

Directional Coupler

DBTC-12-4X+

Typical Performance Data

TEST CONDITIONS: INPUT POWER =0 dBm @Temperature = +25°C

FREQUENCY (MHz)	INSERTION LOSS (dB)	COUPLING LOSS (dB)	DIRECTIVITY (dB)	RETURN LOSS (dB)		
				IN	OUT	CPL
5	0.75	11.80	38.35	22.49	32.05	20.76
10	0.74	11.80	38.77	22.82	35.00	21.01
15	0.73	11.80	39.19	23.14	37.95	21.25
20	0.72	11.80	39.39	23.34	39.74	21.39
25	0.73	11.80	39.36	23.40	40.39	21.40
50	0.74	11.82	39.04	23.60	41.26	21.51
100	0.76	11.86	37.49	23.78	39.84	21.75
150	0.77	11.90	35.78	23.92	37.99	21.89
200	0.78	11.93	33.94	24.02	36.65	22.01
250	0.80	11.97	32.05	24.07	35.11	22.13
300	0.81	12.02	30.18	24.06	34.07	22.16
350	0.82	12.07	28.34	24.02	33.13	22.16
400	0.83	12.12	26.72	23.99	32.02	22.13
450	0.85	12.18	25.19	23.96	30.95	22.01
500	0.87	12.24	23.75	23.87	30.00	21.86
550	0.89	12.31	22.45	23.79	29.32	21.65
600	0.91	12.39	21.23	23.71	28.42	21.37
650	0.94	12.47	20.10	23.61	27.52	21.06
700	0.96	12.56	19.08	23.57	26.77	20.69
750	0.99	12.66	18.10	23.38	26.10	20.28
800	1.03	12.76	17.20	23.27	25.35	19.84
850	1.06	12.88	16.37	23.14	24.60	19.37
900	1.09	12.99	15.62	22.95	23.91	18.88
950	1.13	13.12	14.91	22.81	23.24	18.38
1000	1.17	13.25	14.25	22.52	22.61	17.87
1050	1.22	13.39	13.62	22.33	21.95	17.37
1100	1.27	13.55	13.06	22.08	21.31	16.87
1150	1.32	13.71	12.52	21.77	20.68	16.38
1200	1.38	13.88	12.01	21.48	20.06	15.91
1250	1.44	14.06	11.56	21.20	19.46	15.44
1300	1.50	14.25	11.10	20.90	18.88	15.00
1400	1.64	14.66	10.35	20.22	17.75	14.18
1500	1.81	15.12	9.69	19.54	16.64	13.41
1600	1.99	15.63	9.22	18.88	15.69	12.72
1700	2.19	16.18	8.95	18.26	14.78	12.10
1800	2.42	16.76	8.89	17.61	13.98	11.54
1900	2.65	17.34	9.16	17.06	13.33	11.07
2000	2.90	17.90	9.89	16.54	12.66	10.65
2100	3.15	18.41	11.25	16.07	12.21	10.25
2200	3.40	18.80	13.68	15.69	11.75	9.90
2300	3.65	19.05	17.98	15.34	11.46	9.58
2400	3.88	19.15	22.39	15.03	11.22	9.29
2500	4.09	19.09	17.01	14.73	11.05	9.00
2600	4.29	18.88	12.16	14.51	10.95	8.75
2700	4.46	18.61	9.09	14.29	10.94	8.49
2800	4.63	18.31	6.90	14.04	10.93	8.24
2900	4.78	17.99	5.27	13.78	11.00	8.00
3000	4.92	17.70	4.04	13.49	11.07	7.76
3250	5.32	17.14	1.75	12.69	11.33	7.17
3500	5.85	16.95	0.06	11.65	11.40	6.67
4000	7.81	18.46	3.74	9.12	10.11	6.10
4500	11.98	25.26	13.10	6.69	7.70	7.54
5000	15.50	21.87	11.70	5.16	6.44	11.42



REV. OR
DBTC-12-4X+
6/18/2012
Page 1 of 3

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 • Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site
The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

IF/RF MICROWAVE COMPONENTS

Directional Coupler

DBTC-12-4X+

Typical Performance Data

TEST CONDITIONS: INPUT POWER =0 dBm @Temperature = -40°C

FREQUENCY (MHz)	INSERTION LOSS (dB)	COUPLING LOSS (dB)	DIRECTIVITY (dB)	RETURN LOSS (dB)		
				IN	OUT	CPL
5	0.82	11.89	33.75	20.07	23.79	18.12
10	0.75	11.83	35.62	21.64	27.37	19.56
15	0.67	11.76	37.49	23.22	30.94	21.00
20	0.63	11.73	38.55	24.10	33.34	21.83
25	0.62	11.73	38.81	24.30	34.58	22.07
50	0.62	11.73	38.80	24.70	35.96	22.77
100	0.63	11.76	37.10	25.41	35.26	22.86
150	0.64	11.78	35.36	25.76	35.40	22.76
200	0.65	11.81	33.42	25.37	32.90	22.99
250	0.66	11.84	31.65	25.37	31.91	22.77
300	0.68	11.88	30.04	25.07	31.03	22.77
350	0.68	11.91	28.45	24.84	30.12	22.67
400	0.69	11.95	27.03	24.76	29.39	22.44
450	0.71	12.00	25.61	24.56	28.38	22.33
500	0.72	12.05	24.24	24.45	27.76	22.04
550	0.74	12.10	22.95	24.27	27.20	21.77
600	0.75	12.16	21.73	24.06	26.46	21.44
650	0.77	12.23	20.58	23.82	25.64	21.07
700	0.79	12.30	19.56	23.53	24.80	20.78
750	0.81	12.38	18.59	23.32	24.35	20.36
800	0.84	12.46	17.70	23.20	23.78	19.92
850	0.86	12.55	16.84	22.93	23.08	19.45
900	0.88	12.66	16.05	22.60	22.47	18.88
950	0.92	12.76	15.27	22.31	21.87	18.39
1000	0.95	12.88	14.55	21.94	21.33	17.81
1050	0.99	13.01	13.88	21.68	20.75	17.26
1100	1.03	13.15	13.28	21.55	20.38	16.78
1150	1.07	13.29	12.69	21.36	19.88	16.27
1200	1.12	13.46	12.11	20.93	19.15	15.78
1250	1.18	13.64	11.58	20.43	18.49	15.27
1300	1.23	13.84	11.03	19.94	17.96	14.77
1400	1.37	14.27	10.05	19.35	17.09	13.93
1500	1.54	14.81	9.11	18.27	15.72	13.08
1600	1.73	15.43	8.29	17.50	14.86	12.35
1700	1.96	16.15	7.58	16.90	13.96	11.68
1800	2.22	17.03	6.94	16.00	13.04	11.01
1900	2.53	18.02	6.44	15.40	12.12	10.49
2000	2.84	19.09	6.12	14.72	11.62	9.99
2100	3.18	20.19	6.01	14.28	11.03	9.66
2200	3.53	21.14	6.19	13.79	10.56	9.28
2300	3.84	21.68	6.46	13.28	10.41	8.99
2400	4.13	21.71	6.30	13.18	10.07	8.69
2500	4.33	21.20	5.47	13.01	10.18	8.54
2600	4.51	20.39	4.47	12.95	9.98	8.29
2700	4.62	19.57	3.46	12.85	10.16	8.09
2800	4.67	18.82	2.59	12.87	10.39	7.89
2900	4.70	18.15	1.88	13.08	10.55	7.60
3000	4.74	17.54	1.33	13.23	10.52	7.42
3250	4.88	16.60	0.04	12.84	11.27	6.93
3500	5.34	16.27	1.26	11.52	11.53	6.32
4000	7.58	17.36	4.27	8.50	9.64	5.80
4500	11.60	22.58	11.43	6.34	7.47	6.85
5000	13.95	19.22	9.46	5.11	6.32	10.02



REV. OR
DBTC-12-4X+
6/18/2012
Page 2 of 3

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 • Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site
The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com



IF/RF MICROWAVE COMPONENTS

Directional Coupler

DBTC-12-4X+

Typical Performance Data

TEST CONDITIONS: INPUT POWER =0 dBm @Temperature = +85°C

FREQUENCY (MHz)	INSERTION LOSS (dB)	COUPLING LOSS (dB)	DIRECTIVITY (dB)	RETURN LOSS (dB)		
				IN	OUT	CPL
5	0.88	11.91	39.85	21.10	29.38	19.66
10	0.87	11.91	40.26	21.40	30.83	19.88
15	0.86	11.91	40.68	21.70	32.29	20.10
20	0.86	11.91	40.81	21.90	33.07	20.22
25	0.86	11.92	40.68	21.99	33.18	20.23
50	0.88	11.94	39.98	22.33	33.35	20.23
100	0.89	11.99	37.67	22.44	34.97	20.52
150	0.91	12.03	35.57	22.41	35.67	20.92
200	0.92	12.08	33.45	22.68	35.60	21.04
250	0.93	12.13	31.45	22.82	36.31	21.29
300	0.94	12.19	29.45	22.87	36.04	21.51
350	0.96	12.25	27.59	23.01	35.94	21.58
400	0.98	12.32	25.90	23.10	35.39	21.68
450	1.00	12.40	24.35	23.18	34.27	21.72
500	1.02	12.49	22.90	23.23	33.38	21.67
550	1.04	12.58	21.62	23.25	32.64	21.58
600	1.07	12.67	20.44	23.28	31.50	21.41
650	1.09	12.78	19.37	23.33	30.44	21.13
700	1.12	12.88	18.41	23.42	29.52	20.78
750	1.15	13.00	17.50	23.36	28.60	20.36
800	1.18	13.11	16.68	23.36	27.59	19.90
850	1.22	13.23	15.94	23.34	26.63	19.41
900	1.25	13.36	15.26	23.27	25.75	18.91
950	1.30	13.49	14.63	23.20	24.86	18.40
1000	1.34	13.62	14.06	22.98	24.12	17.89
1050	1.38	13.75	13.55	22.94	23.45	17.39
1100	1.43	13.89	13.07	22.81	22.73	16.89
1150	1.48	14.03	12.63	22.58	22.02	16.39
1200	1.54	14.18	12.21	22.39	21.34	15.94
1250	1.59	14.33	11.86	22.21	20.70	15.49
1300	1.65	14.48	11.52	21.99	20.09	15.07
1400	1.78	14.80	10.95	21.38	18.87	14.30
1500	1.93	15.13	10.50	20.85	17.80	13.56
1600	2.08	15.47	10.25	20.38	16.84	12.90
1700	2.25	15.83	10.18	19.85	15.91	12.27
1800	2.42	16.18	10.32	19.28	15.19	11.76
1900	2.61	16.51	10.70	18.76	14.60	11.32
2000	2.81	16.82	11.39	18.20	13.89	10.90
2100	3.01	17.11	12.44	17.71	13.47	10.45
2200	3.22	17.36	14.03	17.32	12.94	10.09
2300	3.43	17.54	16.16	16.94	12.59	9.74
2400	3.63	17.69	18.28	16.48	12.30	9.41
2500	3.84	17.79	18.46	16.03	12.00	9.06
2600	4.04	17.82	16.04	15.71	11.81	8.76
2700	4.25	17.82	13.26	15.40	11.65	8.47
2800	4.46	17.79	10.78	14.95	11.48	8.19
2900	4.66	17.73	8.75	14.47	11.42	7.95
3000	4.86	17.69	7.16	13.94	11.44	7.66
3250	5.41	17.57	4.16	12.93	11.30	7.02
3500	6.02	17.58	2.01	11.94	11.02	6.50
4000	7.79	18.95	2.16	9.51	9.84	5.77
4500	11.53	25.93	12.30	6.90	7.55	6.76
5000	16.89	26.01	15.77	4.94	6.19	11.72



REV. OR
DBTC-12-4X+
6/18/2012
Page 3 of 3

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 • Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site
The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com



IF/RF MICROWAVE COMPONENTS