	22.56	19.19	28.01	27.83	26.88	27.61
2800.00	0.21	23.17	23.08	18.72	29.55	29.34	28.44	29.78
2850.00	0.20	23.81	23.71	17.51	31.77	31.81	29.49	30.56
2900.00	0.22	24.28	24.30	18.21	33.84	33.12	29.99	32.91
2950.00	0.20	25.24	25.27	15.36	36.28	35.72	30.80	33.49
3000.00	0.20	26.34	26.25	14.42	41.12	40.79	31.50	34.83
3050.00	0.22	27.72	27.72	11.01	39.08	40.77	31.54	35.89
3100.00	0.21	28.80	28.79	11.33	39.68	57.99	32.40	36.32
3200.00	0.22	32.31	32.39	7.56	34.48	42.84	32.59	38.54
3300.00	0.24	40.64	41.33	3.77	31.58	36.88	32.80	38.77
3400.00	0.20	44.42	45.24	6.20	30.81	31.85	33.43	35.90
3500.00	0.21	34.69	34.66	4.73	29.28	30.44	33.41	34.49
3600.00	0.21	29.56	29.75	8.13	28.73	29.42	32.11	35.06
3700.00	0.20	27.35	27.23	12.90	28.65	28.03	32.02	32.24
3800.00	0.19	25.13	25.10	14.34	28.05	27.78	29.88	29.25
3900.00	0.19	23.87	23.77	16.15	27.94	27.68	26.86	26.75
4000.00	0.18	22.57	22.48	15.47	29.03	29.60	24.80	24.98

Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits' standard limited warranty and terms and conditions (collectively, "Standard Terms"). Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



Bi-Directional Coupler

BDCH-20-272

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+10 dBm @ Temperature = -55°C, In port at pad 2

FREQ. (MHz)	INSERTION LOSS (dB)	COUPLING		DIRECTIVITY (dB) In - Rev	RETURN LOSS (dB)			
		(dB)			In	Out	Rev	Fwd
		In Fwd	Rev - Out					
100.00	0.02	36.20	36.21	34.15	37.69	37.33	37.36	37.84
200.00	0.04	30.34	30.35	27.95	28.09	27.79	26.80	27.15
300.00	0.05	27.03	27.05	26.37	27.17	26.61	27.18	27.72
400.00	0.06	24.82	24.84	25.87	28.34	27.76	28.92	29.56
500.00	0.06	23.25	23.28	25.46	30.92	29.85	30.76	31.77
550.00	0.07	22.64	22.67	25.30	32.55	31.46	31.06	32.12
600.00	0.07	22.12	22.14	25.00	33.74	32.54	31.58	32.46
650.00	0.08	21.68	21.71	24.65	34.35	33.47	32.41	33.42
700.00	0.08	21.31	21.34	24.20	35.12	34.28	34.69	35.53
750.00	0.08	21.00	21.03	23.77	36.17	36.47	36.88	37.38
800.00	0.09	20.75	20.78	23.42	37.26	39.55	38.70	38.10
850.00	0.09	20.56	20.59	23.03	37.99	41.91	39.97	38.00
900.00	0.09	20.40	20.44	22.86	35.27	37.97	42.27	38.17
950.00	0.10	20.31	20.33	22.39	32.76	34.26	39.77	36.05
1000.00	0.10	20.25	20.27	22.19	30.35	30.98	34.85	33.13
1100.00	0.11	20.23	20.26	21.95	26.42	26.81	28.56	28.24
1200.00	0.12	20.34	20.36	22.19	24.00	24.00	25.53	25.48
1300.00	0.13	20.50	20.54	22.66	22.51	22.39	23.76	23.87
1400.00	0.14	20.71	20.76	23.86	22.20	22.08	23.15	23.26
1500.00	0.15	20.88	20.98	24.38	22.63	22.54	23.41	23.46
1600.00	0.15	20.99	21.09	25.05	23.85	23.85	24.59	24.61
1700.00	0.15	21.02	21.16	23.71	25.79	26.07	27.32	27.18
1800.00	0.14	20.96	21.12	22.49	29.65	30.61	33.04	32.71
1900.00	0.15	20.81	21.01	21.00	36.48	43.16	50.55	44.13
2000.00	0.15	20.64	20.88	19.67	34.19	34.92	32.56	33.26
2100.00	0.17	20.51	20.76	19.17	28.24	28.00	27.03	27.55
2200.00	0.18	20.43	20.69	18.89	24.89	24.60	24.32	24.64
2250.00	0.19	20.42	20.68	18.80	23.32	23.24	23.30	23.66
2300.00	0.20	20.44	20.69	19.02	23.14	22.89	22.88	23.12
2350.00	0.21	20.50	20.76	18.98	22.31	22.23	22.22	22.46
2400.00	0.21	20.59	20.86	19.32	22.34	22.14	22.26	22.46
2450.00	0.21	20.72	20.95	19.17	22.24	22.13	22.03	22.19
2500.00	0.21	20.93	21.12	19.76	22.45	22.43	22.46	22.51
2550.00	0.21	21.14	21.32	20.01	23.14	23.03	22.80	22.90
2600.00	0.21	21.37	21.58	19.85	23.71	23.73	23.64	23.62
2650.00	0.21	21.74	21.88	20.83	25.03	24.96	24.84	24.59
2700.00	0.21	22.13	22.26	20.34	26.08	26.12	26.27	25.74
2750.00	0.20	22.56	22.72	20.09	27.83	28.01	27.61	26.88
2800.00	0.20	23.08	23.17	19.72	29.34	29.55	29.78	28.44
2850.00	0.20	23.71	23.81	18.65	31.81	31.77	30.56	29.49
2900.00	0.22	24.30	24.28	18.71	33.12	33.84	32.91	29.99
2950.00	0.20	25.27	25.24	16.78	35.72	36.28	33.49	30.80
3000.00	0.20	26.25	26.34	15.31	40.79	41.12	34.83	31.50
3050.00	0.22	27.72	27.72	12.05	40.77	39.08	35.89	31.54
3100.00	0.21	28.79	28.80	12.46	57.99	39.68	36.32	32.40
3200.00	0.22	32.39	32.31	9.20	42.84	34.48	38.54	32.59
3300.00	0.24	41.33	40.64	1.59	36.88	31.58	38.77	32.80
3400.00	0.20	45.24	44.42	4.87	31.85	30.81	35.90	33.43
3500.00	0.22	34.66	34.69	4.67	30.44	29.28	34.49	33.41
3600.00	0.22	29.75	29.56	8.44	29.42	28.73	35.06	32.11
3700.00	0.21	27.23	27.35	11.28	28.03	28.65	32.24	32.02
3800.00	0.20	25.10	25.13	11.92	27.78	28.05	29.25	29.88
3900.00	0.19	23.77	23.87	12.88	27.68	27.94	26.75	26.86
4000.00	0.18	22.48	22.57	12.10	29.60	29.03	24.98	24.80

Notes

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Bi-Directional Coupler

BDCH-20-272

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+10 dBm @ Temperature = -55°C, In port at pad 3

FREQ. (MHz)	INSERTION LOSS (dB)	COUPLING		DIRECTIVITY (dB) In - Rev	RETURN LOSS (dB)			
		(dB)			In	Out	Rev	Fwd
		In Fwd	Rev - Out					
100.00	0.02	36.20	36.21	34.04	37.84	37.36	37.33	37.69
200.00	0.04	30.34	30.35	27.77	27.15	26.80	27.79	28.09
300.00	0.05	27.03	27.05	26.09	27.72	27.18	26.61	27.17
400.00	0.06	24.82	24.84	25.56	29.56	28.92	27.76	28.34
500.00	0.07	23.25	23.28	25.14	31.77	30.76	29.85	30.92
550.00	0.07	22.64	22.67	24.81	32.12	31.06	31.46	32.55
600.00	0.08	22.12	22.14	24.40	32.46	31.58	32.54	33.74
650.00	0.08	21.68	21.71	24.10	33.42	32.41	33.47	34.35
700.00	0.08	21.31	21.34	23.81	35.53	34.69	34.28	35.12
750.00	0.09	21.00	21.03	23.57	37.38	36.88	36.47	36.17
800.00	0.09	20.75	20.78	23.05	38.10	38.70	39.55	37.26
850.00	0.09	20.56	20.59	22.62	38.00	39.97	41.91	37.99
900.00	0.10	20.40	20.44	22.13	38.17	42.27	37.97	35.27
950.00	0.10	20.31	20.33	21.70	36.05	39.77	34.26	32.76
1000.00	0.11	20.25	20.27	21.46	33.13	34.85	30.98	30.35
1100.00	0.11	20.23	20.26	21.15	28.24	28.56	26.81	26.42
1200.00	0.12	20.34	20.36	21.17	25.48	25.53	24.00	24.00
1300.00	0.13	20.50	20.54	21.43	23.87	23.76	22.39	22.51
1400.00	0.15	20.71	20.76	22.52	23.26	23.15	22.08	22.20
1500.00	0.15	20.88	20.98	23.11	23.46	23.41	22.54	22.63
1600.00	0.15	20.99	21.09	23.67	24.61	24.59	23.85	23.85
1700.00	0.15	21.02	21.16	22.66	27.18	27.32	26.07	25.79
1800.00	0.15	20.96	21.12	21.38	32.71	33.04	30.61	29.65
1900.00	0.15	20.81	21.01	20.11	44.13	50.55	43.16	36.48
2000.00	0.16	20.64	20.88	19.19	33.26	32.56	34.92	34.19
2100.00	0.17	20.51	20.76	18.65	27.55	27.03	28.00	28.24
2200.00	0.19	20.43	20.69	18.44	24.64	24.32	24.60	24.89
2250.00	0.20	20.42	20.68	18.42	23.66	23.30	23.24	23.32
2300.00	0.20	20.44	20.69	18.59	23.12	22.88	22.89	23.14
2350.00	0.20	20.50	20.76	18.51	22.46	22.22	22.23	22.31
2400.00	0.21	20.59	20.86	18.75	22.46	22.26	22.14	22.34
2450.00	0.21	20.72	20.95	18.73	22.19	22.03	22.13	22.24
2500.00	0.21	20.93	21.12	19.29	22.51	22.46	22.43	22.45
2550.00	0.21	21.14	21.32	19.41	22.90	22.80	23.03	23.14
2600.00	0.21	21.37	21.58	19.63	23.62	23.64	23.73	23.71
2650.00	0.21	21.74	21.88	19.91	24.59	24.84	24.96	25.03
2700.00	0.21	22.13	22.26	19.54	25.74	26.27	26.12	26.08
2750.00	0.21	22.56	22.72	19.19	26.88	27.61	28.01	27.83
2800.00	0.21	23.08	23.17	18.72	28.44	29.78	29.55	29.34
2850.00	0.20	23.71	23.81	17.51	29.49	30.56	31.77	31.81
2900.00	0.22	24.30	24.28	18.21	29.99	32.91	33.84	33.12
2950.00	0.21	25.27	25.24	15.36	30.80	33.49	36.28	35.72
3000.00	0.20	26.25	26.34	14.42	31.50	34.83	41.12	40.79
3050.00	0.22	27.72	27.72	11.01	31.54	35.89	39.08	40.77
3100.00	0.21	28.79	28.80	11.33	32.40	36.32	39.68	57.99
3200.00	0.22	32.39	32.31	7.56	32.59	38.54	34.48	42.84
3300.00	0.23	41.33	40.64	3.77	32.80	38.77	31.58	36.88
3400.00	0.20	45.24	44.42	6.20	33.43	35.90	30.81	31.85
3500.00	0.21	34.66	34.69	4.73	33.41	34.49	29.28	30.44
3600.00	0.24	29.75	29.56	8.13	32.11	35.06	28.73	29.42
3700.00	0.21	27.23	27.35	12.90	32.02	32.24	28.65	28.03
3800.00	0.19	25.10	25.13	14.34	29.88	29.25	28.05	27.78
3900.00	0.19	23.77	23.87	16.15	26.86	26.75	27.94	27.68
4000.00	0.21	22.48	22.57	15.47	24.80	24.98	29.03	29.60

Notes

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Bi-Directional Coupler

BDCH-20-272

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+10 dBm @ Temperature = -55°C, In port at pad 4

FREQ. (MHz)	INSERTION LOSS (dB)	COUPLING		DIRECTIVITY (dB) In - Rev	RETURN LOSS (dB)			
		(dB)			In	Out	Rev	Fwd
		In Fwd	Rev - Out					
100.00	0.01	36.21	36.20	34.15	37.36	37.84	37.69	37.33
200.00	0.03	30.35	30.34	27.95	26.80	27.15	28.09	27.79
300.00	0.04	27.05	27.03	26.37	27.18	27.72	27.17	26.61
400.00	0.04	24.84	24.82	25.87	28.92	29.56	28.34	27.76
500.00	0.05	23.28	23.25	25.46	30.76	31.77	30.92	29.85
550.00	0.06	22.67	22.64	25.30	31.06	32.12	32.55	31.46
600.00	0.06	22.14	22.12	25.00	31.58	32.46	33.74	32.54
650.00	0.07	21.71	21.68	24.65	32.41	33.42	34.35	33.47
700.00	0.07	21.34	21.31	24.20	34.69	35.53	35.12	34.28
750.00	0.07	21.03	21.00	23.77	36.88	37.38	36.17	36.47
800.00	0.08	20.78	20.75	23.42	38.70	38.10	37.26	39.55
850.00	0.08	20.59	20.56	23.03	39.97	38.00	37.99	41.91
900.00	0.08	20.44	20.40	22.86	42.27	38.17	35.27	37.97
950.00	0.09	20.33	20.31	22.39	39.77	36.05	32.76	34.26
1000.00	0.09	20.27	20.25	22.19	34.85	33.13	30.35	30.98
1100.00	0.10	20.26	20.23	21.95	28.56	28.24	26.42	26.81
1200.00	0.11	20.36	20.34	22.19	25.53	25.48	24.00	24.00
1300.00	0.12	20.54	20.50	22.66	23.76	23.87	22.51	22.39
1400.00	0.13	20.76	20.71	23.86	23.15	23.26	22.20	22.08
1500.00	0.14	20.98	20.88	24.38	23.41	23.46	22.63	22.54
1600.00	0.13	21.09	20.99	25.05	24.59	24.61	23.85	23.85
1700.00	0.14	21.16	21.02	23.71	27.32	27.18	25.79	26.07
1800.00	0.13	21.12	20.96	22.49	33.04	32.71	29.65	30.61
1900.00	0.14	21.01	20.81	21.00	50.55	44.13	36.48	43.16
2000.00	0.15	20.88	20.64	19.67	32.56	33.26	34.19	34.92
2100.00	0.16	20.76	20.51	19.17	27.03	27.55	28.24	28.00
2200.00	0.17	20.69	20.43	18.89	24.32	24.64	24.89	24.60
2250.00	0.18	20.68	20.42	18.80	23.30	23.66	23.32	23.24
2300.00	0.19	20.69	20.44	19.02	22.88	23.12	23.14	22.89
2350.00	0.20	20.76	20.50	18.98	22.22	22.46	22.31	22.23
2400.00	0.19	20.86	20.59	19.32	22.26	22.46	22.34	22.14
2450.00	0.20	20.95	20.72	19.17	22.03	22.19	22.24	22.13
2500.00	0.20	21.12	20.93	19.76	22.46	22.51	22.45	22.43
2550.00	0.20	21.32	21.14	20.01	22.80	22.90	23.14	23.03
2600.00	0.20	21.58	21.37	19.85	23.64	23.62	23.71	23.73
2650.00	0.19	21.88	21.74	20.83	24.84	24.59	25.03	24.96
2700.00	0.20	22.26	22.13	20.34	26.27	25.74	26.08	26.12
2750.00	0.19	22.72	22.56	20.09	27.61	26.88	27.83	28.01
2800.00	0.19	23.17	23.08	19.72	29.78	28.44	29.34	29.55
2850.00	0.19	23.81	23.71	18.65	30.56	29.49	31.81	31.77
2900.00	0.20	24.28	24.30	18.71	32.91	29.99	33.12	33.84
2950.00	0.19	25.24	25.27	16.78	33.49	30.80	35.72	36.28
3000.00	0.19	26.34	26.25	15.31	34.83	31.50	40.79	41.12
3050.00	0.20	27.72	27.72	12.05	35.89	31.54	40.77	39.08
3100.00	0.20	28.80	28.79	12.46	36.32	32.40	57.99	39.68
3200.00	0.20	32.31	32.39	9.20	38.54	32.59	42.84	34.48
3300.00	0.21	40.64	41.33	1.59	38.77	32.80	36.88	31.58
3400.00	0.18	44.42	45.24	4.87	35.90	33.43	31.85	30.81
3500.00	0.19	34.69	34.66	4.67	34.49	33.41	30.44	29.28
3600.00	0.22	29.56	29.75	8.44	35.06	32.11	29.42	28.73
3700.00	0.19	27.35	27.23	11.28	32.24	32.02	28.03	28.65
3800.00	0.17	25.13	25.10	11.92	29.25	29.88	27.78	28.05
3900.00	0.17	23.87	23.77	12.88	26.75	26.86	27.68	27.94
4000.00	0.18	22.57	22.48	12.10	24.98	24.80	29.60	29.03

Notes

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Bi-Directional Coupler

BDCH-20-272

Typical Performance Data

TEST CONDITIONS: INPUT POWER = +10 dBm @ Temperature = +25°C, In port at pad 1

FREQ. (MHz)	INSERTION LOSS (dB)	COUPLING		DIRECTIVITY (dB) In - Rev	RETURN LOSS (dB)			
		(dB)			In	Out	Rev	Fwd
		In Fwd	Rev - Out					
100.00	0.02	36.14	36.14	35.56	35.43	35.34	36.28	36.02
200.00	0.04	30.29	30.28	31.30	30.75	30.80	31.66	31.20
300.00	0.06	27.00	26.99	28.67	29.03	28.95	29.75	29.11
400.00	0.07	24.81	24.79	26.61	28.09	28.04	28.76	28.18
500.00	0.08	23.25	23.22	25.16	28.59	28.39	29.13	28.39
550.00	0.08	22.64	22.61	24.41	29.04	28.87	29.62	28.94
600.00	0.08	22.12	22.09	23.78	30.07	30.04	30.37	29.71
650.00	0.09	21.68	21.65	23.32	31.49	31.17	31.29	30.65
700.00	0.09	21.31	21.28	22.80	33.52	33.17	33.06	32.34
750.00	0.09	21.01	20.98	22.52	36.27	35.29	34.66	34.66
800.00	0.10	20.76	20.73	22.14	39.76	37.40	37.25	37.94
850.00	0.10	20.57	20.54	21.84	40.36	36.65	37.92	40.93
900.00	0.11	20.43	20.40	21.59	36.35	34.43	36.82	40.54
950.00	0.11	20.33	20.30	21.46	32.78	31.46	34.19	36.38
1000.00	0.12	20.27	20.24	21.35	30.46	29.38	32.01	33.28
1100.00	0.13	20.27	20.23	21.22	26.71	26.27	28.52	28.86
1200.00	0.14	20.38	20.34	21.33	24.69	24.22	26.17	26.36
1300.00	0.15	20.56	20.51	21.63	23.57	23.23	25.00	24.93
1400.00	0.16	20.79	20.71	22.11	23.22	22.90	24.54	24.41
1500.00	0.17	20.99	20.89	22.38	23.56	23.26	24.72	24.62
1600.00	0.17	21.14	21.00	22.41	24.68	24.42	25.80	25.71
1700.00	0.17	21.20	21.03	21.94	27.06	26.70	27.92	28.00
1800.00	0.17	21.16	20.98	20.94	31.20	30.50	31.94	32.38
1900.00	0.18	21.06	20.84	19.96	41.07	37.45	40.69	44.29
2000.00	0.19	20.92	20.67	19.10	39.10	36.62	37.92	36.94
2100.00	0.20	20.79	20.52	18.50	30.68	30.43	30.65	29.83
2200.00	0.21	20.71	20.43	18.13	26.94	26.88	26.90	26.42
2250.00	0.22	20.71	20.43	18.05	25.58	25.56	25.69	25.18
2300.00	0.22	20.72	20.45	17.89	24.94	24.87	24.91	24.47
2350.00	0.23	20.78	20.50	17.88	24.24	24.25	24.12	23.71
2400.00	0.23	20.87	20.61	17.92	23.94	23.88	23.83	23.43
2450.00	0.24	20.99	20.73	17.81	23.81	23.70	23.38	23.08
2500.00	0.24	21.17	20.93	17.95	23.64	23.67	23.41	23.10
2550.00	0.24	21.36	21.14	17.94	23.87	23.71	23.35	23.11
2600.00	0.24	21.63	21.42	17.73	24.11	24.04	23.57	23.41
2650.00	0.24	21.94	21.76	17.78	24.57	24.35	23.82	23.76
2700.00	0.24	22.31	22.14	17.49	25.20	25.07	24.37	24.35
2750.00	0.25	22.76	22.61	17.27	25.93	25.69	24.91	24.94
2800.00	0.25	23.29	23.15	16.85	26.98	26.91	25.79	25.99
2850.00	0.25	23.89	23.77	16.28	28.19	27.92	26.66	26.96
2900.00	0.25	24.63	24.53	15.49	29.61	29.60	27.85	28.37
2950.00	0.25	25.46	25.38	14.55	31.40	31.30	29.01	29.94
3000.00	0.25	26.43	26.40	13.23	33.19	33.56	30.21	31.63
3050.00	0.25	27.62	27.58	11.93	34.04	35.17	31.36	33.32
3100.00	0.25	29.04	29.03	10.19	35.31	38.70	32.55	36.03
3200.00	0.25	33.05	33.11	5.77	34.40	39.60	34.22	39.39
3300.00	0.25	40.62	41.21	2.17	32.16	35.32	33.90	37.65
3400.00	0.26	43.17	44.02	4.97	30.45	32.46	32.58	34.44
3500.00	0.26	34.23	34.29	4.08	29.33	30.78	31.59	32.82
3600.00	0.26	29.86	29.86	8.65	28.60	29.64	30.59	31.04
3700.00	0.26	27.05	27.08	11.75	28.39	29.06	29.32	29.36
3800.00	0.25	25.21	25.17	13.91	28.30	29.05	27.88	27.87
3900.00	0.25	23.84	23.76	15.24	28.76	29.53	26.54	26.57
4000.00	0.24	22.79	22.72	15.88	29.92	31.22	25.66	25.57

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Bi-Directional Coupler

BDCH-20-272

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+10 dBm @Temperature = 25°C, In port at pad 2

FREQ. (MHz)	INSERTION LOSS (dB)	COUPLING		DIRECTIVITY (dB) In - Rev	RETURN LOSS (dB)			
		(dB)			In	Out	Rev	Fwd
		In Fwd	Rev - Out					
100.00	0.02	36.14	36.14	35.33	35.34	35.43	36.02	36.28
200.00	0.04	30.28	30.29	31.40	30.80	30.75	31.20	31.66
300.00	0.05	26.99	27.00	28.72	28.95	29.03	29.11	29.75
400.00	0.06	24.79	24.81	26.63	28.04	28.09	28.18	28.76
500.00	0.07	23.22	23.25	25.16	28.39	28.59	28.39	29.13
550.00	0.08	22.61	22.64	24.57	28.87	29.04	28.94	29.62
600.00	0.08	22.09	22.12	23.84	30.04	30.07	29.71	30.37
650.00	0.08	21.65	21.68	23.50	31.17	31.49	30.65	31.29
700.00	0.09	21.28	21.31	22.90	33.17	33.52	32.34	33.06
750.00	0.09	20.98	21.01	22.73	35.29	36.27	34.66	34.66
800.00	0.09	20.73	20.76	22.33	37.40	39.76	37.94	37.25
850.00	0.10	20.54	20.57	22.09	36.65	40.36	40.93	37.92
900.00	0.11	20.40	20.43	21.83	34.43	36.35	40.54	36.82
950.00	0.11	20.30	20.33	21.79	31.46	32.78	36.38	34.19
1000.00	0.11	20.24	20.27	21.77	29.38	30.46	33.28	32.01
1100.00	0.13	20.23	20.27	21.82	26.27	26.71	28.86	28.52
1200.00	0.14	20.34	20.38	22.15	24.22	24.69	26.36	26.17
1300.00	0.15	20.51	20.56	22.68	23.23	23.57	24.93	25.00
1400.00	0.16	20.71	20.79	23.41	22.90	23.22	24.41	24.54
1500.00	0.16	20.89	20.99	23.82	23.26	23.56	24.62	24.72
1600.00	0.16	21.00	21.14	23.80	24.42	24.68	25.71	25.80
1700.00	0.17	21.03	21.20	22.95	26.70	27.06	28.00	27.92
1800.00	0.17	20.98	21.16	21.71	30.50	31.20	32.38	31.94
1900.00	0.18	20.84	21.06	20.59	37.45	41.07	44.29	40.69
2000.00	0.18	20.67	20.92	19.69	36.62	39.10	36.94	37.92
2100.00	0.19	20.52	20.79	19.08	30.43	30.68	29.83	30.65
2200.00	0.21	20.43	20.71	18.74	26.88	26.94	26.42	26.90
2250.00	0.21	20.43	20.71	18.74	25.56	25.58	25.18	25.69
2300.00	0.22	20.45	20.72	18.60	24.87	24.94	24.47	24.91
2350.00	0.23	20.50	20.78	18.65	24.25	24.24	23.71	24.12
2400.00	0.23	20.61	20.87	18.61	23.88	23.94	23.43	23.83
2450.00	0.24	20.73	20.99	18.63	23.70	23.81	23.08	23.38
2500.00	0.23	20.93	21.17	18.80	23.67	23.64	23.10	23.41
2550.00	0.24	21.14	21.36	18.77	23.71	23.87	23.11	23.35
2600.00	0.24	21.42	21.63	18.81	24.04	24.11	23.41	23.57
2650.00	0.24	21.76	21.94	18.78	24.35	24.57	23.76	23.82
2700.00	0.24	22.14	22.31	18.65	25.07	25.20	24.35	24.37
2750.00	0.24	22.61	22.76	18.43	25.69	25.93	24.94	24.91
2800.00	0.24	23.15	23.29	18.13	26.91	26.98	25.99	25.79
2850.00	0.24	23.77	23.89	17.52	27.92	28.19	26.96	26.66
2900.00	0.24	24.53	24.63	16.88	29.60	29.61	28.37	27.85
2950.00	0.24	25.38	25.46	15.82	31.30	31.40	29.94	29.01
3000.00	0.25	26.40	26.43	14.59	33.56	33.19	31.63	30.21
3050.00	0.25	27.58	27.62	13.17	35.17	34.04	33.32	31.36
3100.00	0.25	29.03	29.04	11.47	38.70	35.31	36.03	32.55
3200.00	0.25	33.11	33.05	6.79	39.60	34.40	39.39	34.22
3300.00	0.25	41.21	40.62	1.86	35.32	32.16	37.65	33.90
3400.00	0.26	44.02	43.17	5.25	32.46	30.45	34.44	32.58
3500.00	0.26	34.29	34.23	4.12	30.78	29.33	32.82	31.59
3600.00	0.26	29.86	29.86	8.15	29.64	28.60	31.04	30.59
3700.00	0.25	27.08	27.05	10.28	29.06	28.39	29.36	29.32
3800.00	0.25	25.17	25.21	11.64	29.05	28.30	27.87	27.88
3900.00	0.24	23.76	23.84	12.42	29.53	28.76	26.57	26.54
4000.00	0.23	22.72	22.79	12.57	31.22	29.92	25.57	25.66

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Bi-Directional Coupler

BDCH-20-272

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+10 dBm @Temperature = 25°C, In port at pad 3

FREQ. (MHz)	INSERTION LOSS (dB)	COUPLING		DIRECTIVITY (dB) In - Rev	RETURN LOSS (dB)			
		(dB)			In	Out	Rev	Fwd
		In Fwd	Rev - Out					
100.00	0.02	36.14	36.15	35.90	36.28	36.02	35.43	35.34
200.00	0.04	30.28	30.30	31.40	31.66	31.20	30.75	30.80
300.00	0.05	26.99	27.00	28.86	29.75	29.11	29.03	28.95
400.00	0.06	24.79	24.81	26.69	28.76	28.18	28.09	28.04
500.00	0.07	23.23	23.25	25.26	29.13	28.39	28.59	28.39
550.00	0.08	22.62	22.65	24.54	29.62	28.94	29.04	28.87
600.00	0.08	22.09	22.12	23.82	30.37	29.71	30.07	30.04
650.00	0.09	21.66	21.69	23.34	31.29	30.65	31.49	31.17
700.00	0.09	21.28	21.32	22.82	33.06	32.34	33.52	33.17
750.00	0.09	20.98	21.02	22.47	34.66	34.66	36.27	35.29
800.00	0.10	20.73	20.77	22.12	37.25	37.94	39.76	37.40
850.00	0.10	20.54	20.58	21.80	37.92	40.93	40.36	36.65
900.00	0.11	20.40	20.44	21.52	36.82	40.54	36.35	34.43
950.00	0.11	20.30	20.33	21.40	34.19	36.38	32.78	31.46
1000.00	0.12	20.24	20.28	21.31	32.01	33.28	30.46	29.38
1100.00	0.13	20.24	20.27	21.22	28.52	28.86	26.71	26.27
1200.00	0.14	20.34	20.38	21.37	26.17	26.36	24.69	24.22
1300.00	0.15	20.51	20.57	21.65	25.00	24.93	23.57	23.23
1400.00	0.16	20.71	20.79	22.18	24.54	24.41	23.22	22.90
1500.00	0.16	20.89	21.00	22.48	24.72	24.62	23.56	23.26
1600.00	0.17	21.01	21.15	22.51	25.80	25.71	24.68	24.42
1700.00	0.17	21.04	21.20	22.09	27.92	28.00	27.06	26.70
1800.00	0.18	20.98	21.16	21.11	31.94	32.38	31.20	30.50
1900.00	0.18	20.84	21.06	20.13	40.69	44.29	41.07	37.45
2000.00	0.19	20.67	20.92	19.29	37.92	36.94	39.10	36.62
2100.00	0.20	20.52	20.79	18.70	30.65	29.83	30.68	30.43
2200.00	0.21	20.43	20.71	18.32	26.90	26.42	26.94	26.88
2250.00	0.22	20.43	20.71	18.20	25.69	25.18	25.58	25.56
2300.00	0.22	20.45	20.72	18.09	24.91	24.47	24.94	24.87
2350.00	0.23	20.50	20.79	18.01	24.12	23.71	24.24	24.25
2400.00	0.23	20.61	20.87	18.05	23.83	23.43	23.94	23.88
2450.00	0.24	20.73	20.99	17.89	23.38	23.08	23.81	23.70
2500.00	0.24	20.93	21.17	18.05	23.41	23.10	23.64	23.67
2550.00	0.24	21.15	21.37	17.97	23.35	23.11	23.87	23.71
2600.00	0.25	21.43	21.63	17.81	23.57	23.41	24.11	24.04
2650.00	0.25	21.76	21.95	17.84	23.82	23.76	24.57	24.35
2700.00	0.25	22.15	22.31	17.55	24.37	24.35	25.20	25.07
2750.00	0.25	22.61	22.77	17.33	24.91	24.94	25.93	25.69
2800.00	0.25	23.16	23.29	16.92	25.79	25.99	26.98	26.91
2850.00	0.25	23.78	23.89	16.34	26.66	26.96	28.19	27.92
2900.00	0.25	24.53	24.63	15.54	27.85	28.37	29.61	29.60
2950.00	0.25	25.38	25.46	14.61	29.01	29.94	31.40	31.30
3000.00	0.25	26.40	26.43	13.27	30.21	31.63	33.19	33.56
3050.00	0.25	27.58	27.63	11.99	31.36	33.32	34.04	35.17
3100.00	0.25	29.02	29.04	10.23	32.55	36.03	35.31	38.70
3200.00	0.26	33.11	33.05	5.71	34.22	39.39	34.40	39.60
3300.00	0.26	41.22	40.61	2.75	33.90	37.65	32.16	35.32
3400.00	0.26	44.02	43.20	5.80	32.58	34.44	30.45	32.46
3500.00	0.27	34.28	34.25	3.98	31.59	32.82	29.33	30.78
3600.00	0.26	29.86	29.87	8.56	30.59	31.04	28.60	29.64
3700.00	0.26	27.08	27.06	11.57	29.32	29.36	28.39	29.06
3800.00	0.26	25.17	25.22	13.69	27.88	27.87	28.30	29.05
3900.00	0.26	23.76	23.85	15.06	26.54	26.57	28.76	29.53
4000.00	0.26	22.72	22.80	15.70	25.66	25.57	29.92	31.22

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Bi-Directional Coupler

BDCH-20-272

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+10 dBm @Temperature = 25°C, In port at pad 4

FREQ. (MHz)	INSERTION LOSS (dB)	COUPLING		DIRECTIVITY (dB) In - Rev	RETURN LOSS (dB)			
		(dB)			In	Out	Rev	Fwd
		In Fwd	Rev - Out					
100.00	0.02	36.15	36.14	35.50	36.02	36.28	35.34	35.43
200.00	0.04	30.30	30.28	31.38	31.20	31.66	30.80	30.75
300.00	0.05	27.00	26.99	28.74	29.11	29.75	28.95	29.03
400.00	0.06	24.81	24.79	26.64	28.18	28.76	28.04	28.09
500.00	0.07	23.25	23.23	25.15	28.39	29.13	28.39	28.59
550.00	0.08	22.65	22.62	24.40	28.94	29.62	28.87	29.04
600.00	0.08	22.12	22.09	23.75	29.71	30.37	30.04	30.07
650.00	0.09	21.69	21.66	23.28	30.65	31.29	31.17	31.49
700.00	0.09	21.32	21.28	22.79	32.34	33.06	33.17	33.52
750.00	0.10	21.02	20.98	22.57	34.66	34.66	35.29	36.27
800.00	0.10	20.77	20.73	22.19	37.94	37.25	37.40	39.76
850.00	0.10	20.58	20.54	21.92	40.93	37.92	36.65	40.36
900.00	0.11	20.44	20.40	21.76	40.54	36.82	34.43	36.35
950.00	0.11	20.33	20.30	21.69	36.38	34.19	31.46	32.78
1000.00	0.12	20.28	20.24	21.67	33.28	32.01	29.38	30.46
1100.00	0.13	20.27	20.24	21.70	28.86	28.52	26.27	26.71
1200.00	0.14	20.38	20.34	22.08	26.36	26.17	24.22	24.69
1300.00	0.15	20.57	20.51	22.60	24.93	25.00	23.23	23.57
1400.00	0.16	20.79	20.71	23.31	24.41	24.54	22.90	23.22
1500.00	0.16	21.00	20.89	23.77	24.62	24.72	23.26	23.56
1600.00	0.17	21.15	21.01	23.69	25.71	25.80	24.42	24.68
1700.00	0.17	21.20	21.04	22.77	28.00	27.92	26.70	27.06
1800.00	0.18	21.16	20.98	21.49	32.38	31.94	30.50	31.20
1900.00	0.18	21.06	20.84	20.37	44.29	40.69	37.45	41.07
2000.00	0.19	20.92	20.67	19.43	36.94	37.92	36.62	39.10
2100.00	0.20	20.79	20.52	18.75	29.83	30.65	30.43	30.68
2200.00	0.21	20.71	20.43	18.38	26.42	26.90	26.88	26.94
2250.00	0.22	20.71	20.43	18.30	25.18	25.69	25.56	25.58
2300.00	0.23	20.72	20.45	18.19	24.47	24.91	24.87	24.94
2350.00	0.23	20.79	20.50	18.18	23.71	24.12	24.25	24.24
2400.00	0.24	20.87	20.61	18.20	23.43	23.83	23.88	23.94
2450.00	0.24	20.99	20.73	18.12	23.08	23.38	23.70	23.81
2500.00	0.24	21.17	20.93	18.32	23.10	23.41	23.67	23.64
2550.00	0.25	21.37	21.15	18.36	23.11	23.35	23.71	23.87
2600.00	0.25	21.63	21.43	18.35	23.41	23.57	24.04	24.11
2650.00	0.25	21.95	21.76	18.42	23.76	23.82	24.35	24.57
2700.00	0.25	22.31	22.15	18.29	24.35	24.37	25.07	25.20
2750.00	0.25	22.77	22.61	18.17	24.94	24.91	25.69	25.93
2800.00	0.25	23.29	23.16	17.87	25.99	25.79	26.91	26.98
2850.00	0.25	23.89	23.78	17.38	26.96	26.66	27.92	28.19
2900.00	0.25	24.63	24.53	16.72	28.37	27.85	29.60	29.61
2950.00	0.25	25.46	25.38	15.76	29.94	29.01	31.30	31.40
3000.00	0.25	26.43	26.40	14.57	31.63	30.21	33.56	33.19
3050.00	0.25	27.63	27.58	13.18	33.32	31.36	35.17	34.04
3100.00	0.25	29.04	29.02	11.49	36.03	32.55	38.70	35.31
3200.00	0.26	33.05	33.11	6.92	39.39	34.22	39.60	34.40
3300.00	0.26	40.61	41.22	1.26	37.65	33.90	35.32	32.16
3400.00	0.26	43.20	44.02	4.40	34.44	32.58	32.46	30.45
3500.00	0.26	34.25	34.28	4.06	32.82	31.59	30.78	29.33
3600.00	0.26	29.87	29.86	7.96	31.04	30.59	29.64	28.60
3700.00	0.26	27.06	27.08	10.13	29.36	29.32	29.06	28.39
3800.00	0.26	25.22	25.17	11.38	27.87	27.88	29.05	28.30
3900.00	0.25	23.85	23.76	12.11	26.57	26.54	29.53	28.76
4000.00	0.25	22.80	22.72	12.38	25.57	25.66	31.22	29.92

Notes

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- C. The parts covered by this specification document are subject to Mini-Circuits' standard limited warranty and terms and conditions (collectively, "Standard Terms"). Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



Bi-Directional Coupler

BDCH-20-272

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+10 dBm @Temperature = +105°C, In port at pad 1

FREQ. (MHz)	INSERTION LOSS (dB)	COUPLING		DIRECTIVITY (dB) In - Rev	RETURN LOSS (dB)			
		(dB)			In	Out	Rev	Fwd
		In Fwd	Rev - Out					
100.00	0.03	36.11	36.09	31.87	32.91	33.14	33.93	33.68
200.00	0.05	30.26	30.24	31.03	33.66	34.39	37.91	36.79
300.00	0.07	26.98	26.95	31.44	33.40	35.26	35.60	34.21
400.00	0.08	24.79	24.76	28.84	30.94	32.19	31.42	30.63
500.00	0.10	23.25	23.21	26.82	29.67	30.96	31.17	30.23
550.00	0.11	22.64	22.60	26.14	29.71	30.78	31.46	30.38
600.00	0.11	22.13	22.09	25.13	29.97	30.99	31.55	30.72
650.00	0.12	21.70	21.65	24.66	31.12	32.00	31.87	30.81
700.00	0.12	21.33	21.28	23.94	32.25	33.13	31.90	31.16
750.00	0.13	21.03	20.98	23.43	34.53	34.80	33.03	32.16
800.00	0.13	20.79	20.73	22.73	36.25	35.38	33.76	33.44
850.00	0.14	20.60	20.55	22.28	40.04	37.83	36.00	36.04
900.00	0.14	20.46	20.40	21.93	41.27	37.55	37.67	39.25
950.00	0.15	20.36	20.30	21.50	39.52	36.57	38.63	42.29
1000.00	0.15	20.31	20.25	21.25	35.21	34.07	37.68	41.24
1100.00	0.17	20.31	20.23	20.77	29.56	29.19	32.60	33.29
1200.00	0.18	20.42	20.35	20.56	26.20	26.33	28.70	28.84
1300.00	0.20	20.61	20.52	20.47	24.17	24.40	26.15	26.02
1400.00	0.21	20.85	20.75	21.06	23.18	23.39	24.62	24.48
1500.00	0.22	21.08	20.93	21.35	22.81	22.98	23.91	23.82
1600.00	0.23	21.20	21.07	21.92	23.38	23.46	24.24	24.12
1700.00	0.23	21.28	21.09	21.33	24.91	24.80	25.42	25.41
1800.00	0.24	21.24	21.02	20.50	27.84	27.35	28.37	28.43
1900.00	0.24	21.13	20.88	19.29	33.83	32.15	34.64	35.27
2000.00	0.25	21.00	20.70	18.40	43.33	39.11	48.26	45.42
2100.00	0.26	20.88	20.56	17.72	31.67	32.31	32.65	31.73
2200.00	0.28	20.80	20.48	17.20	26.98	27.54	27.27	26.85
2250.00	0.29	20.80	20.47	17.04	25.24	25.41	25.50	24.98
2300.00	0.29	20.82	20.49	17.02	24.60	25.06	24.47	24.20
2350.00	0.30	20.90	20.56	16.88	23.80	23.93	23.40	23.08
2400.00	0.31	20.99	20.65	16.89	23.34	23.71	23.11	22.86
2450.00	0.31	21.10	20.79	16.79	23.20	23.40	22.66	22.43
2500.00	0.32	21.29	21.01	17.14	22.97	23.13	22.73	22.56
2550.00	0.32	21.48	21.23	17.06	23.25	23.42	22.74	22.56
2600.00	0.33	21.77	21.47	17.18	23.29	23.43	22.97	22.82
2650.00	0.32	22.09	21.86	17.17	23.91	24.07	23.27	23.26
2700.00	0.32	22.44	22.26	17.01	24.26	24.57	23.92	24.00
2750.00	0.33	22.96	22.72	16.42	25.40	25.25	24.35	24.45
2800.00	0.33	23.42	23.24	16.62	25.90	26.22	25.40	25.58
2850.00	0.33	24.06	23.89	15.85	27.05	27.35	26.11	26.19
2900.00	0.34	24.59	24.75	14.99	28.24	28.81	27.42	27.88
2950.00	0.33	25.56	25.48	14.29	29.70	29.79	28.51	28.80
3000.00	0.32	26.65	26.50	13.39	32.08	32.57	29.97	30.77
3050.00	0.35	27.95	27.99	9.70	33.28	32.93	30.48	32.32
3100.00	0.33	29.18	29.06	10.27	36.73	38.08	31.80	33.12
3200.00	0.34	32.80	32.84	6.17	36.39	41.64	32.77	36.56
3300.00	0.37	40.82	41.96	5.72	31.90	38.90	32.28	38.72
3400.00	0.33	43.58	44.09	5.95	29.98	31.98	33.39	36.43
3500.00	0.35	34.36	34.21	3.86	27.55	29.87	32.17	35.53
3600.00	0.35	29.61	29.74	7.12	26.15	28.78	29.98	36.59
3700.00	0.34	27.35	27.08	11.38	26.12	27.76	28.70	32.16
3800.00	0.34	25.24	25.10	12.91	26.28	28.54	27.72	30.06
3900.00	0.34	23.96	23.90	14.60	27.78	30.14	26.15	28.55
4000.00	0.35	22.88	22.65	14.40	28.97	32.92	24.97	26.88

Notes

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Bi-Directional Coupler

BDCH-20-272

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+10 dBm @ Temperature = -55°C, In port at pad 2

FREQ. (MHz)	INSERTION LOSS (dB)	COUPLING		DIRECTIVITY (dB) In - Rev	RETURN LOSS (dB)			
		(dB)			In	Out	Rev	Fwd
		In Fwd	Rev - Out					
100.00	0.02	36.20	36.21	34.15	37.69	37.33	37.36	37.84
200.00	0.04	30.34	30.35	27.95	28.09	27.79	26.80	27.15
300.00	0.05	27.03	27.05	26.37	27.17	26.61	27.18	27.72
400.00	0.06	24.82	24.84	25.87	28.34	27.76	28.92	29.56
500.00	0.06	23.25	23.28	25.46	30.92	29.85	30.76	31.77
550.00	0.07	22.64	22.67	25.30	32.55	31.46	31.06	32.12
600.00	0.07	22.12	22.14	25.00	33.74	32.54	31.58	32.46
650.00	0.08	21.68	21.71	24.65	34.35	33.47	32.41	33.42
700.00	0.08	21.31	21.34	24.20	35.12	34.28	34.69	35.53
750.00	0.08	21.00	21.03	23.77	36.17	36.47	36.88	37.38
800.00	0.09	20.75	20.78	23.42	37.26	39.55	38.70	38.10
850.00	0.09	20.56	20.59	23.03	37.99	41.91	39.97	38.00
900.00	0.09	20.40	20.44	22.86	35.27	37.97	42.27	38.17
950.00	0.10	20.31	20.33	22.39	32.76	34.26	39.77	36.05
1000.00	0.10	20.25	20.27	22.19	30.35	30.98	34.85	33.13
1100.00	0.11	20.23	20.26	21.95	26.42	26.81	28.56	28.24
1200.00	0.12	20.34	20.36	22.19	24.00	24.00	25.53	25.48
1300.00	0.13	20.50	20.54	22.66	22.51	22.39	23.76	23.87
1400.00	0.14	20.71	20.76	23.86	22.20	22.08	23.15	23.26
1500.00	0.15	20.88	20.98	24.38	22.63	22.54	23.41	23.46
1600.00	0.15	20.99	21.09	25.05	23.85	23.85	24.59	24.61
1700.00	0.15	21.02	21.16	23.71	25.79	26.07	27.32	27.18
1800.00	0.14	20.96	21.12	22.49	29.65	30.61	33.04	32.71
1900.00	0.15	20.81	21.01	21.00	36.48	43.16	50.55	44.13
2000.00	0.15	20.64	20.88	19.67	34.19	34.92	32.56	33.26
2100.00	0.17	20.51	20.76	19.17	28.24	28.00	27.03	27.55
2200.00	0.18	20.43	20.69	18.89	24.89	24.60	24.32	24.64
2250.00	0.19	20.42	20.68	18.80	23.32	23.24	23.30	23.66
2300.00	0.20	20.44	20.69	19.02	23.14	22.89	22.88	23.12
2350.00	0.21	20.50	20.76	18.98	22.31	22.23	22.22	22.46
2400.00	0.21	20.59	20.86	19.32	22.34	22.14	22.26	22.46
2450.00	0.21	20.72	20.95	19.17	22.24	22.13	22.03	22.19
2500.00	0.21	20.93	21.12	19.76	22.45	22.43	22.46	22.51
2550.00	0.21	21.14	21.32	20.01	23.14	23.03	22.80	22.90
2600.00	0.21	21.37	21.58	19.85	23.71	23.73	23.64	23.62
2650.00	0.21	21.74	21.88	20.83	25.03	24.96	24.84	24.59
2700.00	0.21	22.13	22.26	20.34	26.08	26.12	26.27	25.74
2750.00	0.20	22.56	22.72	20.09	27.83	28.01	27.61	26.88
2800.00	0.20	23.08	23.17	19.72	29.34	29.55	29.78	28.44
2850.00	0.20	23.71	23.81	18.65	31.81	31.77	30.56	29.49
2900.00	0.22	24.30	24.28	18.71	33.12	33.84	32.91	29.99
2950.00	0.20	25.27	25.24	16.78	35.72	36.28	33.49	30.80
3000.00	0.20	26.25	26.34	15.31	40.79	41.12	34.83	31.50
3050.00	0.22	27.72	27.72	12.05	40.77	39.08	35.89	31.54
3100.00	0.21	28.79	28.80	12.46	57.99	39.68	36.32	32.40
3200.00	0.22	32.39	32.31	9.20	42.84	34.48	38.54	32.59
3300.00	0.24	41.33	40.64	1.59	36.88	31.58	38.77	32.80
3400.00	0.20	45.24	44.42	4.87	31.85	30.81	35.90	33.43
3500.00	0.22	34.66	34.69	4.67	30.44	29.28	34.49	33.41
3600.00	0.22	29.75	29.56	8.44	29.42	28.73	35.06	32.11
3700.00	0.21	27.23	27.35	11.28	28.03	28.65	32.24	32.02
3800.00	0.20	25.10	25.13	11.92	27.78	28.05	29.25	29.88
3900.00	0.19	23.77	23.87	12.88	27.68	27.94	26.75	26.86
4000.00	0.18	22.48	22.57	12.10	29.60	29.03	24.98	24.80

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Bi-Directional Coupler

BDCH-20-272

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+10 dBm @ Temperature = -55°C, In port at pad 3

FREQ. (MHz)	INSERTION LOSS (dB)	COUPLING		DIRECTIVITY (dB) In - Rev	RETURN LOSS (dB)			
		(dB)			In	Out	Rev	Fwd
		In Fwd	Rev - Out					
100.00	0.02	36.20	36.21	34.04	37.84	37.36	37.33	37.69
200.00	0.04	30.34	30.35	27.77	27.15	26.80	27.79	28.09
300.00	0.05	27.03	27.05	26.09	27.72	27.18	26.61	27.17
400.00	0.06	24.82	24.84	25.56	29.56	28.92	27.76	28.34
500.00	0.07	23.25	23.28	25.14	31.77	30.76	29.85	30.92
550.00	0.07	22.64	22.67	24.81	32.12	31.06	31.46	32.55
600.00	0.08	22.12	22.14	24.40	32.46	31.58	32.54	33.74
650.00	0.08	21.68	21.71	24.10	33.42	32.41	33.47	34.35
700.00	0.08	21.31	21.34	23.81	35.53	34.69	34.28	35.12
750.00	0.09	21.00	21.03	23.57	37.38	36.88	36.47	36.17
800.00	0.09	20.75	20.78	23.05	38.10	38.70	39.55	37.26
850.00	0.09	20.56	20.59	22.62	38.00	39.97	41.91	37.99
900.00	0.10	20.40	20.44	22.13	38.17	42.27	37.97	35.27
950.00	0.10	20.31	20.33	21.70	36.05	39.77	34.26	32.76
1000.00	0.11	20.25	20.27	21.46	33.13	34.85	30.98	30.35
1100.00	0.11	20.23	20.26	21.15	28.24	28.56	26.81	26.42
1200.00	0.12	20.34	20.36	21.17	25.48	25.53	24.00	24.00
1300.00	0.13	20.50	20.54	21.43	23.87	23.76	22.39	22.51
1400.00	0.15	20.71	20.76	22.52	23.26	23.15	22.08	22.20
1500.00	0.15	20.88	20.98	23.11	23.46	23.41	22.54	22.63
1600.00	0.15	20.99	21.09	23.67	24.61	24.59	23.85	23.85
1700.00	0.15	21.02	21.16	22.66	27.18	27.32	26.07	25.79
1800.00	0.15	20.96	21.12	21.38	32.71	33.04	30.61	29.65
1900.00	0.15	20.81	21.01	20.11	44.13	50.55	43.16	36.48
2000.00	0.16	20.64	20.88	19.19	33.26	32.56	34.92	34.19
2100.00	0.17	20.51	20.76	18.65	27.55	27.03	28.00	28.24
2200.00	0.19	20.43	20.69	18.44	24.64	24.32	24.60	24.89
2250.00	0.20	20.42	20.68	18.42	23.66	23.30	23.24	23.32
2300.00	0.20	20.44	20.69	18.59	23.12	22.88	22.89	23.14
2350.00	0.20	20.50	20.76	18.51	22.46	22.22	22.23	22.31
2400.00	0.21	20.59	20.86	18.75	22.46	22.26	22.14	22.34
2450.00	0.21	20.72	20.95	18.73	22.19	22.03	22.13	22.24
2500.00	0.21	20.93	21.12	19.29	22.51	22.46	22.43	22.45
2550.00	0.21	21.14	21.32	19.41	22.90	22.80	23.03	23.14
2600.00	0.21	21.37	21.58	19.63	23.62	23.64	23.73	23.71
2650.00	0.21	21.74	21.88	19.91	24.59	24.84	24.96	25.03
2700.00	0.21	22.13	22.26	19.54	25.74	26.27	26.12	26.08
2750.00	0.21	22.56	22.72	19.19	26.88	27.61	28.01	27.83
2800.00	0.21	23.08	23.17	18.72	28.44	29.78	29.55	29.34
2850.00	0.20	23.71	23.81	17.51	29.49	30.56	31.77	31.81
2900.00	0.22	24.30	24.28	18.21	29.99	32.91	33.84	33.12
2950.00	0.21	25.27	25.24	15.36	30.80	33.49	36.28	35.72
3000.00	0.20	26.25	26.34	14.42	31.50	34.83	41.12	40.79
3050.00	0.22	27.72	27.72	11.01	31.54	35.89	39.08	40.77
3100.00	0.21	28.79	28.80	11.33	32.40	36.32	39.68	57.99
3200.00	0.22	32.39	32.31	7.56	32.59	38.54	34.48	42.84
3300.00	0.23	41.33	40.64	3.77	32.80	38.77	31.58	36.88
3400.00	0.20	45.24	44.42	6.20	33.43	35.90	30.81	31.85
3500.00	0.21	34.66	34.69	4.73	33.41	34.49	29.28	30.44
3600.00	0.24	29.75	29.56	8.13	32.11	35.06	28.73	29.42
3700.00	0.21	27.23	27.35	12.90	32.02	32.24	28.65	28.03
3800.00	0.19	25.10	25.13	14.34	29.88	29.25	28.05	27.78
3900.00	0.19	23.77	23.87	16.15	26.86	26.75	27.94	27.68
4000.00	0.21	22.48	22.57	15.47	24.80	24.98	29.03	29.60

Notes

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- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits' standard limited warranty and terms and conditions (collectively, "Standard Terms"). Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



Bi-Directional Coupler

BDCH-20-272

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+10 dBm @ Temperature = -55°C, In port at pad 4

FREQ. (MHz)	INSERTION LOSS (dB)	COUPLING		DIRECTIVITY (dB) In - Rev	RETURN LOSS (dB)			
		(dB)			In	Out	Rev	Fwd
		In Fwd	Rev - Out					
100.00	0.01	36.21	36.20	34.15	37.36	37.84	37.69	37.33
200.00	0.03	30.35	30.34	27.95	26.80	27.15	28.09	27.79
300.00	0.04	27.05	27.03	26.37	27.18	27.72	27.17	26.61
400.00	0.04	24.84	24.82	25.87	28.92	29.56	28.34	27.76
500.00	0.05	23.28	23.25	25.46	30.76	31.77	30.92	29.85
550.00	0.06	22.67	22.64	25.30	31.06	32.12	32.55	31.46
600.00	0.06	22.14	22.12	25.00	31.58	32.46	33.74	32.54
650.00	0.07	21.71	21.68	24.65	32.41	33.42	34.35	33.47
700.00	0.07	21.34	21.31	24.20	34.69	35.53	35.12	34.28
750.00	0.07	21.03	21.00	23.77	36.88	37.38	36.17	36.47
800.00	0.08	20.78	20.75	23.42	38.70	38.10	37.26	39.55
850.00	0.08	20.59	20.56	23.03	39.97	38.00	37.99	41.91
900.00	0.08	20.44	20.40	22.86	42.27	38.17	35.27	37.97
950.00	0.09	20.33	20.31	22.39	39.77	36.05	32.76	34.26
1000.00	0.09	20.27	20.25	22.19	34.85	33.13	30.35	30.98
1100.00	0.10	20.26	20.23	21.95	28.56	28.24	26.42	26.81
1200.00	0.11	20.36	20.34	22.19	25.53	25.48	24.00	24.00
1300.00	0.12	20.54	20.50	22.66	23.76	23.87	22.51	22.39
1400.00	0.13	20.76	20.71	23.86	23.15	23.26	22.20	22.08
1500.00	0.14	20.98	20.88	24.38	23.41	23.46	22.63	22.54
1600.00	0.13	21.09	20.99	25.05	24.59	24.61	23.85	23.85
1700.00	0.14	21.16	21.02	23.71	27.32	27.18	25.79	26.07
1800.00	0.13	21.12	20.96	22.49	33.04	32.71	29.65	30.61
1900.00	0.14	21.01	20.81	21.00	50.55	44.13	36.48	43.16
2000.00	0.15	20.88	20.64	19.67	32.56	33.26	34.19	34.92
2100.00	0.16	20.76	20.51	19.17	27.03	27.55	28.24	28.00
2200.00	0.17	20.69	20.43	18.89	24.32	24.64	24.89	24.60
2250.00	0.18	20.68	20.42	18.80	23.30	23.66	23.32	23.24
2300.00	0.19	20.69	20.44	19.02	22.88	23.12	23.14	22.89
2350.00	0.20	20.76	20.50	18.98	22.22	22.46	22.31	22.23
2400.00	0.19	20.86	20.59	19.32	22.26	22.46	22.34	22.14
2450.00	0.20	20.95	20.72	19.17	22.03	22.19	22.24	22.13
2500.00	0.20	21.12	20.93	19.76	22.46	22.51	22.45	22.43
2550.00	0.20	21.32	21.14	20.01	22.80	22.90	23.14	23.03
2600.00	0.20	21.58	21.37	19.85	23.64	23.62	23.71	23.73
2650.00	0.19	21.88	21.74	20.83	24.84	24.59	25.03	24.96
2700.00	0.20	22.26	22.13	20.34	26.27	25.74	26.08	26.12
2750.00	0.19	22.72	22.56	20.09	27.61	26.88	27.83	28.01
2800.00	0.19	23.17	23.08	19.72	29.78	28.44	29.34	29.55
2850.00	0.19	23.81	23.71	18.65	30.56	29.49	31.81	31.77
2900.00	0.20	24.28	24.30	18.71	32.91	29.99	33.12	33.84
2950.00	0.19	25.24	25.27	16.78	33.49	30.80	35.72	36.28
3000.00	0.19	26.34	26.25	15.31	34.83	31.50	40.79	41.12
3050.00	0.20	27.72	27.72	12.05	35.89	31.54	40.77	39.08
3100.00	0.20	28.80	28.79	12.46	36.32	32.40	57.99	39.68
3200.00	0.20	32.31	32.39	9.20	38.54	32.59	42.84	34.48
3300.00	0.21	40.64	41.33	1.59	38.77	32.80	36.88	31.58
3400.00	0.18	44.42	45.24	4.87	35.90	33.43	31.85	30.81
3500.00	0.19	34.69	34.66	4.67	34.49	33.41	30.44	29.28
3600.00	0.22	29.56	29.75	8.44	35.06	32.11	29.42	28.73
3700.00	0.19	27.35	27.23	11.28	32.24	32.02	28.03	28.65
3800.00	0.17	25.13	25.10	11.92	29.25	29.88	27.78	28.05
3900.00	0.17	23.87	23.77	12.88	26.75	26.86	27.68	27.94
4000.00	0.18	22.57	22.48	12.10	24.98	24.80	29.60	29.03

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